# NERC Operating Committee

# Meeting Notes

# March 6 and 7, 2012

## Operating Reliability Subcommittee (Colleen Frosch)

Ms. Frosch reported on the joint NAESB / ORS discussion of the Parallel Flow Visualization project. The purpose of the discussion was:

1) for the ORS to identify reliability impacts and / or gaps related to Parallel Flow Visualization and advise the Standards Committee of known impacts, and;
2) to request the Standards Committee to adjust the standards development priorities for the portion of the Project 2008-12 Coordinate Interchange Standards (INT-012) and Project 2012-09 IRO Review (IRO-006-EAST) that address the requirements needed for reporting Intra-BA point-to-point transactions if reliability issues/gaps were identified.

The ORS did not feel there were reliability issues or gaps and did not believe that a request to the Standards Committee to change the priorities of the two projects is needed.

## Resources Subcommittee (Don Badley)

Mr. Badley reported that the RS discussed at length the issues associated with the recovery within fifteen minutes from losses greater than the most severe single contingency. He explained that, following its review of a FERC Order related to this topic, the RS approved a motion to request an urgent action Standard Authorization Request (SAR) that would incorporate Compliance Section D.1.5, "Additional Compliance Information," of NERC Reliability Standard BAL-002-1, "Disturbance Control Performance," into the Requirements section to ensure clarity in the implementation of the Standard. Section D.1.5 states:

**1.5. Additional Compliance Information**

**Reportable Disturbances** – Reportable Disturbances are contingencies that are greater than or equal to 80% of the most severe single Contingency. A Regional Reliability

> Organization, sub-Regional Reliability Organization or Reserve Sharing Group may optionally reduce the 80% threshold, provided that normal operating characteristics are not being considered or misrepresented as contingencies. Normal operating characteristics are excluded because DCS only measures the recovery from sudden, unanticipated losses of supply-side resources.
>
> **Simultaneous Contingencies** – Multiple Contingencies occurring within one minute or less of each other shall be treated as a single Contingency. If the combined magnitude of the multiple Contingencies exceeds the most severe single Contingency, the loss shall be reported, but excluded from compliance evaluation.

The FERC Order in question, released on December 1, 2011, addressed a February 14, 2008, event at the PacifiCorp Huntington generation plant in Utah. Paragraph fifteen of Section II. "Investigation," stated:

> **"The Reliability Standards set forth the parameters that a Balancing Authority and Transmission Operator, such as PacifiCorp, must monitor and address to ensure the reliability of the Balancing Authority Area and the Interconnection following a disturbance. Area Control Error, or ACE, is one those parameters. Enforcement and NERC concluded that PacifiCorp did not ensure it was operating reliably because it did not restore its ACE within fifteen minutes of the Reportable Disturbance as required by BAL-002-0, Requirement R4. Because PacifiCorp did not restore its ACE to zero until forty-five minutes after the start of the disturbance, Enforcement and NERC determined that PacifiCorp violated BAL-002-0, Requirement R4. Enforcement and NERC concluded that, during this forty-five minute period, PacifiCorp leaned on the Interconnection using the resources from other Balancing Authorities to maintain its own operations. Enforcement and NERC also determined that PacifiCorp again violated BAL-002-0, Requirement R4, during the 10:00 hour."**

Mr. Badley indicated that, in response to the order, some Balancing Authorities are instituting procedure to shed load at time T = fourteen minutes if ACE will not recover within fifteen minutes.

## Event Analysis Working Group (Jacquie Smith-RFC)

Ms. Smith reported that the third version of the Event Analysis process document was approved by the NERC Board of Trustees at its meeting of February 8 and 9, 2012. The Event Analysis Working Group is in the process of finalizing its scope to transition the EAWG from a NERC Working Group to the Event Analysis Subcommittee, reporting to the NERC Operating Committee. It is anticipated that a final draft of the EAS scope will be completed by the end of April for inclusion in the meeting material for the NERC Operating Committee meeting to be held in June. The OC

asked that the scope speak to coordination with the Performance Analysis Subcommittee and other subcommittees as well as NERC Staff.

Ms. Smith also observed that the EAWG reaffirmed the need for the respective EAWG Regional representatives to provide outreach to the registered entities experiencing an event to explain the process and to clarify the expectations on the part of the entity in its reporting. The EAWG should further assist the registered entity in concluding its report and any subsequent lessons learned.

The OC also suggested that, in its future work, the EAS may wish to consider NERC Reliability Standard COM-002 issues, clarity in NERC Reliability Standards and the trending of human performance.

The following slate of officers for the Event Analysis Subcommittee was proposed:

| | |
|---|---|
| Chair | J. Sam Holeman (Duke Energy) |
| Vice Chair | Hassan Hamdar (FRCC) |

The NERC Operating Committee approved the slate as presented, and the NERC Operating Committee expressed its appreciation to the outgoing chair of the Event Analysis Working Group, Ms. Jacquie Smith, for her contributions in developing the NERC Event Analysis process.

## Cyber Attack Task Force (Mark Engels)

Mr. Engels reported that the present emphasis of the Task Force is in education in two key ares, preventing an attack and identifying an attack in progress. The draft report includes an appendix presenting approaches to augment and enhance training; scenarios in cyber attacks, including training templates.

## Severe Impact Resilience Task Force (Tom Bowe)

Mr. Bowe summarized the draft report presented to the OC, explaining that the emphasis is on the “New Normal” which an entity must face in coping with the extraordinary scenarios considered. The report also considers the

interrelationships the utilities maintain with other infrastructures which could be impacted, such as communications and natural gas. It is also recognized that a registered entity may have to be empowered to carry out new functions. Mr. Bowe observed that the Operating Committee Strategic Plan will incorporate possible seminars or workshops to discuss the conclusions of the report.

The NERC Operating Committee unanimously approved the report of the Severe Impact Resilience Task Force.

## NERC Reliability Standard COM-002-2, "Communication and Coordination" (Tom Bowe)

Mr. Bowe asked the OC to discuss the issue of when Three Part Communication should be used by the system operator, noting that the NERC Board of Trustees, at its meeting of February 8 and 9, 2012, approved the findings of the NERC interpretation team which considered NERC Reliability Standard COM-002-2, "Communication and Coordination," concluding that:

> **"The interpretation drafting team concluded that Requirement R2 of COM-002-2 does not specify the conditions under which a directive is issued, and that the requirements only apply when a directive is issued to address a real-time emergency. Accordingly, the interpretation drafting team answered that routine operating instructions during normal operations do not require the communications protocols for repeat backs specified in R2."**

Following the approval, the BOT asked the OC to provide a white paper to employ guidance to the industry.

Ms. Valerie Agnew also discussed the possible need to revise the applicable NERC Compliance Questionnaire and Reliability Standard Audit Worksheet (RSAW) in light of the BOT interpretation.

Following discussion by the NERC Operating Committee, Mr. Bowe formed two ad hoc OC Working Groups to address: 1) the need for a revised RSAW and 2) a White Paper to provide further guidance in the implementation of the BOT White Paper.

## ACE Diversity Interchange White Paper (Don Badley)

Mr. Badley summarized the White Paper, noting that the paper was developed to answer two questions:

1) Is the use of ADI a threat to reliability?
2) Are there compliance implications associated with the use of ACE Diversity Interchange (ADI)?

The White Paper concluded that ADI is neither a reliability nor a compliance concern. In addition, nine principles are presented to establish a program of ACE Diversity Interchange (ADI).
Does not impact reliability

The NERC Operating Committee approved the "ACE Diversity Interchange White Paper" as presented.

## Blackstart Resources and Version 5 CIP Cyber Security Standards (Steve Noess)

The NERC Operating Committee discussed the possibility of the Version 5 Standards contributing to a reduction in the participation of generators as Black Start facilities. Following discussion, Mr. Bowe asked the members of the OC to submit comments on the Version 5 of the CIP-005 Standard, focusing on potential impacts to reliability and / or the resilience of the systems.

## Adequate Level of Reliability (ALR) Task Force (Keith Carman)

Mr. Carman discussed the current draft of the definition, which attempts to capture the responsibilities of NERC in its charge to support electric reliability and define measurable characteristics of electric system reliability. The basic definition is accompanied by a supporting document providing the technical explanations contributing to the definition itself. The Adequate Level of Reliability Task Force is soliciting comments by March 23rd from the NERC Standing Committees; following the consideration of

these comments, the documents will be posted again in June. Mr. Carman particularly asked if the definition should explicitly include adequacy.

The NERC Operating Committee pointed out a possible disjoint between the final ALR definition and the current set of NERC Reliability Standards and asked if this could initiate a complete redrafting of the NERC Reliability Standards.

## Requirement 3 of NERC Reliability Standard PER-005-1, "System Personnel Training"

As presented in the NERC Compliance Questionnaire and Reliability Standard Audit Worksheet:

> **Purpose:**
>
> **"To ensure that System Operators performing real-time, reliability-related tasks on the North American Bulk Electric System (BES) are competent to perform those reliability-related tasks. The competency of System Operators is critical to the reliability of the North American Bulk Electric System."**
>
> **Requirement 3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel."**

The NERC Operating Committee charged the Personnel Subcommittee to address the need to expand the certification requirements to the Generator Operator and the operating room support personnel.

## Prioritization of Development of Compliance Application Notices (Valerie Agnew)

Ms. Agnew provided an overview of the anticipated process improvements in the development of a Compliance Application Notice. Prioritization of the CANs by the NERC Committees is being pursued; if all Committees assign a high priority to a CAN, NERC will initiate work immediately on that particular Compliance Application Notice. It is hoped that a proposed list of prioritized CANs will be distributed to the NERC Committees on a monthly basis.

Ms. Agnew reported that there are currently twenty-four CANs posted; four CANs have been retired, and one CAN has been remanded (CAN-0016).

Ms. Agnew asked for the continuing support and observations of the NERC Operating Committee on the evolving CAN process.

## Performance Analysis Subcommittee (Bill Adams)

Mr. Adams updated the OC on the activities of the PAS, noting that Sandia Laboratories has recommended a probabilistic link between events and the ultimate metric to be developed. The annual report of the PAS is to be issued each spring for consideration by the NERC Standing Committees at their June meeting. The PAS has issued a voluntary data request for common and / or dependent mode outages for the period 2008-2010, and this type of event will receive considerable focus going forward.

Event Driven Index White Paper

The Event Driven Index was described as an historical metric which represents an historical compilation of load and equipment loss to be issued quarterly.

The NERC Operating Committee approved the current direction of the Event Driven Index White Paper.

## Status of the Strategic Plan of the NERC Operating Committee (Jim Castle)

Mr. Castle reported that the NERC Board of Trustees approved the Operating Committee Strategic Plan at its meeting of February 8 and 9, 2012. The members of the Operating Committee Strategic Plan drafting team will meet with the OC Executive Committee and the OC Subcommittee Chairs on April 3rd to discuss the implementation of the Operating Committee Strategic Plan.

## Visualization Workshop (Dave Zwergel)

Mr. Zwergel reported on the North American SynchroPhasor Initiative (NASPI) workshop on visualization tools being developed by various vendors. Four grid events were simulated as the basis on which the proposed visualization tools were assessed by the system operators in attendance. The results may be found at the following URL:

https://www.naspi.org

## Event Trending (Earl Shockley)

Mr. Shockley discussed the focus on trending human performance, with particular emphasis being given to the concept of "human drift." A presentation of data and conclusions to date will be presented to each meeting of the Operating Committee, and human performance will be a focus of the Operating Committee Strategic Plan.

## Geomagnetic Disturbance Task Force (Don Watkins)

Mr. Watkins reported that the report of the GMDTF was approved in February as an ongoing effort, the "GMDTF Interim Report: Affects of Geomagnetic Disturbances on the Bulk Power System." Continuing education will be a major focus, and two workshops addressing geomagnetic phenomena are being scheduled, the first of which is to be sponsored by EPRI in April.

## Summary of Manual Time Error Correction Issues in Response to the Operating Committee Request (Terry Bilke)

The NERC Operating Committee disbanded the special team formed to consider the elimination of Time Error Correction.

Prepared by:

John G. Mosier, Jr.
March 7, 2012

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Agenda
# Board of Trustees Conference Call

March 14, 2012 | 2:00-3:00 p.m. Eastern

Dial-in: 800-272-9104
**No Code Needed**

**Introductions and Chair's Remarks**

**NERC Antitrust Compliance Guidelines**

**Agenda**

1. **NERC Rules of Procedure: Substantive Revisions*—Approve**

*Background materials included.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Antitrust Compliance Guidelines

## I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

## II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

## III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.

Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

Agenda Item 1
Board of Trustees Conference Call
March 14, 2012

# Proposed Amendments to NERC Rules of Procedure Including Appendices 2, 4B, 4C, 5A, 5B and Deletion of Appendices 3C and 6

## Action

Approve proposed amendments to the NERC Rules of Procedure (ROP) in Sections 300, 400, 500, 600, 800, 1000, 1400 and 1700, and Appendices 2, 4B, 4C, 5A and 5B, and the deletion of Appendices 3C and 6, and direct staff to file the amended ROP with the appropriate regulatory authorities for approval.

A detailed summary of the proposed amendments on a section-by-section basis is provided. Additionally, a discussion of stakeholder comments received on the proposed amendments after the February 9, 2012 Board meeting and redlined versions of the proposed amended ROP are enclosed.

Previously, proposed revisions to ROP section 1700 were filed with FERC for approval on March 18, 2011; and proposed revisions to ROP sections 100-1700 and Appendices 2, 4B and 5B were filed with FERC for approval on January 25, 2012. Neither of those filings has been acted on by FERC. The redlined documents being provided here assume that these previously-filed revisions are accepted, and show, in redline, only the proposed amendments now being presented for approval.

## Background

During 2011, several teams or working groups were formed to conduct reviews of the ROP and Appendices to identify any amendments that should be considered based on ongoing experience, changes in strategy or other processes, stakeholder concerns, and other factors. The last comprehensive review of the ROP occurred in late 2009-early 2010 in connection with the renegotiation of the delegation agreements and implementation of actions identified in NERC's *Three-Year ERO Performance Assessment Report* in 2009. The teams included a working group of NERC and Regional Entity Compliance Program personnel and a working group of NERC and Regional Entity Legal personnel. Reviews of ROP sections and Appendices relevant to their activities were also undertaken by NERC departments including Standards, Organization Registration and Certification, and Event Analysis and Investigations. These working groups and internal reviews produced numerous proposals for amendments to the ROP and Appendices. The proposals were carefully reviewed by NERC management to eliminate proposals that, while they may have represented the proponent's view of a better way to state the particular provision, did not appear to be warranted based on experience or on developing changes in processes, or as a clear improvement in the clarity of the text of the provision. Versions of the ROP documents reflecting the results of this top-level review were circulated to participants for additional comment.

As part of this process, there were two postings of proposed revisions to the ROP and Appendices for stakeholder comment. Proposed revisions to ROP sections 100-1600 and Appendices 4B and 4C were posted for comment from July 1–August 15, 2011. Numerous comments were received. Based on the comments received on this posting, additional revisions (including deletion of some of the originally-proposed amendments) were made to ROP sections 100-1600 and Appendices 4B and 4C. A second posting period for stakeholder comment occurred from November 7 to December 22, 2011, involving proposed revisions to ROP sections 100-1700, Appendices 4B, 4C, 5A and 8 and the proposed deletion of Appendices 3C and 6. Numerous comments were also received on this posting. Based on the comments received on the second posting, additional revisions were made to the proposed amendments. Consideration of the proposed amendments was originally placed on the agenda for the February 9, 2012 Board of Trustees (Board) meeting. However, following discussion at the February 8, 2012 MRC meeting, consideration by the Board was deferred to the March 14, 2012 Board conference call, and stakeholders were allowed to submit additional comments subsequent to the February 9, 2012 Board meeting. A number of additional comments were received and some additional revisions have been made to the ROP amendments, to arrive at the documents now being presented to the Board for approval.

ROP Appendix 2, *Definitions Used in the Rules of Procedure*, was not included in the July 1-August 15 or the November 7-December 22, 2011 postings. However, proposed Appendix 2 was included in a separate posting for stakeholder comment from September 2–October 17, 2011. Appendix 2 was filed with FERC for approval on November 29, 2011, as a new ROP Appendix created for the purpose of collecting all defined terms used in the ROP and Appendices in one location; that filing was approved by FERC on January 31, 2012. Revisions to Appendix 2 were filed with FERC on January 25, 2012, as part of the filing for approval of the revised Bulk Electric System (BES) Definition and the proposed BES Exception Procedure. The proposed revisions to Appendix 2 (as filed with FERC on January 25, 2012) included in the current set of proposed ROP amendments are only those revisions to Appendix 2 as filed on January 25, 2012, necessary to conform defined terms to the revisions now being proposed in other sections and Appendices of the ROP. Similarly, Sections 1701 and 1702 of the ROP were originally filed with FERC on March 18, 2011 and Section 1703 was filed with FERC on January 25, 2012, each as a proposed new section; FERC has not yet acted on these filings. The current proposed amendments to the ROP include minor, non-substantive revisions to Sections 1702 and 1703 for consistency and conformance with proposed revisions to other ROP provisions. Finally, no changes to Appendix 5B were included in the November 7–December 22 posting; however, a single change to Appendix 5B is now being proposed for approval as a conforming change to a proposed change to Appendix 5A, based on a comment from the Compliance and Certification Committee on the November 7–December 22 posting that a conforming change to Appendix 5B was needed.

**Proposed Deletion of Appendix 3C and Appendix 6**

The Board of Trustees is asked to approve the proposed deletion of Appendix 3C, *Procedure for Coordinating Reliability Standards Approvals, Remands, and Directives*, and Appendix 6, *System Operator Certification Program Manual*. Appendix 3C is proposed for deletion as no longer necessary. It was originally developed in response to directives in FERC's July 2006 *ERO Certification Order*, concerning coordination among applicable North American regulatory bodies with authority over development and approval of Reliability Standards for the bulk power system, specifying that NERC should identify the relevant regulatory bodies and their respective standards approval and remand processes that will be implicated in any remand of a proposed Reliability Standard, and should specify the actual steps to coordinate these processing requirements, including those that may be necessary for an expedited deadline to return a remanded proposed Reliability Standard. As NERC has continued, subsequent to 2006, in its efforts to gain recognition as the ERO and adoption of mandatory standards in Canadian provinces and Mexico, the requirements and processes applicable to adoption and revision of Reliability Standards in the non-U.S. jurisdictions have been established by legislation or regulation with those jurisdictions or by memoranda of understanding (MOU) between NERC and the Applicable Governmental Authorities. As the concerns underlying the directives in the ERO Certification Order are now addressed through legislation, regulation, or MOU in or with the non-U.S. Applicable Governmental Authorities, Appendix 3C can be deleted.

Appendix 6 is being deleted because it contains a considerable amount of administrative detail concerning operation of the System Operator Certification (SOC) Program, which does not need to be included in the ROP. For example, it should not be necessary to present an ROP amendment to the Board and then to FERC for approval just to make minor administrative changes to the SOC Program. Substantive provisions of the SOC Program that are currently included in Appendix 6, and are appropriately included in the ROP, are being moved into Section 600 of the ROP, and are described in the detailed summary provided with this Agenda item. The Personnel Certification Governance Committee (PCGC), which has authority and responsibility for the SOC Program, concurs with this approach. The PCGC intends to maintain a non-ROP Program Manual containing program administrative details for the use of system operators and other stakeholders. The NERC Board accepted the PCGC revised manual during its conference call on February 23, 2012. The changes are consistent with the PCGC authority set forth in the Bylaws, and the manual reflects how the PCGC will be administering the program. NERC will reference the Board action on this manual in its filing for approval of the referenced ROP changes, but will not be filing the manual for FERC approval.

**Discussion of Proposed Amendments of Significant Interest**

As noted, a detailed section-by-section summary of the proposed amendments to the ROP and Appendices is provided as part of this Agenda item. The following discussion describes several proposed amendments that have been of particular interest to stakeholders during the development process.

**ROP §403.15 and §409.** These sections have been amended or added to allow a Regional Entity to take an appeal to NERC of the decision of a Regional Entity Hearing Body on a disputed compliance matter, and to specify procedures for such an appeal. Presently, only the Registered Entity that is the subject of the Alleged Violation, proposed Penalty or Mitigation Plan, or Remedial Action Directive on which the hearing was held may appeal the Regional Entity Hearing Body's decision to NERC. Many stakeholders commented that the Regional Entity should not be allowed to appeal a decision of its Hearing Body to NERC. NERC staff believes these amendments are appropriate in light of the evolution of the Regional Entity hearing process and procedures. A hearing at the Regional Entity level was originally envisioned as the culmination of the compliance enforcement process at the Regional level. However, as the Regional Entity hearing process has evolved over time through a series of amendments to the uniform Hearing Procedures (Attachment 2 to Appendix 4C) and changes to Regional Entity Compliance Programs and other governance documents, in response to FERC directives and to concerns for greater due process in the Hearing Procedures, the Hearing Bodies are not extensions of the Regional Entity Compliance Program. Rather, they are independent tribunals with separation of functions from the Regional Entity Compliance Program, responsible to conduct due process hearings and rendering independent decisions. Thus, the typical hearing on a disputed compliance matter would find the Registered Entity litigating against the Regional Entity Compliance Staff before an independent decision-making body. Given these circumstances, it is appropriate to provide the Regional Entity Compliance Program, as well as the Registered Entity, the ability to appeal the Regional Entity Hearing Body decision to NERC. Further, the Regional Entities act only through delegated authority from NERC as approved by FERC and other applicable governmental authorities; NERC has ultimate responsibility for enforcement of compliance with mandatory Reliability Standards. Allowing the Regional Entity to appeal the decision of the Regional Entity Hearing Body on a disputed compliance matter allows the Regional Entity Compliance Program to bring the matter before NERC for ultimate disposition.

**ROP §412 and Appendix 4C, Attachment 2 (Hearing Procedures), §1.5.12.** These proposed new sections establish a procedure by which a question arising during a hearing before a Regional Entity Hearing Body on a disputed compliance matter can be certified to the NERC Board for decision and decided by the Board of Trustees Compliance Committee (BOTCC). This procedure will be similar to, and in significant part has been modeled on, the procedure available under the FERC Rules of Practice and Procedure whereby a FERC Administrative Law Judge may certify a question arising during a FERC administrative hearing to the Commissioners for decision. A specific procedure of this type does not presently exist in the ROP. Based on experience, questions have arisen during Regional Entity hearings as to which it would have been useful to have the question certified to the BOTCC for decision prior to proceeding through the entire Regional Entity hearing process.

During the two posting periods, stakeholders expressed concerns over the proposal for a "certification of questions" procedure on several grounds, including that it can cause unwarranted delay and expense in the hearing process, particularly if the procedure is too readily available; that it may infringe on the standards development process if the BOTCC is asked to "interpret" the Reliability Standard that is the subject of the Alleged Violation; and

that it was unclear as to whether the BOTCC's decision on a certified question will be precedential and applicable to/binding on other registered entities and Regional Entities (and, if so, whether other entities should be allowed to participate in litigation of the certified question before the BOTCC). NERC staff believes the proposed ROP provisions being presented for approval have been revised through the development process to be responsive to the stakeholder comments. First, only the Regional Entity Hearing Body may decide to certify a question to the NERC Board for decision. Second, to do so, the Hearing Body must determine that the question is "a significant question of law, policy or procedure the resolution of which may be determinative of the issues in the hearing in whole or in part, and as to which there are other extraordinary circumstances that make prompt consideration of the question by the Compliance Committee appropriate." (§412.1) Third, text in previous proposed versions, that stated a permissible certified question could include a question of interpretation of a Reliability Standard, has been deleted. Fourth, the BOTCC may decline to accept a certified question. Fifth, the following limitation on the decision of a certified question has been added: "The Compliance Committee's decision, if any, on the certified question shall only be applicable to the hearing from which the question was certified and to the Participants in that hearing."

**ROP §413.** This proposed new section specifies that NERC shall review and process final decisions of Regional Entity Hearing Bodies concerning alleged violations, proposed penalties or sanctions, or proposed Mitigation Plans, that are not appealed by one or more of the parties to the BOTCC, as though the determination was made by the Regional Entity Compliance Program without a hearing; and that NERC may require that the decision be modified by the Regional Entity, in accordance with sections 5.8, 5.9 and 6.5 of Appendix 4C. In other words, under this provision, NERC will review final Regional Entity Hearing Body decisions determining (for example) whether a violation occurred, or the imposition of a penalty for a violation, in the same manner that NERC reviews proposed dispositions of alleged violations and proposed penalties determined by the Regional Entity Compliance Staff. Stakeholder concerns and objections regarding this provision were similar to the concerns raised with the "Regional Entity can appeal" provisions discussed above. However, NERC staff believes that in order to carry out its responsibility and perform its function of ensuring consistency in violation, Penalty and Mitigation Plan determinations for similar facts and circumstances and among Regional Entities, it is necessary for NERC to review determinations by Regional Entity Hearing Bodies concerning Alleged Violations, Penalties and Mitigation Plans just as it reviews violations, penalties and Mitigation Plans determined or approved by Regional Entity Compliance Staffs. Further, as noted earlier, the Regional Entities enforce compliance with mandatory Reliability Standards solely through delegated authority from NERC as approved by applicable governmental authorities; NERC has the ultimate responsibility for compliance enforcement. Therefore, it is appropriate that NERC should review, and if necessary require modifications to, Regional Entity Hearing Body determinations. Further, NERC's ability to review a Regional Entity Hearing Body determination on a disputed compliance matter should not depend on whether or not one of the Participants in the hearing elects to take an appeal of the decision to NERC.

**Appendix 4C, §5.11.** This proposed new section establishes a procedure whereby an ISO or RTO (ISO/RTO) that is the subject of a possible violation and is authorized pursuant to tariffs, agreements or other governance documents to allocate all of part of the penalty to a third party whose acts or omissions may have caused or contributed to the violation, can request the Regional Entity (Compliance Enforcement Authority or CEA) to make a determination, as part of the enforcement process for the possible violation, that the acts or omissions of a specified third party(ies) in fact caused or contributed to the violation. The ISO/RTO must also give notice to the specified third party(ies), and the third party(ies) will then be entitled to participate in the enforcement process if it requests. The CEA would not determine whether or in what proportion the penalty (if any) should be allocated to the third party(ies), but only whether the third party's acts or omissions caused or contributed to the violation. As provided for in FERC Orders, the ISO/RTO would then be required to initiate a separate proceeding at FERC under §205 of the Federal Power Act to allocate the penalty to the third party(ies), in which the CEA or NERC would not be involved.

This provision has its origins in a Guidance Order issued by FERC in 2008 on the subject of allocations by ISO/RTOs of Penalties for Reliability Standard violations to the ISO/RTO's customers, members and other third parties. Under proposed §5.11, the ISO/RTO can ask the CEA to determine if registered entities or non-registered entities caused or contributed to the violation. This is based upon the guidance in previous FERC Orders, which properly recognized that CEA enforcement staffs have the training, experience and expertise to evaluate and determine the causes of, and contributions to, a violation. The provision has gone through numerous iterations and has been the subject of considerable interaction among NERC, Regional Entities, the ISO/RTO Council (IRC) and other interested stakeholders. Proposed §5.11 has been further revised subsequent to the February 9, 2012 Board meeting as the result of continuing discussions between NERC staff and the IRC. NERC staff believes that provisions in the version of §5.11 posted for comment from November 7–December 22 that the IRC and other stakeholders found particularly objectionable have been removed from the version now being presented for approval. These deleted provisions included a requirement for the ISO/RTO to maintain a "public notification list" of all entities to which the ISO/RTO could allocate penalties, and text that made it appear that in each individual case the CEA would make an independent determination as to whether the ISO/RTO had authority to allocate penalties to third party(ies). The version of §5.11 now being presented for approval has been streamlined in other respects from previously posted/circulated versions.

**ROP §1401.** In the November 7 posting, NERC proposed to amend ROP §1401 to change the number of members needed to request an amendment or repeal of the ROP from 10 to 50 members. This change was proposed because Article XI, section 2 of the NERC Bylaws states that 50 members are needed to request an amendment or repeal of the ROP.

Stakeholders commented that the required number of members should be 10 as specified in ROP §1401, not 50 as specified in the Bylaws. The proposed change to §1401 to increase to 50 the number of Corporation Members required to request a ROP change is being proposed to track the Bylaws, as originally posted. There exist several avenues by which a ROP change can be proposed:

> "Proposals to adopt new Rules of Procedure or to amend or repeal existing Rules of Procedure may be submitted by (i) the Member Representatives Committee, (ii) any fifty (50) members of the Corporation, which number shall include members in at least three sectors, (iii) a committee of the Corporation to whose purpose and functions the Rule of Procedure pertains, or (iv) an officer of the Corporation."

At the time the Bylaws were drafted, NERC intentionally chose 50 members to request an amendment to the ROP as a matter of sound governance, in order to screen out possible changes that have little support and cannot otherwise obtain the support of the Member Representatives Committee, NERC staff, or a relevant NERC committee.

**Proposals Withdrawn in Response to Stakeholder Comments.** During the development of the ROP revisions and in response to stakeholder comments on the July 1-August 15 and November 7–December 22 postings, several proposed additions or revisions to the ROP have been withdrawn. The withdrawn proposals include a proposed provision, included in the July 1 posting, that would have enabled NERC or a Regional Entity to impose fines, not to exceed $5,000, on registered entities for failure to provide data and information requested in connection with compliance monitoring and enforcement processes, event analysis, notifications issued pursuant to ROP section 810, or pursuant to ROP section 1600. In addition, the proposed revised version of Appendix 8 posted in the November 7-December 22 posting drew significant stakeholder comment, with much of that comment pertaining not to specific provisions in revised Appendix 8, but rather to (i) the relationship between Appendix 8 and the new *ERO Event Analysis Process* manual, and (ii) the respective levels of detail and subject matter content of these two documents. Because of the nature of these comments, NERC staff is not presenting a revised version of Appendix 8 for Board approval at this time.

March 5, 2012

# Summary of Proposed Rules of Procedure Revisions

## I. Rules of Procedure (ROP) Sections 100-1700[1]

### A. Section 200 – Definitions of Terms

All definitions have been removed from Section 200. All definitions used in the ROP and Appendices are now found in Appendix 2, which was originally filed with FERC for approval on November 29, 2011 and approved by FERC on January 31, 2012 (138 FERC ¶ 61,072).

### B. Section 300 – Reliability Standards Development

Section 304.1 – Added "and entities" for clarity and completeness.

Section 304.4 – Revised for consistency with Appendix 3A, *Standard Processes Manual*.

Section 305.5 – Corrected Appendix reference from Appendix 3A to Appendix 3D.

Section 306.1 – Added text to reflect that the Standards Committee will include "two officers elected to represent the interests of the industry as a whole."

Section 306.3 – Deleted specific provisions on Canadian representation and replaced them with: "The Standards Committee will include Canadian representation as provided in **Appendix 3B**, *Procedure for the Election of Members of the NERC Standards Committee*." This topic is covered substantively in Appendix 3B.

Section 307 – Changed title to "Standards Process Management"; revised text to describe functions of the NERC regional standards manager as well as the NERC standards process manager.

Sections 308.1 – Revised text to refer to expedited processes for developing Reliability Standards, including developing Reliability Standards to address national security situations that involve confidential issues (replacing reference to "urgent action" reliability standards). "Urgent action" is no longer used in Appendix 3A.

Section 308.2 & 308.3 – Revised text to reflect that Reliability Standards are "adopted," not "approved," by the NERC Board of Trustees (in accordance with ANSI requirements).

Section 309.1 – Revised text to reflect that Reliability Standards are "adopted," not "approved," by the NERC Board of Trustees (in accordance with ANSI requirements).

---

[1] The ROP Sections 100-1700 file incorporates revisions previously filed with FERC for approval on March 18, 2011 and January 25, 2012, as though approved, and shows the proposed additional revisions in redline. Sections that do not have proposed revisions are not discussed in this Summary.

Section 309.2 – Changed reference from "expedited action procedure" to "expedited standards development process".

Section 309.3 – Deleted provision that where an Applicable Governmental Authority directs development of a Reliability Standard by a deadline, NERC staff must, after preparing a Standard Authorization Request (SAR), attempt to find a stakeholder sponsor for the SAR. Also changed reference from "expedited action procedures" to "expedited action process" for consistency with Appendix 3A.

Section 309.3.1 – Deleted this section as no longer necessary based on the current version of Appendix 3A.

Section 311.3.1.3 – Changed text from "control the vote on a matter" to "dominate a matter" to be consistent with terminology in §304.4 and in Appendix 3A.

Section 311.3.1.6 – Deleted reference to accreditation of a Regional Standards Development Procedure by the Standards Council of Canada as sufficient to establish compliance with the evaluation criteria in §311.3.1. The Standards Council of Canada has advised NERC that accreditation by that body is not available to entities based in the U.S.

Section 312.1 – Revised text to make clear that Regional Reliability Standards must be submitted to NERC for adoption, and, if adopted, become part of the NERC Reliability Standards.

Sections 312.3.3, 312.3.4, 312.3.5, 312.4.2, 312.4.3, 312.4.4, 312.4.5, 312.5 – Revised text to reflect that Regional Reliability Standards are "adopted," not "approved," by the NERC Board of Trustees (in accordance with ANSI requirements). These revisions are based on a stakeholder comment on the November 7 posting.[2]

Section 313.1 – Added "NERC" before "Reliability Standards" for clarity.

Section 315 – Changed title of section to refer to the NERC Standard Processes Manual, which is the current title of Appendix 3A.

Section 316 – Deleted reference to seeking "continuing" accreditation since ANSI does not grant "continuing" accreditation, and replaced it with a statement that NERC will "seek and maintain" accreditation. Also, deleted reference to seeking accreditation from the Standards Council of Canada; the Standards Council of Canada has advised that accreditation is not available to NERC since it is not based in Canada.

Section 317 – Revised text as follows: "NERC shall complete a review of each NERC Reliability Standard at least once every five years, or such longer period as is permitted by the American National Standards Institute, from the effective date of the Reliability Standard or the latest

[2] The "November 7 posting" refers to the posting of the proposed ROP revisions for stakeholder comment from November 7 through December 22, 2011.

revision to the Reliability Standard, whichever is later." It may be possible to obtain relief from ANSI from the requirement that each Reliability Standard be reviewed at least every five years.

Section 318 – Deleted reference to "through a memorandum of understanding." The details of the memorandum of understanding are lost in time and the key aspect of this provision is that NERC will continue to maintain close working relationships with the North American Energy Standards Board and the ISO/RTO Council to coordinate wholesale electric business standards and market protocols with NERC Reliability Standards. This revision is based in a stakeholder comment on the November 7 posting.

Section 319 – (i) Changed reference to "standards that expired or were replaced" to "standards that have been retired," which is consistent with the terminology NERC uses elsewhere to describe standards no longer in effect. (ii) Changed provision to require that archived Reliability Standards information will be retained at least six (was five) years, which is the outside length of the Compliance Audit cycle for Registered Entities. This change is based on a stakeholder comment on the November 7 posting. (iii) Changed reference to "NERC standards manager" to "NERC standards information manager" – the position of standards information process manager will be responsible for receiving and responding to requests for archived standards information.

Section 320 – The section has been revised to describe generally the process for developing and approving VRFs and VSLs, rather than just the alternate method for adopting VRFs. New §320.1 states that NERC will follow the process for developing VRFs and VSLs set forth in the Standard Processes Manual. New §320.2 states that if an Applicable Governmental Authority remands or directs a revision to a Board-approved VRF or VSL, the NERC director of standards (based on consultation with the standard drafting team), the Standards Committee, and the NERC director of compliance operations, will recommend one of three actions to the Board: (1) file a request for clarification, (2) file a request for rehearing, or (3) approve the directed revision. Section 320.3, which now contains the "alternative procedure," has been amended to apply to VSLs and well as to VRFs. Section 320.3 (which includes content being moved from ROP §1403, as it is more appropriately located in §300), has also been amended to specify that there will be notice and opportunity for comment before the Board approves a VRF or VSL, and that the Board will consider the inputs of the Member Representatives Committee (MRC), affected stakeholders, and NERC staff. The revisions to §320.3 are based in part on a stakeholder comment on the November 7 posting.

### C. Section 400 – Compliance Enforcement

Section 401.5.2 – Changed reference to "remedial actions" to "Remedial Action Directives," which is a defined term in Appendix 2. (This change has been made in a number of places throughout the ROP.)

Section 401.6 – For clarity of this point, the second sentence is amended as follows: "Compliance is required, and NERC and the Regional Entities have authority to monitor compliance, with all NERC Reliability Standards whether or not they are included in the subset of Reliability Standards and Requirements designated to be actively monitored and audited in the annual NERC Compliance Monitoring and Enforcement Program Implementation Plan."

Registered Entities are subject to monitoring for compliance with all Reliability Standards applicable to their registered functions, not just the Reliability Standards on the actively monitored list.

Section 401.7 – Changed reference to "remedial actions" to "Remedial Action Directives," which is a defined term in Appendix 2.

Section 401.8 – Amended section to specify that a Registered Entity shall not be subject to an enforcement action by more than one Regional Entity for the same violation, unless the Registered Entity is registered in more than one Region in which the violation occurred. This revision is based in part on a stakeholder comment on the November 7 posting.

Section 401.9 – Changed reference to "remedial actions" to "Remedial Action Directives."

Section 401.11.3 – Added reference to "or other Mitigating Activities" after "Mitigation Plan." This revision, which is made in a number of places throughout the ROP, reflects the fact that actions taken by a Registered Entity to correct and prevent recurrence of a non-compliance, while they are accepted by the Compliance Enforcement Authority (CEA), are not always memorialized in a formal Mitigation Plan. "Mitigating Activities" has been added as a defined term in Appendix 2 and Appendix 4C.

Section 402.5 – The revisions are intended to make the text more consistent with the definition of Remedial Action Directive.

Section 403.6 – (i) Changed reference to "remedial actions" to "Remedial Action Directives." (ii) Added text to state that the Regional Entity Compliance Staff shall be capable of and required to review and accept Mitigation Plans and other Mitigating Activities; this change is based in part on a stakeholder comment on the November 7 posting.

Section 403.7.3 – Changed reference to "remedial actions" to "Remedial Action Directives."

Section 403.10.5 – (i) Added statement that a Mitigation Plan is required to be submitted in the event of a noncompliance "unless an enforcement process is used that does not require a Mitigation Plan." Stakeholder comments pointed out that NERC has adopted enforcement process options that do not require the Registered Entity to submit a Mitigation Plan. (ii) Also changed text to state that the Regional Entity Compliance Staff shall "accept" (not "approve" proposed Mitigation Plans (Mitigation Plans are "approved" by NERC).

Section 403.14 – This section is amended to make clear that Confirmed Violations, Penalties and sanctions specified in a Regional Entity Hearing Body decision (as well as Confirmed Violations, Penalties and sanctions developed by the Regional Entity through the enforcement process without a hearing) will be provided to NERC for review and filing with the Applicable Governmental Authorities as a Notice of Penalty.

Section 403.15 – (i) In the first paragraph of this section, in response to a stakeholder comment, the reference to a Regional Entity committee acting as the "final adjudicator" is revised to "final

adjudicator at the Regional Entity Level," in recognition that Regional Entity Hearing Body decisions can be appealed to NERC. (ii) The last paragraph of this section is amended to provide that a Regional Entity (as well as a Bulk Power System owner, operator or user) may appeal a Regional Entity Hearing Body decision to NERC in accordance with §409. (See further discussion under §409, below.)

Section 403.16 – Amended to advance the date by which annual Regional Entity Compliance Monitoring and Enforcement Program Implementation Plans are to be submitted to NERC, from November 1 to October 1 of the preceding year.

Section 407.1 – Changed references to "remedial actions" to "Remedial Action Directives" to reflect the context. In addition, the section is amended to provide that NERC will review Penalties, Sanctions and Remedial Action Directives specified by a Regional Entity Hearing Body final decision issued pursuant to Attachment 2 of Appendix 4C (*i.e.*, the Hearing Procedures), to determine if the determination is supported by a sufficient record, consistent with the *Sanction Guidelines* and other directives, guidance and directions issued by NERC pursuant to the delegation agreement, and consistent with Penalties, sanctions and Remedial Action Directives imposed by the Regional Entity and by other Regional Entities for violations involving the same or similar facts and circumstances. In order to perform its function of ensuring consistency in Penalty determinations for similar violations and among Regional Entities, it is necessary for NERC to review Penalties, sanctions and Remedial Action Directives determined by Regional Entity Hearing Bodies just as it reviews Penalties, sanctions and Remedial Action Directives determined by Regional Entity Compliance Staff. The amendments to this section have been revised in response to a stakeholder comment.

Section 407.2 – References to "remedial action" were changed to "Remedial Action Directive."

Section 408 – Several references to the NERC director of compliance are changed to the NERC director of enforcement. Additionally, §408.1 is revised to add reference to Regional Entities appealing decisions of Regional Entity Hearing Bodies pursuant to ROP §409. (See further discussion under §409, below.)

Section 409.1 – The title of Section 409 is revised to "Appeals from Final Decisions of Regional Entity Hearing Bodies," and Section 409.1 is amended to reflect that a Regional Entity acting as the Compliance Enforcement Authority, as well as a Bulk Power System owner, operator or user, may appeal a decision of a Regional Entity Hearing Body to NERC. Another amendment specifies that the entity appealing must submit its notice of appeal to the NERC director of enforcement (formerly director of compliance) and provide copies to the Regional Entity and any other Participants in the Regional Entity Hearing Body proceeding. The last sentence of the section is deleted as unnecessary. The amendment to allow the Compliance Enforcement Authority to appeal a Regional Entity Hearing Body decision to NERC is warranted because as the Regional Entity hearing process has evolved over time through a series of amendments to the uniform Hearing Procedures (Attachment 2 to Appendix 4C) and changes to Regional Entity Compliance Programs (as reflected in Exhibit D to the delegation agreements) and other governance documents, the Hearing Bodies are not extensions of the Regional Entity Compliance Program, but rather are independent tribunals with separation of functions from the

Compliance Program, conducting due process hearings and rendering decisions. Thus, the typical hearing on a disputed compliance matter will find the Registered Entity litigating against the Regional Entity Compliance Staff before an independent decision-making body. It is therefore appropriate to provide the Regional Entity Compliance Program, as well as the Registered Entity, the ability to appeal the Regional Entity Hearing Body decision to NERC.

Section 409.2 – Changed "compliance hearing" to "proceeding."

Sections 409.3 & 409.4 – (i) Changed to reflect that the Regional Entity, as well as the Registered Entity or other Participant, may file an appeal of a Regional Entity Hearing Body decision. (ii) Changed to specify that the Regional Entity shall file the entire record of the Regional Entity Hearing Body with the NERC director of enforcement (formerly director of compliance). The requirement that the Regional Entity must provide a copy of the record to the appellant is deleted, as all Participants should be expected to maintain their own copies of the record as it is compiled during the hearing. (iii) Changed to specify that Participants in the Hearing Body proceeding other than the appellant shall file their responses to the issues raised in the notice of appeal 35 days after the date of appeal (which will allow for at least a 14-day period after the record of the Hearing Body proceeding is filed with the NERC director of enforcement), and to provide that the Participant filing the appeal may file a reply to the responses within 7 days.

Section 409.5 – Changed to specify that in considering an appeal from a Regional Entity Hearing Body decision, the BOTCC may allow other Participants to the Regional Entity Hearing Body proceeding (in addition to the entity appealing), to appear before the BOTCC.

Section 409.8 – New section is added to specify that Section 409 is not applicable to an appeal taken from a decision of the Regional Entity Hearing Body granting or denying a motion to intervene in the Regional Entity hearing, and that such appeals shall be conducted in accordance with ROP §414.

Section 412 – This new section sets forth the procedures by which the NERC BOTCC will accept or reject a question certified to the BOTCC by a Regional Entity Hearing Body (pursuant to §1.5.12 of the Hearing Procedures in Appendix 4C), and if the BOTCC decides to accept the certified question, the procedure for receiving argument from the Participants on, and deciding, the question. (Section 412.2 provides that the BOTCC may reject the certification of a question.) Section 412.5 states that the BOTCC's decision on a certified question shall only be applicable to the hearing from which the question was certified and the Participants in that hearing; this limitation is based on stakeholder comments on the November 7 posting.

Section 413 – This new section specifies that NERC shall review and process decisions of Regional Entity Hearing Bodies, issued pursuant to Attachment 2 to Appendix 4C (*i.e.*, the Hearing Procedures) concerning Alleged Violations, proposed Penalties or sanctions, or proposed Mitigation Plans, that are not appealed to the BOTCC, as though the determination was made by the Regional Entity Compliance Program, and may require that the decision be modified by the Regional Entity, in accordance with sections 5.8, 5.9 and 6.5 of Appendix 4C. In order to perform its function of ensuring consistency in violation, Penalty and Mitigation Plan

determinations for similar facts and circumstances and among Regional Entities, it is necessary for NERC to review determinations by Regional Entity Hearing Bodies concerning Alleged Violations, Penalties and Mitigation Plans just as it reviews violations, Penalties and Mitigation Plans determined or approved by Regional Entity Compliance Staffs.

Section 414 – This new section establishes procedures for review and decision by the NERC BOTCC of appeals of decisions of a Regional Entity Hearing Body to grant or deny a request for intervention in the Regional Entity Hearing Body proceeding. Addition of these procedures is needed due to the proposed amendment to §1.4.4 of the Hearing Procedures to allow the Regional Entity Hearing Body to grant requests to intervene in limited circumstances. New §414.5 recognizes that the BOTCC's decision on the appeal of an intervention ruling may thereafter be appealed to FERC or to another Applicable Governmental Authority having jurisdiction over the matter, in accordance with the authorities, rules and procedures of the Applicable Governmental Authority.

### D. Section 500 – Organization Registration and Certification

Section 501 – The second paragraph is revised for clarification to refer to Certification of Registered Entities performing certain specified functions, rather than entities applying to be a RC, BA or TOP.

Section 501.1.3.1 – This section is revised to provide greater specificity with respect to the effective date of an entity's Registration, particularly in the case of Registrations resulting from sales or transfers of Bulk Power System (BPS) assets or from corporate reorganizations that result in a new legal entity owning BPS assets formerly owned by another Registered Entity. The effective date will be stated in NERC's notification of Registration. Where the organization is being registered for the first time and its BPS Facilities were not previously owned by another Registered Entity, the effective date of the Registration will be the date agreed to by the entity to be registered and the applicable Regional Entity. Where the organization is being registered because it has acquired BPS Facilities from a Registered Entity, or based on an internal restructuring or name change where the organization has been registered under a different entity name, the effective date of the Registration will be the effective date of the transaction that results in the organization performing the reliability functions that require it to be registered.

A new second paragraph is added to §501.1.3.1 which specifies that if the Regional Entity and the entity to be registered cannot agree on the effective Registration date, NERC shall set an effective Registration date "that it determines to be appropriate for the reliability of the Bulk Power System." However, the effective date of Registration cannot be earlier than the date of NERC's notification of the Registration date. This new provision is being added to provide a procedure for establishing the entity's effective Registration date when the entity and the Regional Entity cannot agree on the effective Registration date, and is based in part on a stakeholder comment on the November 7 posting.

Finally, the third paragraph of this section is revised to specify that the organization being registered is responsible for compliance with the Reliability Standards applicable to the functions for which it is registered from the effective date of its Registration for each function.

Section 501.2 – This section is amended to state that Certification of entities as RCs, BAs and TOPs will include evaluation of the competency of entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions. The evaluation of entities to which some or all of the reliability functions of an RC, BA or TOP have been delegated, assigned or contracted, is needed because some entities may choose to delegate or contract reliability tasks and/or responsibility for compliance with specific Reliability Standards or Requirements to a third party. When such arrangements occur, the ERO needs to be able to conduct an appropriate Certification review of the third party's capabilities to perform the delegated certified functions on behalf of the entity that is registered for the certified functions. The amendments to this section have been revised from those originally proposed, in response to stakeholder comments, in order to more clearly state the intention of the amendments.

Additionally, reference to the NERC Provisional Certification Process is deleted, as that process is no longer needed and is being eliminated.

Section 501.2.1 – Amended to refer to entities intending to perform (as well as Registered Entities performing) the functions of RC, TOPs and BAs, since the Certification process applies to entities seeking to perform these functions as well as Registered Entities already performing the functions.

Section 502.2.2 – Revised to correct a typographical error (the number "(6)" should appear after the word "six" rather than before it).

Section 502.2.2.7 – Revised to state that the Certification Team leader shall confirm that all Certification Team members have completed all required training prior to participation in the Certification evaluation. This change is based on a stakeholder comment on the November 7 posting.

Section 503.3.4 – In this section, which states that NERC and/or the Regional Entity shall evaluate the competency of entities requiring Certification to meet the NERC Certification requirements, a sentence has been added to specify that the evaluation shall include evaluation of the competency of any entities to which performance of some or all of the reliability functions of a RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions. (See discussion under §501.2, above.) This sentence has been added, in response to stakeholder comments, to clarify the intent of provisions specifying that a Certification evaluation of a RC, BA or TOP will include evaluation of the competency of third parties performing reliability functions pursuant to delegation, assignment or contract.

Sections 503.3.5.1 and 503.3.5.2 – Deleted references to "NERC/Regional Entity" as unnecessary. Also added a reference in section 3.5.1 to Appendix 5A, where procedures for on-site visits to the Certification applicant's facilities are described in greater detail.

Section 506.4 – (i) Changed "programs" to "Organization Registration and Organization Certification Program," for clarity. (ii) Revised the text to state that written responses to recommendations in an audit report on the Organization Registration and Organization

Certification Programs are due within 30 days of the posting of the final audit report, also for clarity.

Section 508.8 – Revised to correct a typographical error.

### E. Section 600 – Personnel Certification

Section 600 has been substantially revised and expanded. Appendix 6, System Operator Certification Program Manual, which contained a considerable amount of administrative detail that does not need to be included in the Rules of Procedure, is being deleted in its entirety, and its substantive provisions are being moved into Section 600.

Section 601 – Scope of Personnel Certification – This section is amended to state (1) that the Personnel Certification Program awards system operator Certification Credentials to individuals who demonstrate that they have attained essential knowledge relating to NERC Reliability Standards as well as principles of BPS operations, and (2) that except as necessary to obtain approval of the ROP, the NERC Personnel Certification Governance Committee (PCGC) is the governing body that establishes the polices, sets fees, and monitors the performance of the Personnel Certification Program for system operators.

Section 602 – Structure of ERO Personnel Certification Program – This section contains existing provisions describing the structure of the Personnel Certification Program. References to the "personnel Certification program governing body" are changed to the PCGC, which is identified in section 601 as the governing body.

Section 603 – Examination and Maintenance of NERC System Operator Certification Credentials – Section 603 is a new section encompassing material being moved from Appendix 6. It describes the basic requirements for obtaining a system operator Certification Credential (*i.e.*, passing an examination) and maintaining the Certification (*i.e.*, earning the necessary number of Continuing Education Hours (CE Hours) during the ensuing three-year period). It also states what occurs should the certified operator fail to obtain the necessary amount of CE Hours during the three-year period, including the procedure for requesting a hardship clause exception.

Section 604 – Dispute Resolution Process – Section 604 is a new section encompassing material being moved from Appendix 6. It describes the NERC System Operator Certification Dispute Resolution Process for resolving disputes that arise under the System Operator Certification Program concerning any aspect of the Certification process. The Dispute Resolution Process is for the use of persons who hold an operator Certification or persons wishing to be certified to dispute the validity of the examination, the content of the test, the content outlines, or the Registration process.

Section 605 – Disciplinary Action – Section 605 is a new section encompassing material being moved from Appendix 6. It describes the grounds and procedures for disciplinary action against a system operator, including the hearing process and the possible decisions that may be rendered

against the system operator. It also describes the Credential Review Task Force, which will make factual determinations and ultimate determinations as to disciplinary action.

Section 606 – Candidate Testing Mechanisms – This section is currently Section 603 of the ROP. The text has not been revised except to capitalize "Personnel Certification Program."

Section 607 – Public Information About the Personnel Certification Program – This section is currently Section 604 of the ROP. It has been revised to state that the Personnel Certification Program shall maintain and publish publicly a System Operator Certification Program Manual, covering listed topics; and shall maintain and publish publicly a comprehensive summary or outline of the of the information, knowledge, or functions covered by each system operator Certification examination and a summary of Certification activities for the program.

Section 608 – Responsibilities to Applicants for Certification or Recertification – This section is currently Section 605 of the ROP. Items 8 and 9 in the list of duties and responsibilities of the Personnel Certification Program (implement and publish policies and procedures providing due process for applicants questioning eligibility determination, examination results and Certification status, and develop and maintain a program manual containing the processes and procedures for applicants for Certification and re-Certification) have been deleted since these topics are covered in Sections 604 and 607.

Section 609 – Responsibilities to the Public and to Employers of Certified Practitioners – This section is currently Section 606 of the ROP. It has been revised (1) to delete the provision that the Personnel Certification Program shall periodically publish a current list of those persons who are certified, and (2) to delete a reference to the disciplinary action program being contained in Appendix 6, as it will now be included in Section 605.

### F. Section 800 – Reliability Assessment and Performance Analysis

Sections 807 and 808 have been revised to provide for a more consistent use of terms in these sections including "major event" and "occurrences."

Section 807a is revised to state that in responding to a major event, NERC will work with appropriate Registered Entities as well as with Regional Entities and Reliability Coordinators.

Sections 807c and 808.3 are amended to state that where a Reliability Standard sets forth specific criteria and procedures for reporting BPS disturbances and events described in that Reliability Standard, Registered Entities subject to the Reliability Standard must report information as required by the Reliability Standard. These sections further state that BPS users, owners and operators shall also provide NERC and Regional Entities with such additional information they request as is necessary to enable them to carry out their responsibilities under these sections. The revisions to these sections are based, in part, on stakeholder comments on the November 7 posting.

Section 807d is revised to delete "some" before "NERC analyses," as potentially unduly limiting.

Section 807e is amended to provide that NERC will establish, maintain, and revise from time to time based on experience a manual setting forth procedures and protocols for communications and sharing and exchange of information between and among NERC, Regional Entities, governmental authorities, industry organizations, and BPS users, owners and operators, concerning the investigation and analysis of major events.

Section 807f is amended to state that the procedures of Appendix 8 will be applied as appropriate to the circumstances of the major event.

Section 807g is amended to state that NERC will disseminate to the industry findings and recommendations of general applicability from event analyses, "through various means appropriate to the circumstances," including in accordance with ROP §810. This revision will give NERC greater flexibility in determining and using the most effective means to disseminate information gained from event analyses to the industry.

Section 808.2 has a similar amendment to §807g as described immediately above.

### G. Section 1000 – Situation Awareness and Infrastructure Security

Section 1002 has been amended to state NERC's new policy regarding maintenance and financial support of existing and potential new reliability tools and support services. NERC will work with industry to identify new tools, collaboratively develop requirements, support development, provide an incubation period, and at the end of that period transition the tool or service to another group or owner for long term operation of the tool or provision of the service. NERC may also develop reliability tools on its own, but will consult with industry concerning the need for the tool prior to development. Tools and services being maintained by NERC as of January 1, 2012 will be reviewed and, as warranted, transitioned to an appropriate industry group or organization.

### H. Section 1400 – Amendments to the NERC Rules of Procedure

Section 1401 is revised to provide that requests to amend or repeal the ROP may be submitted by (among other sources) (i) fifty (rather than ten) Members of NERC, which must include Members from at least three membership Sectors; (ii) a committee (rather than "standing committee") of NERC, or (iii) an officer of NERC (rather than of "the ERO"). These revisions are necessary to correct inconsistencies with Article XI, section 2 of the NERC Bylaws. Although a number of commenters expressed concern that the number of Members specified in §1401 should not be increased and instead, the number of Members specified in the Bylaws should be decreased, NERC staff believes that the higher-tier document needs to control. The Board may wish to evaluate whether the Bylaws should be amended to provide for a lower number of Members than 50.

Section 1403 is deleted and its subject matter, which is more appropriately placed in ROP §300, is moved to §320.3.

## I. Section 1700 – Challenges to Determinations

Proposed new §1701 and 1702 were filed with the Commission for approval on March 18, 2011, and have not been acted on by the Commission. Proposed new §1703 was filed with the Commission on January 25, 2012, in connection with the proposed Bulk Electric System (BES) Exception Procedure. The January 25, 2012 filing included proposed revisions to §1701 to reference proposed new §1703. The January 25, 2012 filing also has not been acted upon by the Commission.

The current package of revisions includes proposed several revisions to §1702.7, 1702.8, 1702.9 and 1703.2 to implement certain changes to capitalization and definition conventions that were reflected in NERC's November 29, 2011 filing of "definitions and capitalization" revisions to the ROP, which the Commission approved on January 31, 2012. The November 29, 2011 filing did not include any proposed changes to §1700.

## II. Appendix 2 – Definitions Used in the Rules of Procedure

Appendix 2, *Definitions Used in the Rules of Procedure*, was originally filed with FERC for approval as a new Appendix on November 29, 2011, and was approved by FERC on January 31, 2012 (138 FERC ¶ 61,072). A revised version of Appendix 2 was filed with FERC for approval on January 25, 2012 (Docket No. RM12-7-000), to reflect new defined terms and revisions to existing definitions as a result of the proposed revised BES Definition and proposed new BES Exception Procedure (Appendix 5C to the ROP). The further revisions to Appendix 2 now being proposed for approval are the new and revised defined terms resulting from the other revisions to the Rules of Procedure and Appendices in this package. The following defined terms are being added to or revised in Appendix 2 and are shown on the redlined version:

Annual Audit Plan (revised – see discussion under Appendix 4C below)

Certification (revised to reflect elimination of Appendix 6 and movement of content to ROP §600)

Clerk (revised – see discussion under Attachment 2 to Appendix 4C below)

Confirmed Violation (revised – see discussion under Appendix 4C below)

Continuing Education Hour (this definition is being revised by the Personnel Certification Governance Committee to reflect current practice and the PCGC's System Operator Certification Manual)

Continuing Education Program Provider (revised to reflect elimination of Appendix 6 and movement of content to ROP §600)

Credential Maintenance (deleted because no longer used due to the elimination of Appendix 6)

Director of Compliance (revised – see discussion under Appendix 4C below)

Evidentiary Hearing (new definition – see discussion under Attachment 2 to Appendix 4C below)

Exception Report – (revised – see discussion under Appendix 4C below)

Hearing Body (revised – see discussion under Attachment 2 to Appendix 4C below)

ISO/RTO (new definition – see discussion under Appendix 4C below)

Mitigating Activities (new definition – see discussion under Appendix 4C below)

Mitigation Plan (revised – see discussion under Appendix 4C below)

Notice of Alleged Violation and Proposed Penalty or Sanction (revised the defined term for "Notice of Violation" – see discussion under Appendix 4C below)

Notice of Confirmed Violation (revised – see discussion under Appendix 4C below)

Notice of Penalty (revised – see discussion under Appendix 4C below)

Participant (revised – see discussion under Attachment 2 to Appendix 4C below)

Possible Violation (revised – see discussion under Appendix 4C below)

Preliminary Screen (revised – see discussion under Appendix 4C below)

Probation (revised to reflect elimination of Appendix 6 and movement of content to ROP §600)

Regional Entity Compliance Monitoring and Enforcement Implementation Plan (revised – see discussion under Appendix 4C below)

Remedial Action Directive (revised – see discussion under Appendix 4C below)

Revoke for Cause (revised to reflect elimination of Appendix 6 and movement of content to ROP §600)

Self-Certification (revised – see discussion under Appendix 4C below)

Self-Report (revised – see discussion under Appendix 4C below)

Spot Check (revised – see discussion under Appendix 4C below)

Termination of Credential (revised to reflect elimination of Appendix 6 and movement of content to ROP §600)

Testimonial Hearing (new definition – see discussion under Attachment 2 to Appendix 4C below)

Type of CE Hours (deleted because no longer used due to the elimination of Appendix 6)

## III. Appendix 3C – Procedure for Coordinating Reliability Standards Approvals, Remands, and Directives

NERC is proposing to delete Appendix 3C as no longer necessary. Appendix 3C was originally developed in response to directives in P 286 of the Commission's July 2006 ERO Certification Order, concerning coordination among the applicable North American regulatory bodies with authority over development and approval of reliability standards for the Bulk Power System, specifying that NERC should identify the relevant regulatory bodies and their respective standards approval and remand processes that will be implicated in any remand of a proposed Reliability Standard, and specify the actual steps to coordinate all of these processing

requirements, including those that may be necessary for an expedited deadline to return a remanded proposed Reliability Standard. As NERC has continued, subsequent to 2006, in its efforts to gain recognition as the ERO and adoption of mandatory Reliability Standards in the Canadian provinces and Mexico, the requirements and processes applicable to adoption and revision of Reliability Standards in the non-U.S. jurisdictions have been established by legislation or regulation with those jurisdictions or by memoranda of understanding between NERC and the Applicable Governmental Authorities. As the concerns underlying the directives in P 286 of the ERO Certification Order are now addressed through legislation, regulation, or memoranda of understanding in or with the non-U.S. Applicable Governmental Authorities, Appendix 3C can be deleted.

## IV. Appendix 4B – Sanction Guidelines

A principal objective of the proposed amendments to Appendix 4B is to eliminate text that does not relate to the purpose of the Sanction Guidelines, namely, how Penalties and sanctions for violations of Reliability Standards are determined, and to eliminate internally duplicative or repetitive text. The following portions of Appendix 4B are being completely or substantially deleted consistent with this objective: (1) current section 2, Document Scope and Exclusions; (2) current §3.1, Necessary Elements of NERC Compliance Program; (3) current §3.2, Settlement of Compliance Violations, as well as the current sections captioned "Settlement Request" and "Settlement Effect on Continuation of Determination of Penalties, Sanctions, or Remedial Actions;" (4) current §3.7, "No Influence of Penalty, Sanction or Remedial Action Upon Violation Confirmation Process;" and (5) current §6, "Remedial Action" (Remedial Action Directives are covered in §7.0 of Appendix 4C, which is the appropriate Appendix for this topic, and do not need to be covered in Appendix 4B); as well as portions of the texts of other sections.

Text paraphrasing or referring to various statutory provisions and Commission regulations and orders has also been deleted, as these authorities speak for themselves; however, a statement has been added in §1 that "NERC and the Regional Entities will apply the provisions of this document in accordance with applicable statutory provisions and with the regulations, orders, and statements of policy of FERC and other Applicable Governmental Authorities that are applicable to the determination and imposition of Penalties and sanctions for violations of Reliability Standards in the respective jurisdictions."

Revisions have been made throughout Appendix 4B for more consistent use of terms within the document and as used elsewhere in the ROP, including defined terms, such as Remedial Action Directive, Possible Violation, Alleged Violation, and Registered Entity.

In current §3.2/renumbered §2.1, text is retained specifying that provisions in a settlement agreement regarding Penalties or sanctions can supersede any corresponding Penalties or sanctions that would otherwise be determined pursuant to the Sanction Guidelines.

In renumbered §2.5, "Multiple Violations," text has been added to state that where Penalties or sanctions for several unrelated violations by a Registered Entity are being determined at the same time, NERC or the Regional Entity may determine and issue a single aggregate Penalty or

sanction bearing a reasonable relationship to the aggregate of the violations. This is consistent with long-standing practice.

Renumbered §2.8 is revised to state that in unique extenuating circumstances "causing or contributing to the violation," NERC or the Regional Entity may significantly reduce or eliminate Penalties.

Renumbered §2.10, "Economic Choice to Violate," has been revised to specify that "Economic choice includes economic gain for, or the avoidance of costs to, the violator;" and to make it clear that "NERC or the Regional Entity shall treat economic choice to violate as an aggravating factor when determining a Penalty."

In renumbered §3.2.2, which discusses how the fact that a violation is a Registered Entity's first violation of a Requirement will be considered in determining (reducing or excusing) the Base Penalty Amount, text has been added to provide that this relief generally will not be afforded if NERC or the Regional Entity determines the violator has a poor internal compliance program or there is other evidence of a poor culture of compliance (as well as of a poor compliance record, as stated in the existing text). This is consistent with longstanding practice, and also consistent with the increased emphasis NERC is placing in compliance monitoring and enforcement activities on the Registered Entity's internal compliance program and culture of compliance. The revisions to this section are based in part on a stakeholder comment on the November 7 posting.

In renumbered §3.3, which lists adjustment factors that will be considered in determining the Penalty after the Base Penalty Amount is established, subpart c lists as an adjustment factor disclosure of the violation by the violator through self-reporting, and voluntary Mitigating Activities (which is a broader term than the current "corrective action") by the violator. In subpart f, "settlement" has been added as an explicit adjustment factor.

In renumbered §3.3.1, which discusses repetitive violations and the violator's compliance history as an adjustment factor, text has been added to state that in evaluating the violator's compliance history, NERC or the Regional Entity will take into account previous violations by affiliates of the violator, particularly violations of the same or similar Reliability Standard Requirements, and will evaluate whether any such prior violations reflect recurring conduct by affiliates that are operated by the same corporate entity or whose compliance activities are conducted by the same corporate entity. This addition is consistent with a 2010 guidance order from FERC, and should also promote the sharing of compliance information and lessons learned between/among Registered Entities that are corporate affiliates.

Also, in renumbered §3.3.1, the term "violation reset time period" has been changed to "reset period or reset time frame," as these are the terms used in several Reliability Standards.

Renumbered §3.3.3, retitled "Disclosure of the Violation Through Self-reporting and Voluntary Mitigating Activities by the Violator," has been revised consistent with subpart c of §3.3 as described above. In addition, the following text has been added: "If a Self-Report or a Self-Certification submitted by the violator accurately identifies a violation of a Reliability Standard,

an identification of the same violation in a subsequent Compliance Audit or Spot Check will not subject the violator to an escalated Penalty as a result of the Compliance Audit process unless the severity of the violation is found to be greater than reported by the violator in the Self-Report or Self-Certification." A similar statement is currently contained in §3.0 of Appendix 4C, but it is being moved to Appendix 4B as it more appropriately relates to Penalty determinations than to compliance monitoring processes.

Renumbered §3.3.4, retitled "Degree and Quality of Cooperation," has been revised to be consistent with subpart d of §3.3 as described above.

Renumbered §3.3.5, retitled "Presence and Quality of the Violator's Internal Compliance Program," has been revised to add reference to "other indicators of the violator's culture of compliance" as an adjustment factor.

Section 3.3.6, "Settlement," has been added consistent with the addition of subpart f in §3.3 as described above, as a mitigating factor in determining the Penalty.

Renumbered §3.3.7, retitled "Violation Concealment and Responsiveness," has been revised to state that NERC or the Regional Entity shall consider an increase to the Penalty if NERC or the Regional Entity determines, based on its review of the facts, that the violator resisted or impeded the discovery and review of a violation. The text has been revised to state that the presumption in a case where the violator concealed or attempted to conceal the violation is to double the Penalty, but also to state that NERC or the Regional Entity will determine the actual increase to the Penalty based on the particular facts and circumstances of the violation. The latter revision is based in part on stakeholder comments on the November 7 posting.

Renumbered §3.3.8 has been revised to state that the presumption in a case where the violator committed an intentional violation is to double the Penalty otherwise suggested, but that NERC or the Regional Entity will determine the actual increase to the Penalty based on the facts and circumstances of each case. This revision is based in part on stakeholder comments on the November 7 posting.

In numerous other areas of Appendix 4B, revisions have been made for the purpose of simplifying the text. The text of current Appendix 4B is extremely elaborate and the simplification of the text will make the document easier to use for all participants. As part of this effort, in numerous places text has been revised to state that "NERC and the Regional Entity will do X," rather than the current text structure of "X will occur" or "X will be taken into account."

## V. Appendix 4C – Compliance Monitoring and Enforcement Program

Throughout Appendix 4C, "Regional Entity" has been revised to "Compliance Enforcement Authority" ("CEA" in this summary) in numerous places. In addition, since sections have been added and deleted and, as a result, other sections have been renumbered in this Appendix, there are revisions throughout the Appendix to change cross-references.

## A. Section 1.0 – Introduction

Section 1.1.2 – Annual Audit Plan – reference to including "Compliance Audit Participant requirements" in the Annual Audit Plan has been deleted.

Section 1.1.9 – Confirmed Violation – the definition has been expanded to more comprehensively capture the circumstances that constitute a "Confirmed Violation," based on experience, and will include execution of a settlement agreement. Revisions have been made to this definition from the November 7 posting based in part on stakeholder comments.

Section 1.12 – ISO/RTO – added new definition that is used in new §5.11 (described below).

Section 1.1.13 – Mitigating Activities – this new definition has been added to encompass actions taken by a Registered Entity to correct or prevent recurrence of a noncompliance, whether or not the actions are embodied in a Mitigation Plan. Under some enforcement resolutions, submission, acceptance and approval of a Mitigation Plan may not be required, but the Registered Entity is required to implement Mitigating Activities for the noncompliance.

Section 1.1.14 (renumbered) – Mitigation Plan – Text not necessary to define the term is being deleted from the definition.

Section 1.1.17 (renumbered) – The defined term "Notice of Alleged Violation" is changed to "Notice of Alleged Violation and Proposed Penalty or Sanction," which is the term more commonly used; Notices of Alleged Violation typically include a proposed Penalty or sanction.

Section 1.1.19 (renumbered) – Notice of Confirmed Violation – text is deleted that is not necessary to define "Notice of Confirmed Violation." The subject matter of the deleted text is covered (more appropriately) in the definition of "Confirmed Violation."

Section 1.1.20 (renumbered) – Notice of Penalty – added the phrase Notice "or other notification" of Confirmed Violation to reflect that Regional Entities may sometimes provide notice of a Confirmed Violation through a means of notification other than a Notice of Confirmed Violation.

Section 1.1.23 (renumbered) – Possible Violation – text is deleted that is not necessary to define the term, and potentially inaccurate (a Possible Violation could be identified by a means other than one of the compliance monitoring and enforcement processes enumerated in Section 3.0).

Section 1.1.24 (renumbered) – Preliminary Screen – an additional component is added to the determinations to be made in the Preliminary Screen: "if known, the potential noncompliance is not a duplicate of a Possible Violation or Alleged Violation which is currently being processed."

Section 1.1.25 (renumbered) – Regional Implementation Plan – revised to reflect that the Regional Implementation Plans for a year are now to be submitted to NERC by October 1 (rather than November 1) of the preceding year.

Section 1.1.27 (renumbered) – Remedial Action Directive – revised to state that a Remedial Action Directive is immediately necessary to protect the reliability of the Bulk Power System from an imminent or actual threat.

Section 1.1.29 (renumbered) – Self-Certification – Definition is expanded to reflect that additional possible responses to a Self-Certification request will be allowed, *i.e.*, that the Registered Entity does not own Facilities that are subject to the Reliability Standard Requirement, or that the Reliability Standard Requirement is not applicable to the Registered Entity.

Section 1.1.30 (renumbered) – Self-Report – (1) The defined term is changed from Self-Reporting to Self-Report (this revision is made throughout Appendix 4C). (2) Definition is revised to provide that the Self-Report may state that the Registered Entity believes it has, or may have, violated a Reliability Standard. This will enable a Registered Entity to submit a Self-Report without having to first conclude that it has violated a Reliability Standard. (For clarification, and in response to stakeholder comments, this change is *not* intended to require a Registered Entity to submit a Spot Check whenever it believes it may have, but is not certain, that is has violated a Reliability Standard.) (3) The provision that the Self-Report should state the actions that have been taken or will be taken to resolve the violation is deleted; this requirement could delay submission of a Self-Report while the Registered Entity determines what actions are to be taken. NERC prefers that the Self-Report be submitted promptly following discovery of the noncompliance.

Section 1.1.31 (renumbered) – Spot Check – (1) The defined term is changed from Spot Checking to Spot Check (this revision is made throughout the document). (2) In the third basis stated in the definition on which a Spot Check may be initiated, reference to "events, as described in the Reliability Standard" is deleted and "risk-based assessments" is added. The addition is consistent with NERC's developing risk-based assessment approach to determining the frequency with which to conduct compliance monitoring activities.

### B. Section 2.0 – Identification of Organizations Responsible for Complying with Reliability Standards

Section 2.0 is revised to specify that a Registered Entity must inform NERC or the applicable Regional Entity promptly of changes to the Registered Entity's compliance information "including planned or completed changes in ownership of Bulk Power System Facilities, Registration status, address or other contact information, and name of designated compliance contact." Experience has indicated that NERC and the Regional Entities are not receiving timely notification of such information, which may affect Registration status, identification of the correct/current Registered Entity, or the ability to contact the Registered Entity.

Detailed text concerning disclosure of confidential compliance information to FERC and other Applicable Governmental Authorities has been deleted here (and in other sections where it was repeated), and replaced with: "Any such provision of information to FERC or to another Applicable Governmental Authority shall be in accordance with Section 8.0, Reporting and Disclosure." The complete text of this provision will now appear in one section (Section 8.0).

### C. Section 3.0 – Compliance Monitoring Processes

In the title of Section 3.0, reference to "Enforcement" is deleted; and in the first sentence of the section, "assess and enforce" is deleted. Section 3.0 encompasses only compliance monitoring processes, while Section 5.0 encompasses enforcement processes.

Throughout Section 3.0, footnotes stating that a particular compliance process normally completes within a specified time period have been deleted; the time required to complete individual compliance processes has varied widely based on particular facts and circumstances.

Text has been added to state that if a potential noncompliance is identified through one of the compliance monitoring processes described in Section 3.0 or through another means, the CEA will conduct a Preliminary Screen of the information in accordance with Section 3.8; if the Preliminary Screen results in an affirmative determination with respect to the Preliminary Screen criteria, a Possible Violation exists and the CEA will proceed in accordance with Section 5.0, Enforcement Actions.

Text describing the enforcement actions that may be taken by the CEA is deleted, as this topic is covered in Section 5.0, not in this section.

Text is added to state that the CEA has authority to collect Documents, data and information in the manner it deems most appropriate, including requesting that copies be made of Documents, data and information and removing those copies from the Registered Entity's location in accordance with appropriate security procedures conforming to ROP Section 1500 and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the Documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost if the information were placed into the public domain. This added text was revised, in part, based on stakeholder comments on the November 7 posting.

This section is revised to state that a Registered Entity that believes a request for Documents, data or information is unreasonable may request a written determination from the NERC general counsel (changed from the NERC "compliance program officer").

Section 3.1 – Compliance Audits – Revised to state that Generally Accepted Auditing Standards, Generally Accepted Government Auditing Standards, and standards sanctioned by the Institute of Internal Auditors, are examples of professional auditing standards on which Compliance Audit processes for Compliance Audits in the U.S. should be based.

Section 3.1.1 – Compliance Audit Process Steps – (1) The first step is revised to state that the Annual Audit Plan will be posted, rather than distributed to all Compliance Audit Participants. (2) The second step is revised to provide that the CEA will notify the Registered Entity of the Compliance Audit and the Reliability Standards to be evaluated, 90 days (rather than 2 months) prior to commencement of a regularly scheduled Compliance Audit (thereby providing additional notice to the Registered Entity). (3) The third step is revised to specify that the

required information requested by the CEA is to be provided by the Registered Entity by the Required Date. (4) The fourth step is revised to delete the statement that the Compliance Audit team will review the Registered Entity's submitted information "prior to performing the Compliance Audit" – the submitted information may be reviewed before or during the on-site audit activities. Text stating that the Compliance Audit team "follows NERC Compliance Audit guidelines in the implementation of the Compliance Audit" is also deleted here, as this statement is applicable to all the process steps. (5) The fifth step is revised to state that the Compliance Audit report will be completed in accordance with Section 3.1.6, which addresses the form and contents of the audit report. (6) A step has been added that if the Compliance Audit team identifies evidence of a potential noncompliance, the CEA will conduct a Preliminary Screen in accordance with Section 3.0. (7) Other process steps describing enforcement actions are deleted here, since enforcement processes are covered in Section 5.0.

Section 3.1.2 – Compliance Enforcement Authority Annual Audit Plan and Schedule – (1) Revised to state that Registered Entities scheduled for Compliance Audits in a year will be notified by October 1 of the preceding year (rather than by January 1 of the year in which the audit is to be conducted). (2) Text is changed to state that the CEA will give due consideration to schedule changes requested by a Registered Entity "for reasonable cause" (rather than "to avoid unnecessary burden") which will allow a broader basis for justification of schedule change requests.

Section 3.1.3 – Frequency of Compliance Audits – The last sentence is deleted because the subject of objections to the composition of the Compliance Audit team is covered in Section 3.1.5.4.

Section 3.1.4.1 – Reliability Standards – Revised to clarify that a Compliance Audit may include other Reliability Standards applicable to the Registered Entity, that are not identified in the NERC Implementation Plan, whether or not the other Reliability Standards are identified in the Regional Entity's Implementation Plan.

Section 3.1.4.2 – Period Covered – (1) Revised to emphasize that the Registered Entity's data and information must show compliance with the Reliability Standards being audited for the entire period covered by the Compliance Audit. (2) Text is added to state that the CEA will indicate the beginning and End Date of the audit period in its notice of the Compliance Audit. (3) Revised to state that the start of the audit period will be the End Date of the previous Compliance Audit (which may be a different date than the last day of the previous Compliance Audit). (4) The existing second sentence of this section, concerning modification of the audit period, is deleted and replaced with a more straightforward sentence ("The Compliance Enforcement Authority may modify the beginning date of the audit period for any given Reliability Standard requirement based on an intervening compliance monitoring process."). (5) Text is revised to state that the End Date should be a specified date prior to the scheduled start of the Compliance Audit, such as the date of the notification of the Compliance Audit issued by the CEA or the date that is thirty days following the date of the notification. This revision is being made in response to stakeholder comments that making the End Date the last day of the Compliance Audit made it difficult for the Registered Entity to compile and provide evidence of compliance for the entire audit period through the End Date. (6) In conjunction with the

preceding revision, however, text is added to specify that if the Compliance Audit team discovers a potential noncompliance occurring subsequent to the End Date, the potential noncompliance will be subject to a Preliminary Screen pursuant to Section 3.8 (which may then result in the potential noncompliance becoming a Possible Violation and being entered into the enforcement process).

Section 3.1.4.3 – Review of Mitigating Activities – The term "Mitigation Plan" is replaced with "Mitigating Activities." As described earlier in this Summary, "Mitigating Activities" is a broader term, reflecting that actions taken by a Registered Entity to correct and prevent recurrence of a noncompliance, while they are accepted by the CEA, are not always memorialized in a formal Mitigation Plan.

Section 3.1.5.1 – Composition of Compliance Audit Teams – (1) Revised to state that the audit team will be comprised of members who the CEA has determined to have the requisite knowledge, training, and skills to conduct the Compliance Audit. (2) Revised to clarify who may be included on Compliance Audit teams, in addition to staff of the Regional Entity: (i) contractors and industry subject matter experts, (ii) NERC staff members (which may include contractors to NERC), (iii) compliance staff members of other Regional Entities, and (iv) representatives of FERC and of other Applicable Governmental Entities that have reliability jurisdiction with respect to the Registered Entity.

Section 3.1.5.2 – Requirements for Compliance Audit Team Members – (1) First bullet is revised to state that audit team members must be free of conflicts of interest "in accordance with the Compliance Enforcement Authority policies." This revision is based in part on a stakeholder comment on the November 7 posting. (2) Fourth bullet is revised to eliminate the requirement that the CEA provide to the Registered Entity copies of the confidentiality agreements or acknowledgements executed by the Compliance Audit team members; instead, the CEA will provide confirmation to the Registered Entity that all Compliance Audit team members have executed confidentiality agreements or acknowledgements.

Section 3.1.5.3 – Compliance Audit Observers and Other Attendees – Revised to clarify the distinctions between Compliance Audit team members (§3.1.5.1), observes, and attendees. The first paragraph is amended to specify that the following may participate as observers: NERC staff; other members of the Regional Entity's compliance staff; with the Regional Entity's permission, compliance staff members of other Regional Entities; and representatives of FERC and of other Applicable Governmental Entities that have reliability jurisdiction with respect to the Registered Entity. A sentence is also added, in response to stakeholder comments on the November 7 posting, stating that any members of NERC staff, Regional Entity Compliance Staff, or Compliance Staffs of other Regional Entities, or representatives of FERC or other Applicable Governmental Authorities who are not Compliance Audit team members identified pursuant to Section 3.1.1, are observers.

The second paragraph, which is not being revised (and was approved by the Commission in an order issued October 7, 2011) states who may be attendees at the audit. A new third paragraph has been added to state that "Compliance Audit observers and attendees are not Compliance

Audit team members and do not participate in conducting the Compliance Audit or in making Compliance Audit findings and determinations."

Section 3.1.5.4 – Registered Entity Objections to Compliance Audit Team – Revisions have been made to the third paragraph to further clarify that a Registered Entity may object to participation on the Compliance Audit team of individual NERC or FERC staff members on grounds such as conflicts of interest as specified in this section, but may not object generally to participation on the Compliance Audit team by NERC or FERC staff members. NERC (and numerous stakeholders who commented on this topic) believe that while a Registered Entity should not be able to object to participation generally by NERC staff or FERC staff on a Compliance Audit team (as FERC has indicated in prior orders), a Registered Entity should be allowed to object to the inclusion of a particular individual NERC staff or FERC staff member on the audit team based on conflict of interest, bias or similar specific grounds (*e.g.*, the NERC staff member or FERC staff member is a former employee of the Registered Entity).

Section 3.1.6 – Compliance Audit Reports – (1) In the third line of the first paragraph, "evidence of possible noncompliance" is changed to "evidence of potential noncompliance" to avoid confusion with the defined term "Possible Violation." (2) In the first paragraph, the phrase "other Mitigating Activities" is added to "Mitigation Plan," as not all actions taken by Registered Entities to correct a noncompliance and prevent recurrence are memorialized in formal Mitigation Plans. (3) The first paragraph is also revised to state that the audit report may also state areas of concern and recommendations identified by the Compliance Audit team (rather than specifying that any recommendations of the audit team be provided in a separate document). Based on experience, NERC believes it will be more effective and efficient, as well as administratively simpler, to include such concerns and recommendations emanating from the Compliance Audit in the audit report along with the formal audit findings. This will also facilitate tracking the concerns and recommendations and the Registered Entity's actions to address them. Experience has shown that including recommendations in a separate report from the audit report has made tracking the recommendations problematic. (4) In the second paragraph, the first sentence is revised to specify that the CEA will provide the final audit report to the Registered Entity on or before the date the report is provided to NERC. (5) Text concerning the provision of non-public compliance information to FERC or to another Applicable Governmental Entity is deleted and replaced with a reference to §8.0, where the full text on this topic is provided. (6) In the third paragraph, a sentence is added that NERC will not publicly post the final Compliance Audit report for at least five business days following receipt. (7) Also in the third paragraph, the third alternative condition that must be satisfied before the Compliance Audit report is released to the public is revised to "the Registered Entity executes a settlement agreement," with the existing reference to "admits to a violation" deleted (as it is covered in condition (ii)).

Section 3.2 – Self-Certification – The second paragraph of this section is deleted because its substance has been moved to Appendix 4B, *Sanction Guidelines*, where it is more appropriately placed.

Section 3.2.1 – Self-Certification Process Steps – (1) The first step is revised to specify that the posted reporting schedule should include the applicable reporting periods. (2) The first step is

also revised to specify that NERC, along with the CEA, will be responsible to ensure that the appropriate Reliability Standards, compliance procedures and required submittal forms are maintained and available (which may be through a means other than electronic). (3) Consistent with the revised definition of Self-Certification (§1.1.29), the third step is revised to list the four possible responses in a Self-Certification. (4) The fourth step is revised to state that, at a minimum, the CEA will review Self-Certifications of non-compliance and Self-Certifications stating that the Registered Entity does not own Facilities that are subject to the Reliability Standard Requirement or that the Requirement is not applicable to the Registered Entity. (5) The fifth step is revised to state that if the CEA identifies a potential noncompliance, the CEA conducts a Preliminary Screen. (6) A paragraph is added stating that receipt of a Self-Certification by the CEA shall not be construed as a finding by the CEA that the Registered Entity is compliant with, not compliant with, subject to, or not subject to, the Reliability Standard requirement. This additional text, which was revised in response to a stakeholder comment on the November 7 posting, is intended to negate the assumption that if a CEA makes no further response to a Registered Entity concerning a Self-Certification, the CEA has determined that the Registered Entity is compliant with the Reliability Standard Requirement.

Section 3.3 – Spot Check – (1) Revised to state that a Spot Check may be initiated at the discretion of the CEA or as directed by NERC. (2) The last two sentences of the section are deleted, as they described specific process steps and thus do not belong in this initial paragraph.

Section 3.3.1 – Spot Check Process Steps – (1) The first step is revised to state that a "notification letter" will be issued by the CEA to the Registered Entity, which will include the scope of the Spot Check including the Reliability Standard Requirements that will be covered. (2) The second step is revised to state that the notification package will include the names and employment histories of the persons who will perform the Spot Check. It is also revised to state that the CEA shall provide confirmation to the Registered Entity that the Spot Check team members have executed confidentiality agreements or acknowledgements. The second step is also revised to state that the Registered Entity may object to inclusion of any individual on the Spot Check team on the grounds specified in §3.1.5.4, but that nothing in §3.1 shall be read to limit the participation generally of NERC staff on a Spot Check team or to limit the participation generally of FERC staff in a Spot Check of a Registered Entity, or involving a portion of the Bulk Power System, over which FERC has jurisdiction. This provision was revised in part based on stakeholder comments on the November 7 posting. (3) The fourth step is revised to specify that the Registered Entity must provide the required information to the CEA by the Required Date specified in the request. (4) A new sixth step is added to state that if the Spot Check team's review of the information submitted indicates a potential noncompliance, the CEA will conduct a Preliminary Screen. (5) The seventh step is revised to state that the Spot Check team will prepare a draft Spot Check report and the Registered Entity will be given ten business days to comment on it. (6) The eighth step is revised to provide that the Spot Check team will consider any corrections based on the Registered Entity's comments, finalize the Spot Check report and provide it to the Registered Entity and to NERC. (7) In the ninth step, text concerning the provision of non-public compliance information to FERC or to another Applicable Governmental Entity is deleted and replaced with a reference to §8.0, where the full text on this topic is provided. (8) The step stating that the CEA will send the Registered Entity a Notice of

Possible Violation is deleted, as that step will now be covered in Section 5.0, Enforcement Actions.

Section 3.4 – Compliance Investigations – In two places, "possible violation" is replaced with "potential noncompliance" to avoid confusion with the defined term "Possible Violation."

Section 3.4.1 – Compliance Investigation Process Steps – (1) The first step is revised to provide that the CEA will take certain actions within three (rather than within two) business days of the decision to initiate a Compliance Investigation. (2) The second step is revised to specify that NERC will assign a staff member to act as an observer or Compliance Investigation team member, as well as serve as a single point of contact, and will notify the Registered Entity as to whether the NERC staff member is acting as an observer or as a team member. This provision was revised in part based on a stakeholder comment on the November 7, 2011 posting. (3) The second step is also revised to provide that within three (rather than two) business days after receiving notice of the decision to initiate a Compliance Investigation, NERC will notify FERC and other Applicable Governmental Authorities. In addition, text concerning the provision of non-public compliance information to FERC or to another Applicable Governmental Entity is deleted and replaced with a reference to Section 8.0, where the full text is provided. (4) Similar to revisions to the process steps for other compliance monitoring processes as described earlier in this Summary, text is added to the fourth step to clarify that the Registered Entity may object to participation on the Compliance Investigation team by individual staff members of NERC, FERC or another Applicable Governmental Authority, but may not object generally to participation in the Compliance Investigation by the staffs of NERC, FERC, or other Applicable Governmental Authorities having reliability jurisdiction over the Registered Entity. (5) The fifth step is revised to provide that the Registered Entity must provide any required information to the CEA by the Required Date as specified in the request, and to add a reference to the Process for Non-submittal of Requested Data in Attachment 1. (6) The ninth step is revised to provide that the CEA may review any Mitigating Activities (in addition to Mitigation Plans), since not all actions taken by a Registered Entity to correct a noncompliance and prevent recurrence are memorialized in a formal Mitigation Plan. (7) The tenth step is revised to provide that if the CEA identifies a potential noncompliance, it will conduct a Preliminary Screen. (8) In the eleventh step, text concerning the provision of non-public compliance information to FERC or to another Applicable Governmental Entity is deleted and replaced with a reference to Section 8.0, where the full text is provided.

Section 3.5 – Self-Reports – (1) The first sentence is revised to state that Self-Reports are encouraged at the time a Registered Entity becomes aware that is has or may have violated a Reliability Standard. This revision is consistent with revisions to the definition of Self-Report in §1.1.30, discussed above. (2) A sentence is added stating that if possible, and without delaying the Self-Report, a Self-Report may include the actions that have been taken or will be taken to resolve the violation. This addition is consistent with the change to the definition of Self Report (§1.1.30).

Section 3.5.1 – Self-Report Process Steps – (1) The first step is revised to delete reference to the CEA's website; the CEA may make the Self-Report submittal forms available through other means. (2) The step stating that the CEA will notify the Registered Entity that the CEA has

completed its evaluation of the Self-Report is eliminated. (3) The fourth step is revised to provide that the CEA will conduct a Preliminary Screen of the Self-Report information.

Section 3.6.1 – Periodic Data Submittals Process Steps – (1) The first step is revised to delete reference to the CEA's website; the CEA may make the submittal forms available through other means. (2) The third step is revised to provide that the Registered Entity must provide any required information to the CEA by the Required Date as specified in the request. (3) The fifth step is revised to provide that if the CEA's review of the data submittal indicates a potential noncompliance, the CEA will perform a Preliminary Screen. (4) A paragraph is added at the end of this section stating that receipt of a Periodic Data Submittal by the CEA shall not be construed as a finding by the CEA that the Registered Entity is compliant with, not compliant with, subject to, or not subject to, the Reliability Standard Requirement. This additional text is intended to negate the assumption that if a CEA makes no further response to a Registered Entity concerning a Periodic Data Submittal, the CEA has determined that the Registered Entity is compliant with the Reliability Standard Requirement. This provision was revised based on a stakeholder comment on the November 7 posting.

Section 3.7 – Exception Reporting – This section is deleted and Exception Reporting will no longer be considered one of the compliance monitoring processes, as Exception Reports are triggered by Requirements of particular Reliability Standards, and not on the initiative of the CEA. However, an Exception Report containing evidence of a potential noncompliance may still result in performance of a Preliminary Screen and initiation of an enforcement action (see revised Section 2.0).

Section 3.7 (as renumbered) – Complaints – In the first paragraph, text stating that NERC will review any Complaint "that is related to a Regional Entity or its affiliates, divisions, committees or subordinate structures" is deleted. Regional Entities as such are not subject to Reliability Standards; and for those Regional Entities that perform registered functions (FRCC, SPP and WECC), there are agreements in place by which other Regional Entities, not NERC, perform the CEA responsibilities with respect to those registered functions.

Section 3.8 – Preliminary Screen – (1) The provisions relating to performance of Preliminary Screens are relocated to Section 3.8 from Section 5.1, as the Preliminary Screen is considered a step in the compliance monitoring process (Section 3.0), rather than in the compliance enforcement process (Section 5.0). (2) Section 3.8 states that the Preliminary Screen will be conducted within five business days after the CEA identifies the potential noncompliance, except that (i) if the CEA identifies the potential noncompliance during a Compliance Audit, the Preliminary Screen will be conducted immediately following the exit briefing of the Registered Entity, and (ii) if the CEA identifies the potential noncompliance during a Compliance Investigation, the Preliminary Screen shall be conducted immediately after the Registered Entity is first notified of the potential noncompliance identified by the Compliance Investigation. The two exceptions are necessary so that the Registered Entity does not receive a Notice of Possible Violation before being notified that the Compliance Audit or Compliance Investigation has found a potential noncompliance. (3) Consistent with the change in definition (§1.1.24), the Preliminary Screen will now include a determination of whether, if known, the potential noncompliance is not a duplication of a Possible Violation or Alleged Violation that is currently

being processed. (4) The revised section provides that if the Preliminary Screen results in an affirmative determination with respect to the three criteria, a Possible Violation exists and the CEA shall proceed in accordance with Section 5.0.

### D. Section 4.0 – Annual Implementation Plans

Section 4.1 – NERC Compliance Monitoring and Enforcement Program Implementation Plans – (1) Revised to provide that the NERC Implementation Plan will be provided to the Regions by on or about September 1 (rather than October 1) of the prior year. (2) Revised to state that NERC may update and revise its Implementation Plan during the course of the year. (3) Revised to state that Regional Entities have discretion to make modifications to the NERC Implementation Plan with respect to individual Registered Entities.

Section 4.2 – Regional Entity Implementation Plan – (1) Consistent with the revised schedule in §4.1, revised to provide that the Regional Implementation Plans will be submitted on or about October 1 (rather than November 1) of the previous year. (2) Revised to state that a Regional Entity may update and revise its Implementation Plan during the year as necessary, with NERC approval or as directed by NERC. (3) Revised to state that Regional Entities have discretion to make modifications to their Implementation Plans with respect to individual Registered Entities.

### E. Section 5.0 – Enforcement Actions

In the first paragraph of §5.0, "remedial actions" is replaced with the new defined term "Mitigating Activities," to avoid possible confusion with the defined term Remedial Action Directive.

A statement is added that imposition and acceptance of Penalties and sanctions shall not be considered an acceptable alternative to a Registered Entity's continuing obligations to comply with Reliability Standards.

Text is added to state that the CEA has authority to collect Documents, data and information in the manner it deems most appropriate, including requesting that copies be made of Documents, data and information and removing those copies from the Registered Entity's location in accordance with appropriate security procedures conforming to ROP Section 1500 and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the Documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost if the information were placed into the public domain. This provision has been revised based on stakeholder comments to the November 7 posting.

This section is revised to state that a Registered Entity that believes a request for Documents, data or information is unreasonable may request a written determination from the NERC general counsel (changed from the NERC "compliance program officer"). A reference is also added to the Process for Non-submittal of Requested Data in Attachment 1.

A statement is added that under the circumstances presented by some Possible Violations, Alleged Violations or Confirmed Violations, absolute adherence to the enforcement process in §5.0, to the exclusion of other approaches, may not be the most appropriate, efficient or desirable means by which to achieve the overall objectives of the Compliance Program for NERC, the CEA and the Registered Entity. In such circumstances, other approaches may be considered and employed, but the Registered Entity is entitled to object to the use of any such other approach. A similar statement is found in current Appendix 4B, but is being deleted there, as it is more appropriately placed in Appendix 4C. This provision was revised in part in response to a stakeholder comment on the November 7 posting.

Section 5.1 – Preliminary Screen – This section is deleted and the topic is now covered in Section 3.8 (as discussed above).

Section 5.1 – Notice of Possible Violation – (1) Revised to state that the Notice of Possible Violation will state the dates involved in the Possible Violation "if known." (2) Revised to state that the CEA will report the Possible Violation to NERC (rather than entering it into the compliance reporting and tracking system – it is not necessary to specify the particular reporting mechanism to be used). (3) Revised to state that NERC will report the Possible Violation to other Applicable Governmental Authorities, as applicable (in addition to FERC), in accordance with §8.0, Reporting and Disclosure.

Section 5.3 – Notification to Registered Entity of Alleged Violation – (1) Revised to provide that the CEA will notify the Registered Entity of the determination of an Alleged Violation, even if the CEA and the Registered Entity have entered into settlement negotiations. (2) Revised to state that the CEA will issue a Notice of Alleged Violation and Proposed Penalty or Sanction "or similar notification," to recognize that some Registered Entities' processes may involve providing notification through a different means than a Notice of Alleged Violation and Proposed Penalty or Sanction. Similar revisions are made in other sections. (3) Revised to state that the notification of Alleged Violation will be issued by e-mail and will be effective as of the date of the electronic mail message; this will promote consistency in the methods of delivering notification. Also, the requirements that the notification be signed by an officer or designee of the CEA, and be sent to the CEO of the Registered Entity, are deleted; the notification will be sent to the Registered Entity's compliance contact. (4) Revised to state that the CEA will report the Alleged Violation to NERC (rather than entering it into the compliance reporting and tracking system – it is not necessary to specify the particular reporting mechanism to be used). (5) In item (v) of the list of contents of a notification of Alleged Violation, "or other Mitigating Activities" is added after "implement a Mitigation Plan," to reflect that some actions taken by Registered Entities to correct and prevent recurrence of a noncompliance, although they are approved by the CEA, are not memorialized in a formal Mitigation Plan. (6) In item (vii) of the list of contents of a notification of Alleged Violation, "full hearing procedure" is changed to "general hearing procedure" consistent with a revision in the Hearing Procedures. (7) Text concerning the provision of non-public compliance information to FERC or another Applicable Governmental Entity is deleted and replaced with a reference to §8.0, where the full text is provided. (8) The last paragraph of this section is deleted, as completion of the enforcement action and issuance of a Notice of Confirmed Violation is covered in later sections.

Section 5.4 – Registered Entity Response – (1) Revised to add agreement by the Registered Entity with the notification of Alleged Violation as establishing acceptance of the CEA's determination of violation and Penalty or sanction. (2) Revised to provide that the 30 day period runs from the date of notification of Alleged Violation by electronic mail (consistent with a revision to §5.3, above). (3) Revised to state that the CEA will issue a Notice of Confirmed Violation "or similar notification," to recognize that some Registered Entities' processes may involve providing notification through a different means than a Notice of Confirmed Violation. Similar revisions are made in other sections. (4) Revised to state that the CEA will report the Confirmed Violation to NERC (rather than entering it into the compliance reporting and tracking system – it is not necessary to specify the particular reporting mechanism to be used). (5) Revised to state that the Registered Entity will be allowed to provide a written explanatory statement to accompany the filing with FERC and public posting of the Confirmed Violation. (6) Revised to state that if the Registered Entity contests the Alleged Violation or proposed Penalty or sanction, it must submit a response within 30 days following the date of notification of the Alleged Violation. (7) Reference to issuing a Notice of Confirmed Violation by the CEA is deleted, as this topic is covered in a subsequent section.

Section 5.6 – Settlement Process – (1) Revised to provide that the Registered Entity or the CEA may terminate settlement negotiations at any time. Either party should have discretion to terminate settlement negotiations if they are not progressing in a productive manner. (2) Revised to specify that when the CEA has agreed to engage in settlement negotiations, the running of the time period specified in Section 5.4 for the Registered Entity to respond to the notification of Alleged Violation pursuant to §5.4 is suspended until settlement negotiations are concluded or terminate. This provision was revised based on stakeholder comments on the November 7 posting. (3) Revised to state that the CEA and the Registered Entity will execute a settlement agreement (rather than that the CEA will issue a letter) setting forth the final settlement terms. (4) Revised to state that within five business days after NERC advises the CEA of NERC's approval, rejection or proposed revisions to a settlement agreement, the CEA will notify the Registered Entity. Notification to the Registered Entity should come from the CEA, not from NERC which has not been in negotiation or other contact with the Registered Entity. (5) Text concerning the provision of non-public compliance information to FERC or another Applicable Governmental Entity is deleted and replaced with a reference to §8.0, where the full text is provided. (6) Text is added to clarify that in the public posting of the settlement agreement or of the terms of the settlement, any Critical Energy Infrastructure Information or Confidential Information will be redacted.

Section 5.7 – NERC Appeal Process – Revised to provide that the CEA, as well as the Regional Entity, may appeal the decision of the Regional Entity Hearing Body, in accordance with amended Section 409 of the ROP.

Section 5.8 – Notification of a Confirmed Violation – Revised to (i) add the word "or other notification" to "Notice of Confirmed Violation," consistent with other changes; and (ii) delete references to NERC receiving information from the CEA "through the NERC compliance tracking and reporting system," consistent with other changes.

Section 5.9 – Notice of Penalty – (1) Revised to provide that the Registered Entity shall be informed that the Notice of Penalty is pending public filing at least five business days prior to the public filing and posting. (2) Text concerning the provision of non-public compliance information to FERC or another Applicable Governmental Entity is deleted and replaced with a reference to §8.0, where the full text is provided.

Section 5.10 – Completion of Enforcement Action – The title of this section is revised from "Closure of Enforcement Action."

Section 5.11 – Special Procedures for an Enforcement Action Against an ISO/RTO Where the Monetary Penalty May be Allocated by the ISO/RTO to Other Entities – This is a new section to establish procedures pursuant to which (1) an ISO/RTO can request the CEA to make a determination, during the enforcement process for a Notice of Possible Violation issued to the ISO/RTO, that one or more specified other entities were responsible, in whole or on part, for actions or omissions that caused or contributed to the violation (if confirmed), and (2) the specified other entity(ies) can request and be allowed to participate in the enforcement process. Addition of Section 5.11 implements a framework that was initiated by a 2008 FERC Order on recovery of Penalty costs by ISO/RTOs from third parties (122 FERC ¶ 61,247) and furthered by subsequent FERC orders approving proposed tariff provisions of ISO/RTOs providing for the allocation to third parties of Penalties imposed on the RTO/ISO. However, §5.11 expressly disclaims (in §5.11.4) that the CEA will determine whether and to what extent a Penalty imposed on the ISO/RTO should be allocated to other entity(ies); under the framework established by FERC, that determination will be made by FERC in a separate proceeding initiated by the ISO/RTO pursuant to §205 of the FPA. Section 5.11 has been substantially revised and shortened from the version included in the November 7 posting, based on stakeholder comments on the November 7 posting and based on further discussion with representatives of the ISO/RTO Council.

Section 5.11.1 specifies that in order to request the CEA to make a determination in an enforcement action that a specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to a violation (if confirmed) of a Reliability Standard for which the ISO/RTO has received a Notice of Possible Violation, the ISO/RTO shall, no later than ten business days after receiving the Notice of Possible Violation (or such additional period as the CEA may permit for good cause shown) (i) submit a written request to the CEA and (ii) issue a notice to the specified other entity(ies). Section 5.11.1 contains the content and delivery requirements for the ISO/RTO's request and notice. The ISO/RTO's request must contain, among other information, a statement that the ISO/RTO has authority to allocate some or all of the monetary Penalty to the specified other entity(ies), including citations to any supporting tariffs, agreement, orders or governance documents; a brief explanation to show that the specified other entity(ies) are subject to the tariffs, agreements, orders and/or governance documents; and a brief statement of the factual basis on which the ISO/RTO contends in good faith that the specified other entity(ies) was responsible for actions or omissions that caused or contributed to the violation identified in the Notice of Possible Violation.

Section 5.11.2 states that if the ISO/RTO's written request for a determinations meets the requirements of §5.11.1, the CEA will contact the other entity(ies) to provide further information concerning their right to participate in the enforcement process for the Notice of Possible Violation. In order to participate in the enforcement process, the other entity(ies) will be required to submit a written request to participate and to execute a nondisclosure agreement. The specified other entity(ies) must request to participate in the enforcement process prior to, as applicable (i) the date of execution of a settlement agreement between the CEA and the ISO/RTO, and (ii) the date that the CEA issues a Notice of Confirmed Violation to the ISO/RTO. Upon receiving notice from the CEA that it is allowed to participate in the enforcement action, the specified other entity may participate in the same manner as the ISO/RTO and shall be subject to all applicable requirements and deadlines specified in the Compliance Program.

Section 5.11.4 provides that, assuming the requirements described above have been met, and if the enforcement action is not resolved by a settlement agreement stating whether or not the specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation identified in the Notice of Possible Violation, the CEA shall make, and include in its proposed Notice of Penalty, its determination of whether or not the specified other entity(ies) were responsible, in whole or in part, for actions or omissions that caused or contributed to the violation. However, §5.11.4 states that the CEA's determination shall only address whether or not the specified other entity(ies) were responsible, in whole or in part, for actions or omissions that caused or contributed to the violation, and shall not address whether all or a part of any monetary Penalty imposed on the ISO/RTO for the violation should be allocated or assigned to the specified other entity(ies). Section 5.11.4 further provides that the specified other entity(ies) shall be entitled to request a hearing on the CEA's determination, pursuant to §1.3.1 of Attachment 2 of Appendix 4C (the Hearing Procedures), and to appeal the Hearing Body's decision pursuant to §1.7.10 of the Hearing Procedures, as though the specified other entity(ies) were a Registered Entity.

Section 5.11.5 provides that if an ISO/RTO's tariffs, agreement or other relevant governance documents establish procedures, that have been approved by FERC, that allow members of the ISO/RTO to directly assign to the ISO/RTO monetary Penalties imposed on the ISO/RTO member(s) for violations of Reliability Standards, then the ISO/RTO members may follow the same requirements of §5.11.1 and 5.11.2 as are applicable to an ISO/RTO under those sections, and the ISO/RTO shall be afforded the same rights to participate in the enforcement action as a specified other entity under §5.11.1, 5.11.2 and 5.11.4, subject to the same requirements and conditions specified in those sections.

Section 5.11.6 specifies that the ISO/RTO shall be obligated and responsible to pay any monetary Penalty imposed by the CEA on the ISO/RTO for violation of a Reliability Standard, in accordance with §5.10 of Appendix 4C, (i) regardless of whether the CEA has made a determination that a specified other entity was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation, (ii) without regard to the timing of any separate proceeding(s) in which the ISO/RTO seeks to allocate some or all of the monetary Penalty to a specified other entity(ies), and (iii) without regard to whether or when the ISO/RTO receives payment from the specified other entity(ies). This provision obligates the ISO/RTO to pay any Penalty imposed on it for violation of a Reliability Standard within the time period

specified in §5.10, without regard to whether or when the ISO/RTO has received payment from any other entity to which the ISO/RTO is seeking to allocate all or a portion of the Penalty.

### F. Section 6.0 – Mitigation of Violations of Reliability Standards

Text is added to state that the CEA has authority to collect Documents, data and information in the manner it deems most appropriate, including requesting copies to be made of Documents, data and information and removing those copies from the Registered Entity's location in accordance with appropriate security procedures conforming to ROP Section 1500 and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the Documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost if the information were placed into the public domain. This provision was revised based on stakeholder comments on the November 7 posting.

This section is revised to state that a Registered Entity that believes a request for Documents, data or information is unreasonable may request a written determination from the NERC general counsel (changed from the NERC "compliance program officer"). Additionally, a reference is added to the Process for Non-submittal of Requested Data in Attachment 1.

Section 6.2 – Contents of Mitigation Plans – Revised to eliminate the requirement that the representative of the Registered Entity who signs the Mitigation Plan shall be (if applicable) the person that signed the Self-Certification or Self-Report submittal. The Mitigation Plan must be signed by an officer, employee, attorney or other authorized representative of the Registered Entity.

Section 6.3 – Timetable for Completion of Mitigation Plans – (1) Detailed text concerning the timing by which a Mitigation Plan should be completed is deleted and replaced with "shall be completed in accordance with its terms." (2) Examples of grounds on which the completion deadline may be extended are revised to include specific operational issues such as the ability to schedule an outage to complete Mitigating Activities and construction requirements that require longer to complete than originally anticipated.

Section 6.4 – Submission of Mitigation Plans – Revised to provide that a Mitigation Plan may be reflected in a settlement agreement or Notice of Penalty (in addition to the option of being submitted as a separate document). This is consistent with longstanding practice, *e.g.*, that the terms of the Mitigation Plan are often included in the settlement agreement rather than in a separate "Mitigation Plan" document.

Section 6.6 – Completion/Confirmation of Implementation of Mitigation Plans – (1) Revised to delete reference to the CEA verifying that the Registered Entity is in compliance with the requirements of the Reliability Standard a noncompliance with which led to the Mitigation Plan. The CEA will only be required to verify that all required actions in the Mitigation Plan have been completed. (2) Revised to state that the Regional Entity will provide to NERC the

quarterly status reports from Registered Entities on progress in completing Mitigation Plans, "upon request by NERC" (rather than as a matter of course).

### G. Section 7.0 – Remedial Action Directives

Consistent with the revision to the definition of Remedial Action Directive (§1.1.27), this section is revised to state that a Remedial Action Directive is issued when the action is immediately necessary to protect the reliability of the BPS from an imminent or actual threat.

The third paragraph is revised to remove the text that the CEA shall consult the Reliability Coordinator for the Registered Entity "to ensure that the Remedial Action Directive is not in conflict with directives issued by the Reliability Coordinator," *i.e.*, the consultation will not be limited to this topic.

The fourth paragraph is revised to expand the information to be included in a notice of Remedial Action Directive, including the requirement the CEA is imposing to remove the threat to reliability of the BPS and a schedule for specific periodic updates to the CEA on progress to achieving compliance. This provision was revised based, in part, on stakeholder comments on the November 7 posting.

The fifth paragraph is revised to provide that the notice of the Remedial Action Directive that is delivered by electronic mail shall be sent to both the Registered Entity's CEO and its designated contact person for reliability matters; and that the notice will be deemed received on the earlier of the actual date of receipt of the electronic submission or receipt of the express courier delivery of the notice as specified by the courier service's verification of delivery.

The sixth paragraph is revised to specify that the CEA will copy NERC on all correspondence sent to the Registered Entity.

### H. Section 8.0 – Reporting and Disclosure

This section is revised to contain two subsections, as described below.

Section 8.1 – Information to be Reported – This section lists the information to be provided by Regional Entities to NERC via electronic reports. A sentence is added that NERC will work with Regional Entities to specify form, content, timing and method of submitting reports and notices. The revised list of information to be reported includes the status of the review and assessment of all Possible Violations, Alleged Violations and Confirmed Violation; the potential impact of any Alleged Violation or Confirmed Violation on the reliability of the BPS; and the name of a Regional Entity staff person knowledgeable about the information to serve as a point of contact, as well as other information specific in current §8.0.

Section 8.2 – Reporting to Applicable Governmental Authorities and Public Disclosure – Text concerning procedures for the disclosure of non-public U.S. compliance information to Applicable Governmental Authorities other than FERC, and disclosure of non-public non-U.S. compliance information to FERC, which is currently found in several sections of Appendix 4C,

has been placed into §8.2 and deleted from all other sections. As described above with respect to the revisions to other sections in which this text is being deleted, it is replaced with a reference to §8.0. This section is also revised to state that NERC will publicly post on its web site each Notice of Penalty, with any Critical Energy Infrastructure Information or Confidential Information redacted (unless publication of the Critical Energy Infrastructure Information or Confidential Information has been determined to be permissible in accordance with §1500 of the ROP), when NERC files the Notice of Penalty with FERC pursuant to §5.9.

### I. Section 9.0 – Data Retention and Confidentiality

There are no changes to Section 9.0 other than changes in capitalization of terms and changes in certain terms to be consistent with the changes to those terms elsewhere in Appendix 4C.

## VI. Attachment 1 to Appendix 4C – Process for Non-Submittal of Requested Data

In Attachment 1 to Appendix 4C, the process steps that the CEA will follow for non-submittal of data, information or reports that is requested or required in connection with a compliance monitoring or enforcement process, have been revised. The revised text more clearly sets forth the three steps (formerly stated as four steps) that will be followed, including the additional notifications that will be issued and to whom they will be issued, if the Registered Entity fails to provide data, information or reports requested in a compliance monitoring or enforcement process by the Required Date. Additionally, in response to stakeholder comments, a paragraph has been added to state that the process described in Attachment 1 is intended to be applied where a Registered Entity does not respond by the Required Date to an initial request for data, information or reports in connection with a compliance monitoring and enforcement process and does not respond to subsequent requests by the stated deadline; and that the process is not intended to apply where the Registered Entity responds, prior to the Required Date, to the initial request or requirement for data, information or reports with requests for clarification, definition of scope, or similar questions concerning the request or requirement for data, information or reports, or requests, prior to the Required Date, additional time to respond based on the scope or difficulty of the request or requirement for data, information or reports, the amount or extent of the data, information or reports requested or required, or the form in which the data, information or report is to be provided, and works with the CEA in good faith to respond to the request or requirement for data, information or reports, as modified if appropriate by the CEA based on questions raised by the Registered Entity.

## VII. Attachment 2 to Appendix 4C – Hearing Procedures

Throughout Appendix 2, (1) references to "[HEARING BODY]" (which were originally intended to allow each Regional Entity to insert the name of its Hearing Body) have been replaced with "Hearing Body;" and (2) references to provisions within Attachment 2 have been changed from "Paragraph" to "Section." Additionally, in numerous sections, the text has been divided into lettered subsections ((a), (b), (c), etc.).

### A. Section 1.1 -- Applicability, Definitions and Interpretation

Section 1.1.1 – Procedure Governed – (1) Subsection (b) is revised to provide that where the Hearing Body is comprised, in whole or in part, of industry stakeholders, the composition of the Hearing Body shall be such that no two industry segments may control, and no single industry segment may veto, any decision by the Hearing Body; and where the Hearing Body is comprised solely of independent members and an independent Hearing Officer, decisions shall require a majority vote. This revision is intended to accommodate NPCC's new Hearing Body composition which was recently approved by the Commission. (2) A new subsection (d) has been added providing that if a final order has been entered by the Hearing Body, or the Hearing Body has issued a ruling determining that there are no issues to be decided regarding the Alleged Violation, proposed Penalty amount, proposed Mitigation Plan or proposed Remedial Action Directive, or the Registered Entity and the CEA have entered into a settlement agreement resolving the matters that are the subject of the hearing, the hearing shall be terminated by the Hearing Body and no further proceedings shall be conducted.

Section 1.1.2 – Deviation – A reference to the Hearing Officer "as defined in Paragraph [now Section] 1.1.5" has been deleted as unnecessary.

Section 1.1.4 – Interpretation – A new subsection (b) is added to provide that "Any ruling, order or decision of the Hearing Officer referenced in these Hearing Procedures shall be made by the Hearing Body where the composition of the Hearing Body consists of independent members and an independent Hearing Officer." This additional text is intended to accommodate NPCC's new Hearing Body composition which the Commission has recently approved; it avoids a situation in which the Hearing Officer, as a member of the Hearing Body, would be required to review his or her own decisions.

Section 1.1.5 – Definitions – (1) The definition of "Clerk" is expanded to identify his/her duties ("perform administrative tasks relating to the conduct of hearings as described in these Hearing Procedures"). (2) The definition of "Director of Compliance" is expanded to include an individual designated by the CEA (regardless of title) who is responsible for management and direction of the Compliance Staff. (3) Two new definitions are added, "Evidentiary Hearing" and "Testimonial Hearing." An Evidentiary Hearing is a hearing at which one or more Participants submit evidence for the record, while a Testimonial Hearing is an Evidentiary Hearing at which one or more witnesses appear in person to present testimony and be subject to cross-examination. (Corresponding revisions are made throughout the Hearing Procedures as necessary to identify references to hearings as "Evidentiary" or "Testimonial".) (4) A definition of "Hearing Body" is added, consistent with the revision of this term from "[HEARING BODY]" as described above. (5) The definition of "Participant" is revised consistent with the revisions to Section 1.2.12 (described below) that provide for the Hearing Body to be able to grant intervention into the hearing in specific, limited circumstances.

### B. Section 1.2 – General Provisions including Filing, Service, Transcription and Participation

Section 1.2.1 – Contents of Filing – In subsection (d) a reference to "documents" is changed to

the broader term "evidence."

Section 1.2.3 – Submission of Documents – (1) In subsection (a), the placeholder for insertion of the CEA's regular business hour is deleted and replaced with "during the Compliance Enforcement Authority's regular business hours." (2) In subsection (b), the placeholder for insertion of the CEA's time of close of business is deleted and replaced with "5:00 P.M." (3) In subsection (e), the statement "The signature on a filing constitutes a certificate that the signer has read the filing and knows its contents, and that the contents are true to the best of the signer's knowledge and belief" is deleted, since this topic is now covered in new §1.2.15.

Section 1.2.4 – Service – (1) In subsection (a), the statement that the Registered Entity's "designated agent for service" shall automatically be included on the service list is changed to "compliance contact." (2) In subsection (b), a proviso "subject to the provisions of Section 1.5.10" is added. Section 1.5.10 is the section of the Hearing Procedures on Protective Orders. (3) Subsection (c) is revised to state that the Clerk shall transmit a copy of the record to the ERO at the time the CEA transmits (rather than "serves") to the ERO a Notice of Penalty or a Hearing Body final order that includes a Notice of Penalty.

Section 1.2.8 – Transcripts – (1) The text in subsection (a) is amended to provide that the court reporter shall file a copy of each transcript with the Clerk, and that upon receipt of a transcript from the court reporter, the Clerk shall send notice to the Participants stating that a transcript has been filed by the court reporter, the date or dates of the hearing that the transcript records, and the date the transcript was filed with the Clerk. This filing and notice initiate the time period within which the Participants may file transcript corrections. (2) In subsection (b), the time within which a Participant may file suggested transcript corrections is changed to within 14 days from the date of the Clerk's notice that the transcript has been filed with the Clerk. In addition, this subsection is revised to provide that the Hearing Officer shall only allow changes that conform the transcript to "the statements being transcribed" (rather than suggesting that the testimony given could be revisited).

Section 1.2.11 – Participant Participation – the statement that witnesses shall personally appear at the Evidentiary Hearing if required by Paragraph 1.6.6 is deleted and replaced with "except as required by Section 1.6.6" (§1.6.6 addresses the requirements for witness attendance at Testimonial Hearings).

Section 1.2.12 – Interventions – (1) The title of this section is changed from "Interventions Are Not Permitted," as the revised section will authorize the Hearing Body to allow intervention under limited, specific circumstances. (2) The section is revised as necessary throughout to reflect that the Hearing Body (as well as FERC) will be allowed to permit interventions. (3) New subsection (b) provides that the Hearing Body may allow a Person to intervene only if the Hearing Body determines that the Person seeking intervention has a direct and substantial interest in the outcome of the Alleged Violation, proposed Penalty or sanction, Mitigation Plan, or Remedial Action Directive that is the subject of the proceeding. Two examples of a "direct and substantial interest in the outcome" are provided in the text. Two examples of situations that will not constitute "a direct and substantial interest in the outcome" and will not be grounds on which intervention may be allowed, are also provided in the text (including "seek[ing] to

intervene to advocate an interpretation of the Reliability Standard Requirement(s) or provision(s) of the *Sanction Guidelines* that are at issue"). (3) Subsections (c), (d) and (e) set forth the procedures and timing requirements for submission of a motion to intervene (including the required contents), responses by other Participants, issuance of a recommendation by the Hearing Officer, and the Hearing Body's decision on the motion to intervene. (4) Subsection (f) authorizes the Hearing Officer or the Hearing Body to stay or suspend the proceedings while a request to intervene filed with the Hearing Body or with FERC, or any appeal of the ruling on the request to intervene, is being resolved. (5) Subsection (g) provides that a Person allowed to intervene shall be deemed to be aligned with the Respondent(s), unless the Hearing Body specifies that the Person intervening shall be aligned with another Participant. (6) Subsection (h) provides that a Person allowed to intervene must take the record and procedural status of the proceeding as it stands on the date the motion to intervene is granted by the Hearing Body. (7) Subsection (i) provides that appeals of decisions of the Hearing Body granting or denying requests to intervene may be appealed to NERC in accordance with ROP §414, and that the notice of appeal must be filed with the NERC director of enforcement no later than seven days following the date of the decision of the Hearing Body granting or denying the intervention.

Section 1.2.14 – Docketing System – Revised to state that a docketed proceeding shall be created upon the filing of a request for hearing (rather than upon issuance of a Notice of Alleged Violation). Docketed hearing proceedings need to be created by the Regional Entity Hearing Body only when a request for a hearing on a matter is filed.

Section 1.2.15 – Representation Deemed to be Made in All Pleadings – This is a new section. It provides that a Participant presenting any pleading to the Hearing Officer or Hearing Body shall be deemed to certify to the best of the Participant's knowledge, information and belief, formed after and based on an inquiry that is reasonable under the circumstances, certain specified matters as to the factual allegations in the pleading, the denials in the pleading of factual allegations made by another Participant, the claims, defenses and other contentions set forth in the pleading, and that the pleading is not being presented for any improper purpose such as to harass, cause unnecessary delay, or needlessly increase the cost incurred by any Participant.

### C. Section 1.3 – Initiation of the Hearing Process

Section 1.3.1 – Registered Entity's Option to Request a Hearing – (1) This section has been divided into subsections. (2) In subsection (d), concerning notification in a Notice of Alleged Violation of hearing options, a reference to Section 5.3 of the Compliance Monitoring and Enforcement Program is added. (3) Subsection (e) sets forth the required contents of a Registered Entity's request for hearing, and provides that the Registered Entity may state two or more alternative grounds for its position. (4) Subsection (f) contains the provisions for determining if the general hearing procedure (referred to in the current Hearing Procedures as the "full" hearing procedures) or the shortened hearing procedure will be used, based on the Registered Entity's request and the response by the Compliance Staff and any other Participants (there are no substantive changes to this provision).

Section 1.3.2 – Compliance Staff's Response to Request for Hearing – This section specifies that the Compliance Staff must file a response to the request for hearing (i) if the request for hearing

requests use of the shortened hearing procedure or (ii) the request for hearing requests that the Registered Entity's proposed revised Mitigation Plan be approved. In all other situations, the Compliance Staff may, but is not required to, file a response to the request for hearing. Any response by the Compliance Staff must be filed within 15 days after the date the request for hearing was filed, unless the Hearing Officer or Hearing Body allows a longer time.

Section 1.3.3 – Notice of Hearing – This new section provides that the Clerk shall issue a notice of hearing not less than 16 days nor more than 21 days after the request for hearing is filed, stating whether the shortened hearing procedure or the general hearing procedure will be used; and identifying the Hearing Officer and the date, time and place for the initial prehearing conference (which shall be set for seven days following the date of the notice if the shortened hearing procedure is to be used, and 14 days following the date of the notice if the general hearing procedure is to be used).

Section 1.3.4 – Shortened Hearing Procedure – There are a number of revisions to this section to conform to terminology changes elsewhere in the revised Hearing Procedures; however, the following two revisions are substantive: (1) Compliance Staff is to make Documents available to the Registered Entity for inspection and copying pursuant to §1.5.7 within ten days (rather than five days) after the issuance of the notice of hearing; and (2) it shall be the objective of the Hearing Body to issue its final order within 120 days (rather than 90 days) after the notice of hearing. Completing the hearing process within 90 days was viewed as unrealistic in light of the various intermediate time periods for activities specified in the Hearing Procedures.

### D. General Hearing Procedure

Section 1.4.1 – [Currently] Notice of Hearing – The text of this section, which in the current Hearing Procedures covers issuance of the initial notice of hearing, is deleted (this topic will be covered in new §1.3.3), and the section is intentionally left blank to avoid the need to renumber all the following subsections in §1.4.

Section 1.4.2 – Hearing Officer – (1) In subsection (a), text is revised to provide that the CEA shall (rather than may) utilize a Hearing Officer to preside over the hearing. A conforming change is made in subsection (c). (2) Correspondingly, subsection (b) is revised to provide that the Hearing Officer is responsible (rather than may be delegated authority) for the conduct of the hearing. (3) In subsection (b), the list of the Hearing Officer's responsibilities is modified to include to "hear argument on all objections, motions and other requests" (item (7)).

Section 1.4.3 – Hearing Body – (1) New subsection (a) provides that the composition of the Hearing Body, after any recusals or disqualifications, shall be such that no two industry segments may control, and no single industry segment may veto, any decision of the Hearing Body. (2) The text in subsection (b) is revised to specify that upon receiving a filing by a Participant, the Clerk shall promptly send a notice to the members of the Hearing Body identifying the date of the filing and the Participant making the filing and briefly describing the nature of the filing, and that any member of the Hearing Body may request from the Clerk a copy of any filing made by a Participant. (3) Subsection (b) is also revised to specify that the Clerk shall send all issuances of the Hearing Officer to the Hearing Body members. (4) Text is added to subsection (b) to specify

that at any prehearing conference or hearing attended by a member of the Hearing Body, the Hearing Body member may ask questions directly of any Participant or witness.

Section 1.4.4 – Interlocutory Review – Revised to provide that a petition for interlocutory review shall be supported by either references to the record or by affidavit if based on facts that do not appear in the record.

Section 1.4.5 – Disqualification – (1) The text in subsection (c) is revised to provide that where a replacement Hearing Officer is appointed after the hearing has commenced, the replacement Hearing Officer may recall any witness or "may take other steps necessary to ensure familiarity with the record." (2) The text in subsection (d) is revised to provide that if there is not a quorum for the Hearing Body after recusals and disqualifications, the CEA shall appoint "at least the number" of new members to the Hearing Body necessary to create a quorum (rather than appointing "only . . . the number of new members who are necessary to create a quorum").

Section 1.4.7 – No Ex Parte Communications – (1) Text is added to specify that the proscription against ex parte communications does not prohibit (i) communications between the Hearing Officer or members of the Hearing Body to the Clerk for the purpose of transmitting documents, giving instructions to the Clerk, or discussing scheduling or other procedural matters, or (ii) communications between or among the Clerk, the Hearing Body and representatives of the CEA for purposes of establishing the hearing forum. (2) In subsection (c), text is revised to require that a report of a prohibited communication be made by any member of the Hearing Body, the Hearing Officer or a Technical Advisor who receives or makes or knowingly allows (currently "knowingly causes to be made") a prohibited communication.

Section 1.4.8 – Appearances – Text is added to specify that all representatives appearing before the Hearing Body or Hearing Officer shall conform to the standards of ethical conduct required of practitioners before the courts of the United States.

Section 1.4.10 – Consolidation of Proceedings – (1) Revised to provide that consolidation may be considered on motion of a Participant (in addition to by the Hearing Body on its own motion). (2) References to "transaction" are changed to "occurrence," as more descriptive of the types of events that might result in an Alleged Violation, proposed Penalty or proposed Mitigation Plan and ultimately result in a hearing before a Regional Entity Hearing Body.

### E. Section 1.5 – Prehearing Procedure

Section 1.5.2 – Prehearing Conferences – (1) Revised to require the Hearing Officer to hold at least one prehearing conference. (2) Several topics are added to the topics to be discussed at the initial prehearing conference. (3) Text is added to specify that the scheduled date for the Evidentiary Hearing shall be within 90 days of the initial prehearing conference, unless a different date is specified by the Hearing Officer or the Hearing Body with the consent of all Participants or for good cause shown. (4) Text is added to require the Hearing Officer to hold a final prehearing conference prior to the Evidentiary Hearing, to discuss specified topics and other topics suggested by the Participants.

Section 1.5.3 – Summary Disposition – (1) The basis for granting summary disposition is revised to state that there are no issues of material fact and a Participant is entitled to issuance of a final order in its favor. (2) More detailed requirements are added for the contents of a motion requesting summary disposition and the responses in opposition. (3) A procedure is added (subsection (c)) by which the Hearing Officer, on his or her own motion, can initiate consideration of summary disposition or proceeding without an Evidentiary Hearing.

Section 1.5.4 – Status Hearing – (1) Text is added to expand the reasons for a status hearing to include "other matters relevant to the conduct of the hearing." (2) Text is added to require that a Participant requesting a status hearing to resolve a dispute shall include in its request a certification that it has made a good faith effort to resolve the dispute with the other Participant(s) before requesting the status hearing.

Section 1.5.5 – Motions and Responses – (1) Text in subsection (a) is revised to specify that a Participant may file a motion at any time requesting appropriate relief "unless otherwise provided in these Hearing Procedures or by the procedural schedule established by the Hearing Officer or Hearing Body." (2) Text in subsection (b) is revised to specify that the Hearing Body, as well as the Hearing Officer, may alter the schedule for filing responses and replies, deny dilatory, repetitive or frivolous motions, or decide to stay or extend the procedural schedule due to the filing or a motion.

Section 1.5.7 – Inspection and Copying of Documents in Possession of Staff – (1) Revised to specify that Staff is to make Documents available for inspection and copying by other Participants (rather than by just the Respondent) within 25 days after the request for hearing is filed (rather than within 5 days after the notice of hearing is issued). Corresponding revisions of "Respondent" to "Participants" are made throughout this section. (2) The requirements for production of later-received Documents are tied to the scheduled date of the Evidentiary Hearing (rather than "the hearing"). (3) The provision concerning privileged and work product Documents that may be withheld by Compliance Staff is revised to refer to Documents that are privileged to, or work product of counsel to, the CEA (rather than the Compliance Staff). (4) Text is revised to provide that inspection reports, internal memoranda or other notes or writings prepared by Compliance Staff may be withheld if they will not be offered in evidence "or otherwise relied on by Staff in the hearing." (5) The provision concerning Documents that may be withheld by Compliance Staff because they would disclose an examination, investigatory or enforcement technique or guideline is revised to specify that the protected information must not otherwise be made public. (6) Subsection (c) is revised to require that the Compliance Staff's withheld Documents list must include a statement of the grounds that support withholding the Documents. (7) Subsection (c) is also revised to specify that the Hearing Officer, for good cause shown, may order Compliance Staff to make available any withheld Document other than a Document that is subject to attorney-client privilege. (8) Subsection (e) is revised to make it clear that a Participant may remove from the CEA's offices copies of the Documents made available by the CEA.

Section 1.5.8 – Other Discovery Procedures – (1) Text is revised to provide that the Hearing Officer, for good cause shown, may order a Participant to make a withheld Document available to other Participants, for inspection or copying. (2) The time period during which discovery

should be completed is revised to 6 months following the date the request for hearing was filed (changed from 6 months from the date of the initial prehearing conference).

Section 1.5.9 – Pre-Evidentiary Hearing Submission of Testimony and Evidence – Revised to clarify that all Participant witness direct testimony to be submitted in an Evidentiary Hearing must be prepared in written form.

Section 1.5.11 – Pre-Evidentiary Hearing Memorandum – (1) Revised to eliminate the need for the Hearing Officer or Hearing Body to have grounds for requesting submission of pre-Evidentiary Hearing memoranda. (2) Revised to provide that the topics directed to be included in the pre-Evidentiary Hearing Memoranda may include "such other matters as may be directed by the Hearing Officer or the Hearing Body."

Section 1.5.12 – Certification of Questions to the NERC Board of Trustees – This new section provides for certification by the Hearing Body to the NERC Board of Trustees, for decision, a significant question of law, policy or procedure the resolution of which may be determinative of the issues in the proceeding in whole or in part and as to which there are extraordinary circumstances that make prompt consideration of the question by the Board of Trustees appropriate, pursuant to ROP §412. The section specifies that questions of fact presented by the particular matter in dispute in a hearing shall not be the subject of a certification. The section provides the procedures for requesting certification of a question or considering whether a question should be certified. The Hearing Body shall determine whether any proposed question shall be certified to the NERC Board for decision. The Hearing Body shall also determine whether or not the hearing should be stayed or suspended while a certified question is pending before the NERC Board.

### F. Section 1.6 – Procedure at Evidentiary Hearing

Section 1.6.1 – Purpose of Evidentiary Hearing – Revised to delete the provision that the evidentiary hearing also may be used to address any other issue pending between the Participants.

Section 1.6.6 – Witness Attendance at Testimonial Hearing – A provision is added to specify that a person compelled to appear, voluntarily testifying, or making a statement may be accompanied, represented and advised by an attorney.

Section 1.6.14 – Cross-Examination – (1) Text in subsection (a) is revised to provide that leading questions are permitted on cross-examination. (2) Text is added in subsection (b) to state that the credibility of a witness may be attacked by any Participant, including the Participant calling the witness. (3) Text is revised in subsection (c) to delete the requirement that if a member of the Hearing Body seeks to ask a witness questions, the Hearing Body member shall do so by submitting the questions in writing to the Hearing Officer to ask the witness (in other words, Hearing Body members can question witnesses directly).

Section 1.6.15 – Redirect Examination – Revised to delete the requirement that if a member of the Hearing Body seeks to ask a witness questions, the Hearing Body member shall do so by submitting the questions in writing to the Hearing Officer to ask the witness.

Section 1.6.17 – Close of the Evidentiary Record – (1) Revised to state that the Hearing Officer may reopen the evidentiary record for good cause shown prior to issuance of the Hearing Body's final order. (2) A statement is added that for purposes of reopening the evidentiary record, newly discovered evidence that is material to the issues in dispute and could not, by due diligence, have been discovered prior to or during the Evidentiary Hearing, shall constitute good cause.

### G. Section 1.7 – Post-Evidentiary Hearing Procedure

Section 1.7.1 – Briefs – (1) Revised to allow the Hearing Officer to allow oral closing statements in addition to (not just in lieu of) briefs, and to delete the requirement that there must be agreement of the Participants in order for the Hearing Officer to allow oral closing statements in addition to or in lieu of briefs (thereby leaving it to the Hearing Officer's discretion as to whether or not to allow or request closing statements). (2) Revised to allow the Hearing Officer to impose reasonable word limits (rather than page limits) on briefs. The use of word limits is consistent with current practice in many courts and agencies.

Section 1.7.4 – Hearing Officer's Initial Opinion – Revised to eliminate the provision that if the initial opinion proposes a Penalty, the initial opinion shall include a proposed Notice of Penalty. Notices of Penalty are prepared by NERC. Corresponding revisions are made in other sections of the Hearing Procedures to delete references to Notices of Penalty prepared by the Hearing Officer or the Hearing Body.

Section 1.7.5 – Exceptions – Revised to allow the Hearing Officer to impose reasonable word limits (rather than page limits) on briefs.

Section 1.7.7 – Additional Hearings – Revised to state that the Hearing Officer may reopen the record and hold additional hearings before issuance of the Hearing Body's final order (rather than before issuance of the Hearing Officer's initial decision).

Section 1.7.10 – Appeal – (1) Revised to state that a Participant or a Regional Entity acting as the CEA may appeal a final order of the Hearing Body to NERC in accordance with NERC ROP §409. (2) The statement that the Clerk shall transmit the record to NERC for any proceeding that appealed is deleted, as the procedures governing appeals are set forth in ROP §409.

### H. Section 1.8 – Settlement

Consistent with revisions in Section 5.6 of the Compliance Monitoring and Enforcement Program, this section is revised to provide that the CEA, the Registered Entity or any other Participant may terminate settlement negotiations at any time.

### I. Section 1.9 – Remedial Action Directives

Section 1.9.1 – Initiation of Remedial Action Directive Hearing – Revised to specify that the CEA will notify NERC within two business days after issuance of a Remedial Action Directive.

Section 1.9.2 – Remedial Action Directive Hearing Procedure – (1) Revised to state that the hearing shall (rather than may) be presided over by a Hearing Officer. (2) Revised to state that the Hearing Body shall issue its summary written decision within 10 days following submission of the last brief (rather than within 10 days following the hearing). (3) Text is added to clarify that "upon issuance of the summary written decision, the Registered Entity is required to comply with the Remedial Action Directive as specified in the summary written decision;" that is, the obligation to comply is not postponed until the Hearing Body issues its full written decision.

## VIII. Appendix 5A – Organization Registration and Certification Manual

### A. Section I – Executive Summary

A number of revisions have been made throughout Appendix 5A for more consistent use of terms and acronyms, such as "BPS," "RC," "TOP" and "BA," and "user, owner or operator" (of the BPS).

The section captioned "Where to Access and Submit Form(s)?" is revised to specify that completed Registration and Certification forms should be sent to the website location and/or individual(s) responsible for Registration and/or Certification at the Regional Entity.

In the section captioned "Roles and Responsibilities," the descriptions of the roles and responsibilities of NERC and the Regional Entities in the Registration and Certification processes have been revised to be in accordance with current practice.

### B. Section II – Introduction to Organization Registration and Organization Certification Processes

In the section captioned "Organization Certification," text has been revised to specify that Certification of a RC, BA or TOP shall include evaluation of the competency of those entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions. The evaluation of entities to which some or all of the reliability functions of an RC, BA or TOP have been delegated, assigned or contracted is needed because some entities may choose to delegate or contract reliability tasks and/or responsibility for compliance with specific Reliability Standards or Requirements to a third party. When such arrangements occur, the ERO needs to be able to conduct an appropriate Certification review of the third party's capabilities to perform the delegated certified functions on behalf of the entity that is registered for the certified functions. The amendments to this section have been revised from those originally proposed, in response to stakeholder comments, in order to more clearly state the intention of the amendments.

### C. Section III – Organization Registration Process

The section captioned "Organization Registration Process," including Figure 1, Organization Registration Process Overview, has been revised consistent with current practice as to the respective responsibilities of NERC and the Regional Entities in the organization registration process. These revisions include a revision (in 4.b) to provide that an entity responsible for more than one function will use a single NERC ID, "unless assignment of more than one NERC ID to the entity is approved by NERC." This revision is based on a stakeholder comment on the November 7 posting. In item 8, a step has been added to specify that if the Regional Entity determines a Registration applicant does not need to be registered as requested in the application, the Regional Entity will notify the entity. This addition is also based on a comment on the November 7 posting.

### D. Section IV – Organization Certification Process

In the section captioned "Purpose and Scope," a sentence has been added to state that the Certification process steps described in Section IV will be conducted for the proposed RC, BA or TOP and, as applicable, for any entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted. (See discussion under §II of Appendix 5A, above.)

In the section captioned "Organization Certification Process," the text describing the Provisional Certification Process has been deleted, since the Provisional Certification Process is no longer needed. In subsection 8c of that section, text is added to specify that the Certification Team (CT) leader will complete the CT roster and will send the roster, with biographical information on the CT members, to the entity seeking Certification. Additionally, the reference to the Regional Entity as the entity to which an entity undergoing certification may express its objections to a member of the CT, has been changed to the Certification Team leader. A new subsection 8e has been added to describe the composition of the CT where an existing certified entity is seeking to expand its Footprint. In subsection 13, an exception has been added to the requirement that the CT shall conduct at least one on-site visit to the entity's facilities, specifically, where only a minor change in the existing Footprint of an existing certified entity is under review, in which case the CT may determine that an on-site visit is not necessary. In Section 21, text is added to specify that NERC will provide a copy of the Certification report to the entity (or entities in the case of a Coordinated Functional Registration). Additionally, the provision that NERC shall update the Compliance Registry (for a new certification) "prior to the entity going operational" is changed to "in accordance with the Registration rules."

### F. Section V – NERC Organization Registration Appeals Process

The title and address of the NERC employee with whom registration appeals must be filed is revised. Registration appeals should now be submitted to the NERC Director of Compliance Operations.

### G. Section VI – NERC Organization Certification Appeals Process

In the section captioned "Organization Certification Appeals Procedure," the title of the NERC employee with whom registration appeals must be filed is revised. Registration appeals should now be submitted to the NERC Director of Compliance Operations. Subsection 5d has been revised to more clearly describe the actions to be taken by NERC based on the Board of Trustees Compliance Committee's decision on the registration dispute.

## IX. Appendix 5B – Statement of Compliance Registry Criteria

On pages 10-11 of Appendix 5B, item V has been revised as follows: "If NERC or a Regional Entity encounters an organization that is not listed in the Compliance Registry, but which should be subject to the Reliability Standards, NERC or the Regional Entity is obligated and will initiate actions to add that organization to the Compliance Registry, subject to that organization's right to challenge as provided in Section 500 of NERC's Rules of Procedure and as described in Note 3 below." No changes to Appendix 5B were proposed in the November 7 posting. However, the NERC Compliance and Certification Committee submitted a comment on a proposed change to Appendix 5A, that the changes in Appendix 5A that made NERC solely responsible for maintaining the Compliance Registry, needed to be reflected in the above-quoted text of Appendix 5B (since the quoted text in Appendix 5B, before the proposed revision, indicates that either NERC or a Regional Entity can add an entity to the Compliance Registry). In response to this comment, the referenced text on pages 10-11 of Appendix 5B is changed to state that in the circumstances described, NERC or the Regional Entity, as applicable, will initiate actions to add the organization to the Compliance Registry. Since this revision is a conforming change to Appendix 5B in response to a specific stakeholder comment on the proposed changes to Appendix 5A, the change to Appendix 5B is being presented for approval even though no proposed changes to Appendix 5B were contained in the November 7 posting.

## X. Appendix 6 – System Operator Program Certification Manual

Appendix 6 is being deleted from the ROP, and, as described above in the summary of the revisions to ROP Section 600, the substantive provisions of Appendix 6 are being moved into Section 600. It was determined that Appendix 6 contained a significant amount of administrative detail about the System Operator Certification Program that does not need to be in the ROP.

**SUMMARY OF STAKEHOLDER COMMENTS AND RESPONSES TO RULES OF PROCEDURE REVISIONS**

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| None | A global change should be made to change Bulk Power System to Bulk Electric System throughout the ROPs. (NPCC) | No additional change. | The term bulk power system" is from the Energy Policy Act of 2005 and is set forth in Section 215 of the Federal Power Act. Both NERC and the Federal Energy Regulatory Commission have jurisdiction with respect to the Bulk Power System. Section 215 states:<br><br>**(1)** The term "bulk-power system" means—<br>**(A)** facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and<br>**(B)** electric energy from generation facilities needed to maintain transmission system reliability.<br>The term does not include facilities used in the local distribution of electric energy.<br><br>FERC has addressed the BPS versus BES issue in a couple of different orders. FERC has stated that BPS defines the extent of its jurisdiction and that definition has not been delegated to the ERO and is not subject to ANSI. The BES definition identifies who must comply with Reliability Standards and is developed through the Standards Development Process.<br><br>The Commission-approved Statement of Compliance Registry Criteria states that "Entities that use, own or operate elements of the bulk electric system as established by NERC's approved definition of bulk electric system below are (i) owners, operators, and users of the bulk power system and (ii) candidates for registration." |
| **Section 200** | | | |
| All definitions have been removed from Section 200. All definitions used in the ROP and Appendices are now found in Appendix 2, which was originally filed with FERC for approval on November 29, 2011. | If a defined term is included in the ROP, its definition should be in Section 200. (SPP RE) | No additional change. | This comment is superseded by the November 29 ROP filing. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | |
| Revised definition of confirmed violation to be consistent with revised definition in Appendix 4C | Objection to revised definition of "Confirmed Violation" that includes a settlement agreement where Registered Entity has not admitted to the violation. Item (4) in the definition should say: "the registered entity has admitted to the violation in a settlement agreement." (LGC; OEV) | The definition has been further revised, although this requested change was not made. | As discussed here and below, the point of the definition is that the violation has reached an end state of processing. This is the case for a settlement agreement, regardless of whether the Registered Entity admits it or neither admits nor denies it. |
| Revised definition of confirmed violation to be consistent with revised definition in Appendix 4C | If the objective is to apply the definition of "Confirmed Violation" to circumstances where an entity neither admits nor denies a violation but resolves it through settlement, a new term such as "Contested Violation" or "Resolved NOP" should be created. (MISO; OEV) | No additional change. See above. | See above. NERC concluded that creating a separate term was not necessary. |
| Revised definition of confirmed violation to be consistent with revised definition in Appendix 4C | In the definition of Confirmed Violation, clause 2, the following addition should be made: "there has been the issuance of a final order from NERC or the Regional Entity hearing process finding a violation, penalty, or sanction . . . ." (SPP RE) | This change was adopted. | |
| Revised definition of confirmed violation to be consistent with revised definition in Appendix 4C | In the definition of Confirmed Violation, what is "or other notification" [after "has accepted the notice of alleged violation and proposed penalty or sanction"] referring to? (SPP RE) | No additional change. | As explained in the detailed summary of revisions, the term "other notification" has been added to provide flexibility for the method for communicating confirmation of a violation by the Compliance Enforcement Authority. Some Regional Entities may communicate this information through means other than a Notice of Confirmed Violation. |
| Added the following definition for Required Date:<br>"Required date" means the date given a registered entity in a notice from NERC or a regional entity by which some action by the registered entity is required. | Required Date – the objective of this definition seems to be to create a time point from which NERC can seek to penalize Registered Entities for failure to meet unilaterally created deadlines. (MISO) | No additional change. | "Required Date" is an existing term in Appendix 4 and is not a proposed addition. It is simply a defined term to refer generically to the date on which information is required or requested to be provided. |
| None | The definitions for Certification and Continuing Education Hour should be deleted from section 200. (PCGC) | No additional change. | This will be accomplished with the adoption of Appendix 2. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| Section 300 | | | |
| Changed the term “adoption” to “approval” with respect to Reliability Standards and VRF/VSLs. | NERC should make sure that all revised terminology such as changes from “approval” to “adoption” in Section 308 are consistently implemented throughout. (Trades) | Sections 312.1, 312.3.3, 312.4.3, 312.4.4, 312,.4.5, 312.5 – Revised text to reflect that Reliability Standards are “adopted,” not “approved,” by the NERC Board of Trustees (in accordance with ANSI requirements). | |
| Modified Standards Process Manager section to apply generally to management (as opposed to a specific title) and include the administration of the regional standards. | **Section 307**. The phrase “a regional standards manager to administer the development of the regional reliability standards” should be changed to “. . . to oversee the development of the regional reliability standards.” Also, this text should reflect that the standards process manager is responsible for seeing to it that FERC-approved regional standard development processes are followed. (NPCC) | No additional change. | The regional standards manager will coordinate with any regional entities that develop regional reliability standards to ensure those standards are effectively integrated with the NERC reliability standards. |
| Updated the procedure section under “Steps in the Development of Reliability Standards” | **Section 308**. The last word in this section is misspelled (should be “issues”). (OEV) | Corrected error. | Comment was correct and the change was made. |
| Update the following:<br><br>Section 317 – Revised text as follows: “NERC shall complete a review of each NERC Reliability Standard at least once every five years, or such longer period as is permitted by the American National Standards Institute, from the effective date of the Reliability Standard or the latest revision to the Reliability Standard, whichever is later.” | **Section 317**. The modifications to allow flexibility and/or elimination of the 5-year review of Standards should be rejected. The currently-required 5-year review should be retained. (MISO) | No additional change. | In accordance with the Standard Processes Manual, Appendix 3C, NERC will review each Reliability Standard. The periodic review will be administered by the standards process manager. It may be possible to obtain relief from ANSI from the requirement that each Reliability Standard be reviewed at least every five years. Reviewing all 100+ standards every 5 years is extremely difficult if not infeasible and resources should not be devoted to this extensive effort if not required by ANSI. |
| Section 318 – Deleted references to “through a memorandum of understanding” and to the ISO/RTO Council. | **Section 318**. Instead of deleting the reference to maintaining a close working relationship with the ISO/RTO Council, NERC should retain that reference but delete “through a memorandum of understanding.” (IRC)<br>The reference to the ISO/RTO Council should not be removed from this provision. (MISO) | Deleted reference to “through a memorandum of understanding” and restored reference to ISO/RTO Council. | There does not appear to be a need to have a reference to a memorandum of understanding. The key aspect of this provision is that NERC will continue to maintain close working relationships with the North American Energy Standards Board and the ISO/RTO Council to coordinate wholesale electric business standards and market protocols with NERC Reliability Standards. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| None (with respect to length of time Standards are maintained on-line)<br><br>Section 319 – Changed reference to "standards that expired or were replaced" to "standards that have been retired," which is consistent with the terminology NERC uses elsewhere to describe standards no longer in effect. Also, changed reference to "NERC standards manager" to "NERC standards information manager" – the position of standards information process manager will be responsible for receiving and responding to requests for archived standards information. | **Section 319**. Retired Standards should be maintained on-line for at least 6 years (i.e. the maximum audit cycle) and archived for a longer period. (BPA) | Changed provision to require that archived Reliability Standards information will be retained at least six (was five) years, which is the outside length of the Compliance Audit cycle for Registered Entities. | The provision was changed to ensure that archived Reliability Standards information will be retained at least six years, to track the Compliance Audit cycle. |
| None | **Section 320**. The development of VRFs and VSLs needs to be simplified. (MISO) | No change is made. | No specific changes were identified. Changes to the development are more appropriately addressed at a later time. Changes on this topic were not proposed in the November 7 posting for stakeholder comment. |
| Section 320 – The section has been revised to describe generally the process for developing and approving VRFs and VSLs, rather than just the alternate method for adopting VRFs. New §320.1 states that NERC will follow the process for developing VRFs and VSLs set forth in the Standard Processes Manual. New §320.2 states that if an Applicable Governmental Authority remands or directs a revision to a Board-approved VRF or VSL, the NERC director of standards (based on consultation with the standard drafting team), the Standards Committee, and the NERC director of compliance operations, will recommend one of three actions to the Board: (1) file a request for clarification, (2) file a request for rehearing, or (3) approve the directed revision. Section 320.3, which now contains the "alternative procedure," has been amended to apply to VSLs and well as to VRFs. Section 320.3 (which includes content being moved from ROP §1403, as it is more appropriately located in §300), has also been amended to specify that there will be notice and opportunity for comment before the Board approves a VRF or VSL, and that the Board will consider the inputs of the Member Representatives Committee (MRC), affected stakeholders, and NERC staff. | **Section 320** should be modified to state that the NERC Board's approval of VRFs or VSLs "shall consider the inputs of the Member Representatives Committee and affected stakeholders." Also, section 320(3) should be expanded so that the input of NERC staff is also considered by the NERC Board in approving VRFs and VSLs pursuant to this section. (NPCC) | Section 320.3, which now contains the "alternative procedure," has been amended to apply to VSLs and well as to VRFs. Section 320.3 (which includes content being moved from ROP §1403, as it is more appropriately located in §300), has also been amended to specify that there will be notice and opportunity for comment before the Board approves a VRF or VSL, and that the Board will consider the inputs of the Member Representatives Committee (MRC), affected stakeholders, and NERC staff. The revisions to §320.3 are based in part on a stakeholder comment on the November 7 posting. | Under the Alternative Procedure for Developing and Approving Violation Risk Factors and Violation Severity Levels, the Board of Trustees may approve VRFs and VSLs for that standard after notice and opportunity for comment. Accordingly, the Board shall consider the inputs of the Member Representatives Committee and affected stakeholders. Section 320.3 has been changed to add "and NERC staff" |
| **Section 400** | | | |
| None | NERC should clarify that an entity may submit a Mitigation Plan, obtaining the penalty protection conferred by following and completing the | No change was made in response to this comment. | No change is required, because a Registered Entity may submit a Mitigation Plan even if not required for an enforcement process. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | accepted Mitigation Plan, without negatively impacting its argument that the Possible Violation merits FFTR treatment. (TAPS) | However, in response to another comment, in Section 403.10.5 – Added statement that a Mitigation Plan is required to be submitted in the event of a noncompliance "unless an enforcement process is used that does not require a Mitigation Plan." | |
| Section 401.8 – Amended section to specify that a registered entity shall not be subject to an enforcement action by more than one Regional Entity for the same violation. | **Section 401.8**. The phrase "or by more than one regional entity" should be deleted. Registered Entities that have separate registrations in more than one region should be subject to enforcement actions in each region. (SPP RE) | Section 401.8 – Amended section to specify that a Registered Entity shall not be subject to an enforcement action by more than one Regional Entity for the same violation, unless the Registered Entity is registered in more than one Region in which the violation occurred. | This clarification takes into account the rights and obligations of registered entities in multiple regions. |
| Section 402.5 – The revisions are intended to make the text more consistent with the definition of remedial action directive. | **Section 402.5.** The word "actual [threat]" should not be added as proposed. Threats are by definition imminent and potential activities. (MISO) | No additional change. | A threat can be imminent, or actually occurring (which makes it an "actual threat"), but even though objectionable condition is occurring ("actual threat"), there has been no impact to the BPS yet (which is why it is still a "threat"). |
| | **Sections 403.15, 408.1, 409.1.** Regional Entity should not be allowed to appeal decision of the Regional Entity Hearing Body to NERC. (ACES; Trades; Austin; KCPL; LPPC; LGC; OEV; MISO also appears to object to these provisions.) | No additional change. | See discussion of right to appeal a hearing body decision below, in connection with Appendix 4C Attachment 2.<br>NERC staff believes these amendments are appropriate in light of the evolution of the Regional Entity hearing process and procedures. A hearing at the Regional Entity level was originally envisioned as the culmination of the compliance enforcement process at the Regional level. However, as the Regional Entity hearing process has evolved over time through a series of amendments to the uniform Hearing Procedures (Attachment 2 to Appendix 4C) and changes to Regional Entity Compliance Programs and other governance documents, in response to FERC directives and to concerns for greater due process in the Hearing Procedures, the Hearing Bodies are not extensions of the Regional Entity Compliance Program. Rather, they are independent tribunals with separation of functions from the Regional Entity Compliance Program, responsible to conduct due process hearings and rendering independent decisions. Thus, the typical hearing on a disputed compliance matter would find the Registered |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | Entity litigating against the Regional Entity Compliance Staff before an independent decision-making body. Given these circumstances, it is appropriate to provide the Regional Entity Compliance Program, as well as the Registered Entity, the ability to appeal the Regional Entity Hearing Body decision to NERC. Further, the Regional Entities act only through delegated authority from NERC as approved by FERC and other Applicable Governmental Authorities; NERC has ultimate responsibility for enforcement of compliance with mandatory Reliability Standards. Allowing the Regional Entity to appeal the decision of the Regional Entity Hearing Body on a disputed compliance matter provides the Regional Entity Compliance Program the ability to bring the matter before NERC for ultimate disposition. |
| | ***Section 409.1. Objections to provisions allowing Regional Entity to appeal decision of Regional Entity Hearing Body to NERC. The Regional Entity Hearing Body is not an "independent tribunal" because its authority stems from delegated power. Further, §403.15 says Regional Entity Hearing Body is the "final adjudicator." Allowing Regional Entity to appeal gives it veto power over its own decisions and is contrary to due process. (ELCON/OEV)*** | ***In §403.15, added "at the Regional Entity level" after "final adjudicator." The provision in §403.15 that the Regional Entity Hearing Body is to be the "final adjudicator" is in the context of the Regional Entity level (this is one of the required attributes of a Regional Entity CMEP) and does not preclude appeals to NERC.*** | ***The proposed provision does not give the Regional Entity "veto power over its own decisions;" it only gives the Compliance Enforcement Authority (CEA) a right to appeal to NERC – in which NERC could rule against the CEA. The statement that the REHB is an "impartial arbitrator" supports this provision, as it illustrates that the REHB is separate from the CEA. The quoted statement in the comments by Trades has no basis; if it were true, there would be no reason to allow Registered Entities to appeal either, since NERC would always rule against them. The fact that FERC, under the FPA, can only take appeals from the Registered Entity is not a basis for concluding that NERC should not take appeals from the CEA. NERC has the ultimate responsibility to determine that the decision as to whether a Reliability Standard has been violated, and any Penalty imposed, are correct based on the Reliability Standards involved and consistent with determinations in other cases involving similar facts; therefore, NERC should take appeals from both the Registered Entity and the CEA.*** |
| | ***There is no need for a Regional Entity to have appeal rights, since the Regional Entity Hearing Body is an impartial arbiter. Further, "The probability is that a Regional Entity's organizational link to, and familiarity with, NERC is likely to dispose NERC to weigh the Regional Entity's views more heavily than those of the Registered Entity." Further, allowing the Regional Entity to appeal is inconsistent with the spirit of FPA §215(e) which only allows the BPS user, owner or operator to contest a Penalty at FERC. (Trades)*** | | |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| Section 403.6 – Added reference to "mitigating activities" and changed reference to "remedial actions" to "remedial action directives." | **Section 403.6.** Revised text says Regional Entity compliance program "determines . . . mitigating activities." It is the Registered Entity that determines mitigating activities; the Regional Entity reviews and approves them. (Austin; LGC) | Revised text to delete statement that Regional Entity Compliance Staff must be capable and required to "make determinations of" Mitigation Plans and Mitigating Activities and added text to state that the Regional Entity Compliance Staff shall be capable of and required to review and accept Mitigation Plans and other Mitigating Activities. | Comments were correct and changes were made in response. |
| Section 401.11 – Added reference to "or other mitigating activities" after "mitigation plan." This revision, which is made in a number of places throughout the ROP, reflects the fact that actions taken by a registered entity to correct and prevent recurrence of a non-compliance, while they are accepted by the CEA, are not always memorialized in a formal mitigation plan.<br><br>Section 403.6 – Added reference to "mitigating activities" and changed reference to "remedial actions" to "remedial action directives." | **Sections 401.11.3, 403.6** The new term "mitigating activities" is not defined; it should be defined or deleted. (Austin; KCPL; LGC; TAPS) The summary of revisions that accompanied the posting provided the basis for a definition. (TAPS) | "Mitigating activities" will become a defined term: "actions taken by a Registered Entity to correct and prevent recurrence of a noncompliance, whether or not the actions are embodied in a Mitigation Plan." | As noted in the outcome column, a new definition has been developed in response to the stakeholder comments. |
| Section 407.1 – Changed references to "remedial actions" to "remedial action directives" to reflect the context. In addition, the section is amended to provide that NERC will review penalties, sanctions and remedial action directives specified by a Regional Entity hearing body final decision, to determine if the determination is supported by a sufficient record, consistent with the *Sanction Guidelines* and other directives, guidance and directions issued by NERC pursuant to the delegation agreement, and consistent with penalties, sanctions and remedial action directives imposed by the Regional Entity and by other Regional Entities for violations involving the same or similar facts and circumstances.. | **Section 407.1.** The proposed new text stating that NERC shall review penalties, sanctions and remedial action directives that are specified in a Regional Entity Hearing Body decision should be deleted. (OEV)<br><br>***Objects to allowing a Regional Entity to appeal a Regional Entity Hearing Body decision to NERC. (Note: Though stated under §407, this comment appears to relate to ROP §409.) Additionally, the text refers to "Regional Entity Hearing Body final decision", but the term is undefined. (ELCON/OEV)***<br><br>***NERC should exercise a high degree of deference in reviewing Regional Entity Hearing Body decisions that relieve Registered Entities of Penalties, similar to the deference appellate courts give to decisions of trial courts. Also, it would be inappropriate for NERC to impose Penalties directly in such circumstances without*** | No additional change.<br><br>***In §409, the phrase "that are specified by a Regional Entity Hearing Body final decision" is revised to "that are specified by a Regional Entity Hearing Body final decision issued pursuant to Attachment 2 to Appendix 4C." In §413, the phrase "all final decisions of Regional Entity Hearing Bodies" has been changed to "all final decisions of Regional Entity Hearing Bodies issued pursuant to Attachment 2 to Appendix 4C."*** | In order to perform its oversight role of ensuring sufficiency and consistency in Penalty determinations for similar violations and among Regional Entities, it is necessary for NERC to review Penalties, sanctions and Remedial Action Directives determined by Regional Entity Hearing Bodies just as it reviews Penalties, sanctions and Remedial Action Directives determined by Compliance Enforcement Authority Staff.<br><br>***With respect to Trades' comment about the need for additional due process at the regional Entity level, proposed §413 states that NERC may require that the Regional Entity Hearing Body decision be modified by the Regional Entity "in accordance with, as applicable to the particular decision, Sections 5.8, 5.9 and 6.5 of Appendix 4C." Section 5.8 of Appendix 4C pertains to NERC directing the Regional Entity to modify a Penalty, and allows the Registered Entity or the CEA to reopen the proceeding on any issue on which the Penalty was based. Section 6.5 of Appendix 4C pertains to Mitigation Plans and provides that if NERC disapproves a Mitigation Plan that the Regional*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | ***providing further due process to the Registered Entity at the Regional Entity level.*** | | ***Entity has accepted, NERC is to return the Mitigation Plan to the Regional Entity with a statement of the reasons for rejection and may include the changes that would result in approval of the Mitigation Plan by NERC. Therefore, these provisions of Appendix 4C which are referenced in ROP §413 do provide for further due process for the Registered Entity at the Regional Entity level.*** |
| Section 409.3 & 409.4 – Changed to reflect that the Regional Entity may file an appeal of a Regional Entity hearing body decision, to specify that the Regional Entity shall file the entire record of the Regional Entity hearing body with the NERC director of enforcement, to specify that participants in the hearing body proceeding other than the appellant shall file their responses to the issues raised in the notice of appeal 35 days after the date of appeal (which will allow for at least a 14-day period after the record of the hearing body proceedings is filed with the NERC director of enforcement), and to provide that the appellant may file a reply to the responses within 7 days. | **Section 409.3.** If the provision allowing a Regional Entity to appeal a Regional Entity Hearing Body is retained, it should be revised to require the Regional Entity to provide copies of the record before the Hearing Body to all participants in that proceeding. (Austin; LPPC) | Sections 409.3 & 409.4 – The requirement that the Regional Entity must provide a copy of the record to the appellant is deleted, as all Participants should be expected to maintain their own copies of the record as it is compiled during the hearing. | Participants in the hearing process will already have record documents. |
| Section 412 – This new section sets forth the procedures by which the NERC BOTCC will accept or reject a question certified to the BOTCC by a Regional Entity hearing body (pursuant to §1.5.12 of the Hearing Procedures in Appendix 4C), and if the BOTCC decides to accept the certified question, the procedure for receiving argument from the participants on, and deciding, the question. Section 412.2 specifies that written decisions of the BOTCC on certified questions will be posted on the NERC web site, with redaction of the names of the participants and of any other information that is necessary to maintain the non-public nature of the Regional Entity hearing body proceeding. | **Section 412.** Trades are concerned about this provision, which allows a Regional Entity Hearing Body to certify certain questions to the BOTCC, although Trades appreciates the changes that were made since the original posting. Trades do not understand the reasons for this provision and believe it should be deleted. (Trades; LGC)<br><br>This provision for certification of questions to the BOTCC could subvert the Standards interpretation process. (KCPL)<br><br>Also, it is unclear how decisions by the BOTCC on certified questions would apply to other entities that are not parties to the proceeding. (KCPL; LGC)<br><br>This provision allowing for certified questions is not ready for filing as it requires greater interplay with other ROP provisions. This provision (i) could cause significant delays in the hearing | In response to stakeholder comments, proposed Section 412.5 was revised to state that the BOTCC's decision on a certified question shall only be applicable to the hearing from which the question was certified and the Participants in that hearing. In addition, it was revised to provide that, in order to certify a question to the NERC Board, the Hearing Body must determine that the question is "a significant question of law, policy or procedure the resolution of which may be determinative of the issues in the hearing in whole or in part and as to which there are other extraordinary circumstances that make prompt consideration of the question by the Compliance Committee appropriate." | These proposed new sections establish a procedure by which a question arising during a hearing before a Regional Entity Hearing Body on a disputed compliance matter can be certified to the NERC Board for decision and decided by the Board of Trustees Compliance Committee (BOTCC). This procedure will be similar to, and in significant part has been modeled on, the procedure available under the FERC Rules of Practice and Procedure, whereby a FERC Administrative Law Judge may certify a question arising during a FERC administrative hearing to the Commissioners for decision. A specific procedure of this type does not presently exist in the ROP. Based on experience, questions have arisen during Regional Entity hearings as to which it would have been useful to have the question certified to the BOTCC for decision prior to proceeding through the entire Regional Entity hearing process. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | process, and (ii) does not provide an opportunity for similarly-situated Regional Entities and Registered Entities to present their views to the BOTCC – this is particularly important of the certified question involves interpretation of a Standard. (CCC)<br><br>Section 412 should either be deleted, or should state that a decision made via certification shall not be binding in any other matter. (OEV) | | During the two posting periods, stakeholders have expressed concerns over the proposal for a "certification of questions" procedure on several grounds, including that it can cause unwarranted delay and expense in the hearing process, particularly if the procedure is too readily available; that it may infringe on the standards development process if the BOTCC is asked to "interpret" the Reliability Standard that is the subject of the Alleged Violation; and that it was unclear as to whether the BOTCC's decision on a certified question will be precedential and applicable to/binding on other Registered Entities and Regional Entities (and, if so, whether other entities should be allowed to participate in litigation of the certified question before the BOTCC). NERC staff believes the proposed ROP provisions being presented for approval have been revised through the development process to be responsive to stakeholder comments. First, only the Regional Entity Hearing Body may decide to certify a question to the NERC Board for decision. Second, to do so, the Hearing Body must determine that the question is "a significant question of law, policy or procedure the resolution of which may be determinative of the issues in the hearing in whole or in part and as to which there are other extraordinary circumstances that make prompt consideration of the question by the Compliance Committee appropriate." (§412.1) Third, text in previous proposed versions that stated a permissible certified question could include a question of interpretation of a Reliability Standard has been deleted. Fourth, the BOTCC may decline to accept a certified question. Fifth, the following limitation on the decision of a certified question has been added: "The Compliance Committee's decision, if any, on the certified question shall only be applicable to the hearing from which the question was certified and to the Participants in that hearing." |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | ***The revision that has been made to §412 to specify that the decision on the certified question will only apply to the particular case and to the parties to that case, is supported. (ELCON/OEV)*** | | |
| Section 413 – This new section specifies that NERC shall review and process final decisions of Regional Entity hearing bodies concerning alleged violations, proposed penalties or sanctions, or proposed mitigation plans, that are not appealed to the BOTCC, as though the determination was made by the Regional Entity compliance program, and may require that the decision be modified by the Regional Entity, in accordance with sections 5.8, 5.9 and 6.5 of Appendix 4C. | **Section 413.** Several aspects of this provision need to be clarified. What does "NERC" refer to? – is this a review by NERC Staff or the BOTCC? This provision should not allow NERC to change a determination of, or increase a penalty determined by, a Regional Entity Hearing Body. (Trades; KCPL; LPPC; LGC) This provision should be deleted in its entirety; there should not be a NERC review of a "Regional Entity final decision." (OEV) | No additional change. | This proposed new section specifies that NERC shall review and process final decisions of Regional Entity Hearing Bodies concerning Alleged Violations, proposed Penalties or sanctions, or proposed Mitigation Plans, that are not appealed by one or more of the parties to the BOTCC, as though the determination was made by the Regional Entity Compliance Program without a hearing; and that NERC may require that the decision be modified by the Regional Entity, in accordance with sections 5.8, 5.9 and 6.5 of Appendix 4C. In other words, under this provision, NERC will review final Regional Entity Hearing Body decisions determining (for example) whether a violation occurred, or the imposition of a Penalty for a violation, in the same manner that NERC reviews proposed dispositions of Alleged Violations and proposed Penalties determined by the Regional Entity Compliance Staff. Stakeholder concerns and objections regarding this provision were similar to the concerns raised with the "Regional Entity can appeal" provisions discussed above. However, NERC staff believes that in order to carry out its responsibility and perform its function of ensuring consistency in violation, Penalty and Mitigation Plan determinations for similar facts and circumstances and among Regional Entities, it is necessary for NERC to review determinations by Regional Entity Hearing Bodies concerning Alleged Violations, Penalties and Mitigation Plans just as it reviews violations, Penalties and Mitigation Plans determined or approved by Regional Entity Compliance Staffs. Further, as noted earlier, the Regional Entities enforce compliance with mandatory Reliability Standards solely through delegated authority |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | from NERC as approved by Applicable Governmental Authorities; NERC has the ultimate responsibility for compliance enforcement. Therefore, it is appropriate that NERC should review, and if necessary require modifications to, Regional Entity Hearing Body determinations. Further, NERC's ability to review a Regional Entity Hearing Body determination on a disputed compliance matter should not depend on whether or not one of the Participants in the hearing elects to take an appeal of the decision to NERC.<br><br>On February 16, 2010, the Board of Trustees approved the Board of Trustees Compliance Committee Mandate which states, in part, that "The CC shall review all Notice of Penalty or Sanction, Settlement Agreement, and Remedial Action Directive documents and direct NERC staff to file with FERC and other governmental authorities or remand to the appropriate regional entity."<br><br>***With respect to Trades' comment about the need for additional due process at the regional Entity level, proposed §413 states that NERC may require that the Regional Entity Hearing Body decision be modified by the Regional Entity "in accordance with, as applicable to the particular decision, Sections 5.8, 5.9 and 6.5 of Appendix 4C." Section 5.8 of Appendix 4C pertains to NERC directing the Regional Entity to modify a Penalty, and allows the Registered Entity or the CEA to reopen the proceeding on any issue on which the Penalty was based. Section 6.5 of Appendix 4C pertains to Mitigation Plans and provides that if NERC disapproves a Mitigation Plan that the Regional Entity has accepted, NERC is to return the Mitigation Plan to the Regional Entity with a statement of the reasons for rejection and may include the changes that would result in*** |
| | ***Objects to allowing a Regional Entity to appeal a Regional Entity Hearing Body decision to NERC. Additionally, the text refers to "Regional Entity Hearing Body final decision", but the term is undefined. (ELCON/OEV)***<br><br>***NERC should exercise a high degree of deference in reviewing Regional Entity Hearing Body decisions that relieve Registered Entities of Penalties, similar to the deference appellate courts give to decisions of trial courts. Also, it would be inappropriate for NERC to impose Penalties directly in such circumstances without providing further due process to the Registered Entity at the Regional Entity level.*** | ***In §409, the phrase "that are specified by a Regional Entity Hearing Body final decision" is revised to "that are specified by a Regional Entity Hearing Body final decision issued pursuant to Attachment 2 to Appendix 4C." In §413, the phrase "all final decisions of Regional Entity Hearing Bodies" has been changed to "all final decisions of Regional Entity Hearing Bodies issued pursuant to Attachment 2 to Appendix 4C."*** | |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | ***approval of the Mitigation Plan by NERC. Therefore, these provisions of Appendix 4C which are referenced in ROP §413 do provide for further due process for the Registered Entity at the Regional Entity level.*** |
| Section 414 – This new section establishes procedures for review and decision by the NERC BOTCC of appeals of decisions of a Regional Entity hearing body to grant or deny a request for intervention in the Regional Entity hearing body proceeding. Addition of these procedures is needed due to the proposed amendment to §1.4.4 of the Hearing Procedures to allow the Regional Entity hearing body to grant requests to intervene in limited circumstances. New §414.5 recognizes that the BOTCC's decision on the appeal may thereafter be appealed to FERC or to another ERO governmental authority having jurisdiction over the matter, in accordance with the authorities, rules and procedures of the ERO governmental authority. | **Section 414.** Objects to the proposed revision to allow a default denial of an appeal if the BOTCC neglects to render a written decision within 45 days – BOTCC should be required to issue a decision on the appeal, but should not be required to do so within 45 days (or within any other stated time period). (LGC) | No additional change. | This provision relates solely to appeals of Regional Entity Hearing Body decisions to allow/deny an entity to intervene in a hearing – no need to require the BOTCC to issue a written decision if it does not think the Regional Entity Hearing Body decision needs to be overturned. In addition, this is consistent with how the rehearing process at FERC works. |
| | **Sections 414.3 and 414.4.** These sections still refer to the NERC "director of compliance" even though the title has been changed elsewhere to "director of enforcement." (ACES) | The title was changed to director of enforcement. | The director of enforcement was the intended reference. |
| | Capitalization of defined terms may be required in the following sections: 403.6 (remedial action directive), TOC section 407; 401.5.1.2; 401.7; 401.9; 402.6; 403.7.3; 407.1; 407.2; 501.1.3.1 (bulk power system, regional entity and registered entity); 601 (reliability standards and bulk power system). (Trades) | These have all been corrected. | The November 7 posting did not attempt to implement all the definitions and capitalization changes but these will be implemented in the final version submitted to the Board and FERC. Definition and capitalization changes were implemented comprehensively in the November 29 filing with FERC. |
| Section 500 | | | |
| Section 501 – The second paragraph is revised for clarification to refer to certification of entities performing certain specified functions, rather than entities applying to be a RC, BA or TOP. | The revisions specifying that there will be certification for "those entities that perform some or all of the reliability functions of Reliability Coordinators, Transmission Operators and Balancing Authorities" expand the certification requirements boundlessly and should be rejected. If there is a reliability need for certification of additional entities, it has not been thoroughly vetted. (TAPS) | No additional change. | This provision is triggered only if a Registered Entity that is an RC, BA or TOP chooses to delegate some or all of the tasks to a third party. Therefore, there is no boundless expansion. The reliability need arises because an entity performing some or all of the functions as an RC, BA or TOP must be certified as having the requisite tools and capabilities to take on those roles.<br><br>The inclusion of entities that perform some or all of the reliability functions of an RC, TOP or BA is |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | needed because some Registered Entities may choose to delegate or contract reliability tasks and/or responsibility for compliance with specific Reliability Standards or Requirements to a third party. When such arrangements occur, the ERO needs to be able to conduct an appropriate Certification review of the third party's capabilities to perform the delegated certified functions on behalf of the Registered Entity that is registered for the certified functions.<br><br>NERC encourages entities to consider Joint Registration Organization and Coordinated Functional Registration options to ensure roles and responsibilities are clearly identified. |
| | ***The proposed certification requirement for entities that are not registered as a BA, TOP or RC but perform some or all of the reliability functions of a BA, TOP or RC is a major change which has not been explained or justified, nor have all the ramifications been considered. For example: what reliability problem is this intended to solve? How many entities will be affected? Will the costs for all the additional certification work be justified by the reliability problem, and will the additional certification efforts divert resources and attention from other, more important reliability concerns? (Constellation)***<br><br>***NRECA is concerned with the proposed certification requirement for entities that are not registered as a BA, TOP or RC but perform some or all of the reliability functions of a BA, TOP or RC. This is a significant change and justification for it has not been provided. The problem that NERC is attempting to address has not been articulated. (NRECA)***<br><br>***Concerns with this provision include: (1) the proposed text that requires certification for "those entities that perform some or all of the*** | ***Based on the stakeholder comments, these provisions have been reviewed and revised to better, and more precisely, express the intent of the revisions. To better state the intent of the revisions and the underlying issue, the revisions in ROP §500 and Appendix 5A have been further modified, as follows:***<br><br>***ROP §501.2 is amended to state that Certification of entities as RCs, BAs and TOPs will include evaluation of the competency of entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions.***<br><br>***In ROP §5.3.4, which states that NERC and/or the Regional Entity shall evaluate the competency of entities requiring Certification to meet the NERC Certification requirements, a sentence has been added to specify that the evaluation shall include evaluation of the competency of any entities to which performance of some or all of the reliability functions of a RC, BA or TOP have been delegated, assigned or contracted to perform*** | ***The underlying reliability concern is that when an entity is evaluated for Certification as a RC, BA or TOP, if the entity has or plans to delegate, assign or contract some of its reliability functions to another entity, the Certification Team needs to be able to evaluate the competency of the third party to perform the delegated, assigned or contracted reliability functions; otherwise, the Certification evaluation will be incomplete. When such arrangements occur, the ERO needs to be able to conduct an appropriate Certification review of the third party's capabilities to perform the delegated certified functions on behalf of the entity that is registering for the certified functions. Revisions to several provisions in ROP §501 and 503 and Appendix 5A have been made to better state the intent of the provisions, as described in the "Outcome" column.*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | ***reliability functions of a RC, BA or TOP" has not been adequately explained or justified. There needs to be a business case justifying this change. No reliability gap has been identified, and effective measures are already in place to ensure compliance with NERC standards. Given the existence of these comprehensive measures, NERC should explain why additional certification requirements are needed. Also, there has been no information on how many entities would be affected, the costs for the additional certification activities, and the cost-benefit analysis. (2) More implementation details are needed, e.g., (i) whether de minimis exemptions can be granted; (ii) a timeline for completion of the certification process; (iii) qualifications for certification; (iv) the process through which an entity would obtain certification; and (v) any appeal or dispute resolution process. (3) The certification process should not circumvent the registration process – if NERC can require a non-registered entity to conform to certain attributes of Registered Entities (i.e., certification) through a change to the ROP, it circumvents the registration process. (PJM TO)*** | ***the delegated, assigned or contracted reliability functions.***<br><br>***In Appendix 5A, §II, text has been revised to specify that Certification of a RC, BA or TOP shall include evaluation of the competency of those entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted functions.***<br><br>***In Appendix 5A, §IV, in the section captioned "Purpose and Scope," a sentence has been added to state that the Certification process steps described in Section IV will be conducted for the proposed RC, BA or TOP and, as applicable, for any entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted.*** | |
| Section 501.1.3.1 – This section is revised to provide greater specificity with respect to the effective date of an entity's registration, particularly in the case of registrations resulting from sales or transfers of BPS assets or from corporate reorganizations that result in a new legal entity owning BPS assets formerly owned by another registered entity. The effective date will be stated in NERC's notification of registration. Where the organization is being registered for the first time and its BPS facilities were not previously owned by another registered entity, the effective date of the registration will be the date agreed to by the entity to be registered and the applicable Regional Entity. Where the organization is being registered because it has acquired BPS facilities from a registered entity, or based on an internal restructuring or name change where the organization has been registered under a different entity name, the effective date of the registration will be the effective date of the transaction that results in the organization performing the reliability functions that require it | **Section 501.1.3.1.** The last sentence in this subsection should be revised to read as follows: "The organization entity is responsible for compliance with all the reliability standards applicable to the functions for which it is registered from the effective date of the registration confirmed in the registration notification from NERC." (CCC) | Text was revised based on this comment. | These changes are made to clarify when a Registered Entity is considered to be included on the NERC Compliance Registry and subject to compliance with applicable Reliability Standards. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| to be registered. | | | |
| See above. | **Section 501.1.3.1.** The following text should be added to provide for situations where there is not agreement as to the effective date of registration: "In the event that the regional entity and the entity to be registered cannot agree upon the effective registration date, the regional entity shall have the authority to set this effective registration date that the regional entity deems appropriate for the reliability of the bulk electric system." (NPCC) | Text revised based on this comment -- A new second paragraph is added to §501.1.3.1 which specifies that if the Regional Entity and the entity to be registered cannot agree on the effective Registration date, NERC shall set an effective Registration date "that it determines to be appropriate for the reliability of the Bulk Power System." However, the effective date of Registration cannot be earlier than the date of NERC's notification of the Registration date. This new provision is being added to provide a procedure for establishing the entity's effective Registration date when the entity and the Regional Entity cannot agree on the effective Registration date. | The added text was necessary to establish how the Registration effective date will be determined if there is not an agreement between the Regional Entity and the Registered Entity. |
| See above. | **Section 501.1.3.1.** An organization's registration effective date should not change just because the organization changes its name. Revised 501.1.3.1 conflicts with Bulletin 2011-05, which more clearly defines registration dates for asset changes. The proposed new sentence that starts "Where the organization is being registered because it has acquired bulk power system facilities from a registered entity . . ." should be reworded based on Bulletin 2011-05. (SPP RE) | No additional change. | There is no conflict between the Bulletin and the revised language. The Bulletin provides that the entity is responsible for compliance with applicable Standards from the date it is registered. |
| See above. | **Sections 501.1.3 and 501.1.3.1.** These sections should be revised to read as follows:<br><br>1.3 NERC and the Regional Entities shall use the following rules for establishing and maintaining the NCR based on the registration criteria set forth in Appendix 5B *Statement of Compliance Registry Criteria*.<br><br>1.3.1 NERC shall notify each organization that it is on the NCR. NERC's notification shall state the effective date of the organization's registration for each function. Each organization is responsible for compliance with all the reliability standards applicable to the functions for which the organization is registered from the effective | No additional change. However, changes made to the last sentence of 501.1.3.1 are consistent with this comment. | See above. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | date of the registration for each function. (WECC) | | |
| See above. | NERC should add text to this section regarding the forced registration of an organization if the Regional Entity and the organization cannot agree on registration or the effective date of said registration. (CCC) | Text added in response to this comment as described above. | See above. |
| Section 501.2 – This section is amended to refer to the need for certification of RCs, TOPs and BAs and entities that perform some or all of the reliability functions of RCs, TOPs and BAs. Additionally, reference to the NERC Provisional Certification Process is deleted, as that process is no longer needed and is being eliminated. | **Section 501.2.** This appears to say every Registered Entity that is party to a CFR or delegation agreement must be registered and certified for the particular NERC function, no matter how many tasks the entity performs. Why can't this be handled through compliance rather than the certification process? (MISO)<br><br>***See discussion of additional comments under Section 501, above.*** | No additional change.<br><br>***See discussion under Section 501, above, of additional changes made to §501.2, 5.3.4 and Appendix 5A in response to the additional stakeholder comments.*** | No specific change was proposed. See above.<br><br>***See discussion under Section 501, above, of additional stakeholder comments and changes made to provisions in response.*** |
| Section 502.2.2.7 – Revised to state that the Certification Team leader shall confirm that all Certification Team members have completed all required training prior to participation in the Certification evaluation. This change is based on a stakeholder comment on the November 7 posting. | A stakeholder commented on the November 7 posting that all Certification Team members should complete all required training prior to participation in the Certification evaluation. | In response to this comment, Section 502.2.2.7 was revised to state that the Certification Team leader shall confirm that all Certification Team members have completed all required training prior to participation in the Certification evaluation. | Changes were made in response to this comment. The language was revised to ensure that all Certification Team members have completed all required training prior to participation in the Certification evaluation. |
| Section 600 | | | |
| Established the following:<br><br>Except as necessary to obtain approval of the Rules of Procedure, the NERC Personnel Certification Governance Committee (PCGC) is the governing body that establishes the policies, sets fees, and monitors the performance of the Personnel Certification Program for system operators. | **Sections 602.4 and 602.7**. "Personnel certification governing body" should be changed to "Personnel Certification Governance Committee" since the PCGC is defined as the governing body in section 601. (ACES) | Changes made based on comment -- Section 602 –References to the "personnel Certification program governing body" are changed to the PCGC, which is identified in section 601 as the governing body. | The language was changed to PCGC as proposed in the comment. |
| None | In proposed ROP Appendix 2 (which is the subject of a separate posting and filing), references to Appendix 6 should be eliminated and replaced with references to section 600: Certification; Continuing Education Program Provider; Probation; Termination of Credential. (PCGC) | Changes were made in Appendix 2. | Changes were appropriate since Appendix 6, System Operator Certification Program Manual, is being deleted in its entirety and its substantive provisions are being moved into Section 600. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| None | Also in proposed Appendix 2, a revision needs to be made to the definition of Continuing Education Hour. (PCGC) | Definition has been changed as requested. | This BOT package and the subsequent FERC filing include conforming changes to Appendix 2 as filed with FERC on November 29 2011 and Jan 25 2012. |
| Section 700 | | | |
| | Can this section, on reliability readiness evaluations, be eliminated now? (Trades; NPCC) | No additional change. | Section 700 was not reviewed or subject to modification as part of the instant ROP revision effort nor were any changes to Section 700 proposed in the November 7 posting. |
| Section 800 | | | |
| Sections 800 and Appendix 8 were updated and clarified.<br><br>Sections 807 and 808 - Revised to provide for a more consistent use of terms in these sections including “major event” and “occurrences.” Similar revisions have been made in Appendix 8.<br><br>Section 807a - Revised to state that in responding to a major event, NERC will work with registered entities as well as with Regional Entities and Reliability Coordinators.<br><br>Sections 807c and 808.3 - Amended to refer to NERC Reliability Standard EOP-004 which sets forth specific criteria and procedures for reporting BPS disturbances and events described in that standard, with which registered entities subject to EOP-004 must comply. These sections further state that BPS users, owners and operators shall also provide NERC and Regional Entities with such additional information they request as is necessary to enable them to carry out their responsibilities under these sections.<br><br>Section 807e - Amended to provide that NERC will establish, maintain, and revise from time to time based on experience a manual setting forth procedures and protocols for communications and sharing and exchange of information between and among NERC, Regional Entities, governmental authorities, industry organizations, and BPS users, owners and operators, concerning the investigation and analysis of major events.<br><br>Section 807f - Amended to reflect the revised title of Appendix 8.<br><br>Section 807g - Amended to state that NERC will disseminate to | The proposed revisions to Section 800 and Appendix 8 should be withdrawn until all of the event analysis documents and standards are available for review as a package. The proposed changes do not resolve the tension between learning from event analysis and CMEP activities. It is not clear how the various event analysis documents relate to each other. (Trades; Constellation)<br><br>Revised Section 800 appears to direct NERC to conduct a CI for Major Events. NERC should make explicit the reasons why certain Major Events require a CI. (CCC)<br><br>References in section 800 to major events and “correlative information with Appendix 8” are too vague for inclusion. Rules, procedures and rights in the Event Analysis Process should be outlined in “this document” [This appears to refer to the ERO Event Analysis Process] to ensure industry participants understand how these types of occurrences will proceed and what actions are available to each party. (KCPL)<br><br>**Section 807.** The reference to major events is vague and should include a reference to the document or location on how to determine what defines a major event. This list should be part of EOP-004. (SERC OC)<br><br>**Sections 807c and 808.3.** These sections reference Standard EOP-004. This Standard is | Sections 807c and 808.3 are amended to state that where a Reliability Standard sets forth specific criteria and procedures for reporting BPS disturbances and events described in that Reliability Standard, Registered Entities subject to the Reliability Standard must report information as required by the Reliability Standard. These sections further state that BPS users, owners and operators shall also provide NERC and Regional Entities with such additional information they request as is necessary to enable them to carry out their responsibilities under these sections. The specific reference to EOP-004 has been deleted.<br><br>Section 807d is revised to delete “some” before “NERC analyses,” as potentially unduly limiting.<br><br>An *ERO Event Analysis Process* document is being submitted to the Board for approval. No changes are being made to Appendix 8 at this time; rather, revisions will be addressed at a later time. | The proposed revised version of Appendix 8 posted in the November 7-December 22 posting drew significant stakeholder comment, with much of that comment pertaining not to specific provisions in revised Appendix 8, but rather to (i) the relationship between Appendix 8 and the new *ERO Event Analysis Process* document, and (ii) the respective levels of detail and subject matter content of these two documents. Because of the nature of these comments, NERC staff is not presenting a revised version of Appendix 8 for Board approval at this time. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| the industry findings and recommendations of general applicability from event analyses, "through various means appropriate to the circumstances," including in accordance with ROP §810. This revision will give NERC greater flexibility in determining and using the most effective means to disseminate information gained from event analyses to the industry.<br><br>Section 808.2 – Amended with a similar amendment to §807g as described immediately above. | currently undergoing revision, therefore, it is inadvisable to refer to it in the ROP until the revisions are completed. (ACES) In fact, EOP-004-2 failed the initial ballot, and many of the comments stated that the proposed Standard does not synch with the proposed Event Analysis Process requirements. (Trades)<br><br>Adding the reference to EOP-004 in sections 807 c and 808.3 is not necessary because EOP-004 already contains the reporting requirement. (Austin; CCC)<br><br>Section 807c when combined with other changes appears to codify a process to penalize entities for not providing data to NERC in whatever format it desires on whatever timeline it chooses; enforcement is now the primary reason for event analysis. (MISO)<br><br>**Section 807e.** The manual referred to in the new text should be subject to stakeholder review through the Standards process. (Austin; LGC) [Note: This is intended to refer to the Event Analysis Process document.]<br><br>**Section 807f.** There should be a better description of the relationships among Appendix 8, Standard EOP-004 and the ERO Event Analysis Process document. (SERC OC)<br><br>**Section 807g.** The meaning of what is to be released in this section and what protection an entity might have from the release of confidential information is unclear. (SERC OC)<br><br>**Section 808.** Although the changes to this section are acceptable for the purpose of gaining industry participation in the self-analysis of off-normal occurrences, the current ROP already gives NERC and the Regional Entities the authority to request that Registered Entities provide the necessary data to carry out their role under Section 808. | | |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | (FRCC)<br><br>There should be additional clarity on how entities determine what are non-major events; this list should be part of EOP-004. (SERC OC) | | |
| Section 1000 | | | |
| Added the following to transition tool administration to the industry and other vendors:<br><br>NERC will work with the industry to identify new tools, collaboratively develop requirements, support development, provide an incubation period, and at the end of that period, transition the tool or service to another group or owner for long term operation of the tool or provision of the service | **Section 1002.** Concern expressed over the proposed removal of references to specific tools that NERC will provide for the benefit of RCs and other system operators, particularly tools that are required to maintain compliance with specific Standards. The tools currently listed in section 1002 should continue to be listed. (LGC) | No additional change. | NERC has updated its listing of tools with a generic reference in anticipation of NERC transitioning tools and services to another group or owner for long term operation of the tools or provision of the services.<br><br>Section 1002 has been amended to state NERC's new policy regarding maintenance and financial support of existing and potential new reliability tools and support services. NERC will work with industry to identify new tools, collaboratively develop requirements, support development, provide an incubation period, and at the end of that period transition the tool or service to another group or owner for long term operation of the tool or provision of the service. NERC may also develop reliability tools on its own, but will consult with industry concerning the need for the tool prior to development. Tools and services being maintained by NERC as of January 1, 2012 will be reviewed and, as warranted, transitioned to an appropriate industry group or organization. |
| See above | The revised section says NERC will not operate or develop tools, except when it does. The entire section could be deleted and the development and offloading of tools handled outside the ROP. (MISO) | No additional change. | NERC may also develop reliability tools on its own, but will consult with industry and others concerning the need for the tool prior to development. Tools and services being maintained by NERC as of January 1, 2012 will be reviewed and, as warranted, transitioned to an appropriate industry group or organization. |
| See above | The transition away from NERC managing these tools is not defined and could be problematic across all three Interconnections; for example, the NERC IDC is the only tool available for Registered Entities to comply with EOP-005-1, R11.3. (SERC OC) | No additional change. | Implementation, schedule, and other transition details regarding the transitioning tools and services to another group or owner for long term operation of the tools or provision of the services, will be documented as necessary in the appropriate process and procedure documents |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | external to the ROP. |
| Section 1400 | | | |
| Modified "Proposals for Amendment or Repeal of Rules of Procedure," to require fifty members to amend or repeal the rules of procedure. | Rather than this section being amended to increase the number of NERC Members required to propose an amendment to the ROP, the NERC Bylaws should be amended to reduce the number of NERC Members required to propose an amendment to the ROP. (Trades; CCC; KCPL) | No change to the proposed revision has been made. | In the November 7 posting, NERC proposed to amend ROP §1401 to change the number of Members needed to request an amendment or repeal of the ROP from ten Members to 50 Members. This change was proposed because Article XI, section 2 of the NERC Bylaws states that 50 Members are needed to request an amendment or repeal of the ROP. Stakeholders commented that the required number of Members should be ten as specified in ROP §1401, not 50 as specified in the Bylaws. Regarding the change to the number of Corporation members who can request a rule change, the change is being made to track the Bylaws, as originally intended by NERC. There exist several avenues by which a rule change can be proposed:<br><br>"Proposals to adopt new Rules of Procedure or to amend or repeal existing Rules of Procedure may be submitted by (i) the Member Representatives Committee, (ii) any fifty (50) members of the Corporation, which number shall include members in at least three sectors, (iii) a committee of the Corporation to whose purpose and functions the Rule of Procedure pertains, or (iv) an officer of the Corporation."<br><br>At the time NERC drafted the Bylaws, NERC intentionally chose 50 members to request an amendment to the rules as a matter of sound governance. It serves to screen out possible changes that have little support and cannot otherwise obtain the support of the MRC, NERC staff, or a relevant NERC committee. |
| | ***Objection to increasing the number of Members needed to request a ROP modification from 10 to 50. Instead, the Bylaws provision should be changed from 50 to 10 Members. There has*** | ***No additional change made.*** | ***NERC staff continues to believe that the higher-tier document (the Bylaws) needs to control and that ROP §1401 needs to be made consistent with the Bylaws provision at this time. The*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | ***been no indication of a problem with 10, and the change signals that NERC does not want stakeholders to have a reasonable opportunity to propose ROP modifications. (NRECA)*** | | ***Board of Trustees would be able to consider if it wishes to evaluate whether both the Bylaws and the ROP provision should be amended in the future to specify a number of Members less than 50 that would be required to place a proposed ROP amendment into consideration.*** |
| See above | Objects to increasing the number of NERC Members required to propose an amendment to the ROP to 50. (Austin; LGC; MISO) | See above. | See above. |
| Section 1500 | | | |
| None | Section 1500 should be broadened so that its confidentiality obligations automatically attach to intervenors in enforcement proceedings under CMEP section 5.11; this would eliminate the need for individual confidentiality agreements for participants in enforcement proceedings pursuant to section 5.11 (RFC)<br>[Note: RFC also proposes to limit participation in enforcement proceedings pursuant to CMEP section 5.11 to Registered Entities.] | No additional change. | Proposed new Section 5.11 of Appendix 4C is not limited to Registered Entities and may encompass entities other than owners, operators and users of the Bulk Power System. Section 1500 provides that an owner, operator, or user of the bulk power system and any other party shall mark as confidential any information that it submits to NERC or a regional entity that it reasonably believes contains confidential information. While the confidentiality obligation in Section 1500 may automatically attach, in proceedings pursuant to Appendix 4C section 5.11, individual confidentiality agreements are still warranted to protect confidential information not specified under section 1500 and in the event the participants include one or more entities that are not Registered Entities. |
| Appendix 4B | | | |
| None | All cross-references among Appendix 4B, 4C and the ROP should be checked for consistency and accuracy. (Trades)<br><br>***Concern expressed with the removal of references to "remedial actions" from Appendix 4B. Appendix 4B should clarify that "remedial actions" mandated by NERC or the Regional Entity will be treated in the same manner as other enforcement actions. (ELCON/OEV)*** | Yes.<br><br>***No additional changes.*** | NERC agrees. No specific instances of erroneous references were provided.<br><br>***The term "remedial actions" is being deleted throughout the ROP because it potentially could be confused with the defined term "Remedial Action Directive." The requirements and procedures for issuance of Remedial Action Directives are specified in great detail in the ROP and include special hearing procedures for*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | ***a Registered Entity to contest a Remedial Action Directive; these provisions have been in the ROP, in essentially their current (and proposed) form, for a considerable time. (See Appendix 4C, §7.0 and Attachment 2, §1.9.) Material on Remedial Action Directives is being removed from Appendix 4B so that the subject matter of Appendix 4B will be limited to the determination of Penalties and other sanctions. A Remedial Action Directive is not a Penalty but rather is a directive to correct a condition that presents a current or imminent threat to the reliability of the BPS.*** |
| Section 1.1.27 (renumbered) – Remedial Action Directive – revised to state that a Remedial Action Directive is immediately necessary to protect the reliability of the Bulk Power System from an imminent or actual threat. | Appendix 4B should clarify that "remedial actions" mandated by NERC or a Regional Entity will be treated in the same manner as other enforcement actions. (OEV) | No additional change. | NERC or Regional Entity mandates will be enforced in accordance with the ROP. |
| Modified the referenced section (2.6) to consider the size of an organization with respect to the, "Relation of the Penalty to the Seriousness of the Violation and Violator's Ability to Pay" | Section 2.5 (The comment appears to have been directed to section 2.6). The revisions will significantly, negatively impact the application of the analysis (concerning multiple violations) to ISO/RTOs who operate a large portion of the BES and may be considered as "large" in size despite their non-profit status and uniform inability to directly pay penalty costs. (MISO) | No additional change. | Similarly to the Commission's Revised Statement on Penalty Guidelines, size is determined by multiple factors that might vary depending on the organization. However, size is an important factor in the assessment of the seriousness of the violation.<br><br>Note: The comment refers to section 2.5 of Appendix 4C, but it appears to be directed at (renumbered) section 2.6 of Appendix 4B. |
| See above | Section 2.6. Section 2.6 on size of violator is based on significant directives from FERC and should be left in its current form. (TAPS) | No additional change. | See above. |
| The provision in Appendix 4B on settlement requests was deleted. | Section 3.1. Why is text being deleted that outlines steps to initiate settlement? (MISO) | No additional change. | Appendix 4C sets forth the steps for initiating settlement. Appendix 4B addresses how Penalties are determined, not the process for settlement negotiations, so this language is not needed in Appendix 4B. Appendix 4B continues to recognize that entities may enter into Settlements with the Compliance Enforcement Authority. |
| Minor edits to the Violation Risk Factor and Violation Severity | Section 3.1.1. This section does not address what | No additional change. | The proposed revisions to Appendix 4B in the |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| Level sections; no edits were made with respect to how to apply specific VRF/VSLs based on specific facts and circumstances. | is the appropriate VRF when there are different VRFs assigned across requirements and the underlying requirements, or when there are changes in the VRF across revisions. (SPP RE)<br>Section 3.1.2. "It is unclear how to assign a VSL when the described VSLs do not apply to the violation's facts and circumstances." (SPP RE) | | November 7 posting did not include substantive changes on these topics. NERC or the Regional Entity will determine an initial value range for the Base Penalty Amount by considering the VRF of the requirement violated and the Violation Severity Level VSL assessed for the violation. Details regarding specific applications are not included in the ROP; rather determinations are made by appropriate NERC and Regional Entity processes. |
| Added "internal compliance program" and "culture of compliance" to Setting of the Base Penalty Amount – First Violation section as factors for whether $0 penalty or excusing of the penalty relief will be granted. | Section 3.2.2. To be consistent with FFT concept, this section should not be limited just to first violations, but should apply to violations that are eligible for FFT. (SPP RE). | No additional change was made in response to this comment; however, an additional change was made to this section. | Section 3.2.2 describes First Violations. The section does not limit treatment of FFT candidates. |
| In renumbered §3.2.2, which discusses how the fact that a violation is a registered entity's first violation will be considered in determining (reducing or excusing) the Base Penalty Amount, text has been added to provide that this relief generally will not be afforded if NERC or the regional entity determines the violator has a poor internal compliance program or culture of compliance (as well as a poor compliance record, as stated in the existing text). | Section 3.2.2. The reference to "internal compliance programs" should be eliminated; otherwise, it will elevate having an ICP to be a requirement and will be costly and burdensome on smaller entities. (SPP RE) | Text revised to say "determines that the violator has a poor internal compliance program or there is other evidence of a poor culture of compliance or compliance record." | Internal Compliance Programs are not required, but are strongly encouraged, and are one way for the Registered Entity to provide evidence that it has a strong culture of compliance, which will be considered in Penalty determinations. In turn, no ICP or a poor ICP is evidence of a poor culture of compliance.<br><br>Reliability is furthered when an entity has an effective compliance monitoring program that identifies and prevents noncompliance with mandatory and effective Reliability Standards. Moreover, the section provides that Penalty relief will generally not be available. It does not state that it will never be available, as does the next paragraph when an entity conceals or attempts to conceal a violation, refuses to comply with compliance directives or intentionally violates a Reliability Standard in certain circumstances. |
| Modified the term violation reset time period to the following two terms: "reset period" or "reset time frame" and corresponding definition. | Section 3.3.1. The concept behind the reset period is appropriate, however, application of violation history in aggravating a penalty could be more appropriately addressed with a statute of limitations rather than relying on the reset | No additional change. | In renumbered §3.3.1, the term "violation reset time period" has been changed to "reset period or reset time frame," as these are the terms used in several Reliability Standards. The concept of a "statute of limitations" was not a proposed |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | periods in Standards. (SPP RE) | | change in the Nov 7 posting. |
| Section 3.3.1 – In the description of the adjustment factor for "Repetitive Violations and Compliance History," the following text has been added: "In evaluating the violator's compliance history, NERC or the Regional Entity will take into account previous violations by affiliates of the violator, particularly violations of the same or similar Reliability Standard Requirements, and will evaluate whether any such prior violations reflect recurring conduct by affiliates that are operated by the same corporate entity or whose compliance activities are conducted by the same corporate entity." | ***Objection expressed to the addition of the compliance history of affiliated entities of the violator as a factor that will be taken into account in determining a Penalty. The actions of an affiliate do not bear upon whether an entity violated a Reliability Standard; also, considering the compliance history of affiliates of the violator is outside the FPA §215 requirement that all Penalties must bear a "reasonable relation to the seriousness of the violation." (ELCON/OEV)*** | ***No additional change.*** | ***The complete provision is quoted in the "Change proposed by NERC" column. This provision is being added based on a 2010 FERC Order (see 132 FERC ¶ 61,182, at P 7, where FERC stated that future NOPs should explain how NERC and the Regional Entities assessed whether the violations may reflect recurring conduct "by the same registered entity or by an affiliate or department that is operated by the same corporate entity or whose compliance activities may be conducted by that entity.") Further, when the statement is read in full context, the factor being considered does relate to the "seriousness of the violation." Moreover, this provision enumerates one of several factors that are considered in determining the amount of a Penalty (under both Appendix 4B specifically and FERC's penalty guidelines generally) that are not strictly limited to the particulars of the specific violation; other such factors include the violator's own violation history and the size of the violator. Finally, "whether [the Registered] entity violated a Reliability Standard" is not relevant to this provision because this provision is about determining the appropriate Penalty in the disposition of a Possible Violation.*** |
| Renumbered §3.3.7, retitled "Violation Concealment and Responsiveness," has been revised to state that NERC or the Regional Entity shall consider an increase to the Penalty if NERC or the Regional Entity determines, based on its review of the facts, that the violator resisted or impeded the discovery and review of a violation. The text has been revised to state that the presumption in a case where the violator concealed or attempted to conceal the violation is to double the Penalty. | Sections 3.3.7 and 3.3.8. The proposed revision requiring doubling of penalties is unwarranted and unreasonable. The change "opens the door to prosecutorial abuse' because all the CEA has to do is threaten lack of cooperation (and thereby a doubling of the sanction) during an investigation or settlement to bring "undue influence." The presumption of doubled sanctions under certain circumstances is unreasonable; any "multiplier" should be left to the discretion of the entity assessing the penalty based on the facts and circumstances of each instance. (MISO) | In response to this comment, added proviso to the referenced text that "NERC or the Regional Entity will determine the actual increase to the Penalty based on the particular facts and circumstances of the violation." | Renumbered §3.3.7, retitled "Violation Concealment and Responsiveness," has been revised to state that NERC or the regional entity shall consider an increase to the penalty if NERC or the regional entity determines, based on its review of the facts, that the violator resisted or impeded the discovery and review of a violation. The reference to "doubling" the penalty Is in the current FERC-approved version of the ROP as a suggestion in certain circumstances. Further, doubling is only a presumption, not a requirement. The language was revised in response to this comment to state that while |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | there would be a presumption to double a penalty, NERC and Regional Entities will determine the actual penalty based on the particular facts and circumstances. |
| Determination of Non-Monetary Sanctions section was modified as follows:<br><br>The imposition of sanctions is not limited to monetary penalties. Non-monetary sanctions may be applied with the objective of promoting reliability and compliance with the reliability standards. Non-monetary sanctions may include limiting activities, functions, or operations, or placing the violator on a reliability watch list of significant violators. | Section 4. NERC should amend this section to encourage the proposal and satisfaction of non-monetary sanctions that are intended and targeted to achieve the mutual goals of a reliable, secure BES. (MISO) [Note: No specific revisions proposed.] | No additional change. | The NERC sanction guidelines afford flexibility to the Compliance Enforcement Authority and include the imposition of non-monetary sanctions and zero-dollar penalties. |
| Appendix 4C | | | |
| None. | Some definitions in Appendix 4C are inconsistent with definitions in new Appendix 2 (*e.g.*, Confirmed Violation; Mitigation Plan) (Trades) | Definitions in Appendix 2 and in individual Appendices have been checked for consistency and revised where needed. | Inconsistency issues have been addressed. |
| Section 1.1.9 – Confirmed Violation – the definition has been expanded to more comprehensively capture the circumstances that constitute a "Confirmed Violation," based on experience, and will include execution of a settlement agreement. | **Section 1.1.9** (definition of Confirmed Violation). Objections to the change that include in "Confirmed Violation" a settlement agreement where the Registered Entity has not admitted or contested the Alleged Violation. (Trades; Austin; LGC; OEV)<br><br>If the objective is to apply the definition of "Confirmed Violation" to circumstances where an entity neither admits nor denies a violation but resolves it through settlement, a new term such as "Contested Violation" or "Resolved NOP" should be created. (MISO; OEV)<br><br>***"Confirmed Violation" should not be defined to include settlements in which the Registered Entity neither admits nor denies the violation; a different term should be created and used to describe these outcomes. (ELCON/OEV)*** | No additional change was made in response to this comment; however. some additional changes were made to this definition as discussed above.<br><br>***No additional changes.*** | As discussed above, the point of the definition is that the violation has reached an end state of processing, regardless of whether the Registered Entity admits it or neither admits nor denies it.<br><br>***NERC staff understands that the commenters may perceive a negative connotation to the term "Confirmed Violation," but does not see a need to create another definition for essentially the same end state to encompass enforcement actions that end in settlements. Further, to the extent that the existence of a Confirmed Violation will bear on the determination of Penalties for any <u>future</u> violations by the*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | ***Registered Entity, the NOP and accompanying record will specify that the Confirmed Violation was based on a settlement agreement in which the Registered Entity neither admitted nor denied the violation. The defined term is created and used for convenience, but the full facts as to what transpired are available in the NOP, settlement agreement and record.*** |
| See above. | The following text should be added to the end of the revised definition of "Confirmed Violation": ". . . that is the subject of the settlement agreement." (CCC)<br><br>In clause (4) of section 1.1.9 ("Confirmed Violation"), the text "Registered Entity has entered into a settlement agreement" should be changed to "Registered Entity has executed a settlement agreement pursuant to section 5.6." (OEV) | First change was not made as it was subsumed by other changes. Second change was made. | The change was made because it reflects the fact that a violation has reached an end state of processing, regardless of whether the Registered Entity admits it or neither admits nor denies it. |
| Section 1.20 (renumbered) – Notice of Penalty – added the phrase Notice "or other notification" of Confirmed Violation to reflect that Regional Entities may sometimes provide notice of a Confirmed Violation through a means of notification other than a Notice of Confirmed Violation. | **Section 1.1.19** (definition of Notice of Penalty). The reference to "or other notification" is vague and should be clarified or deleted. (Trades) | No additional change. | Added "notification" to reflect that the CEA may give notification of the Confirmed Violation through means other than issuing a "Notice of Confirmed Violation." The reference to "other notification" would include, for example, the FFT opt out letter. |
| New definition. | **Section 1.1.24** (definition of Public Notification List). This definition should be eliminated because section 5.11 should be eliminated. (MISO) | Eliminated. | The proposed Public Notification List requirement has been eliminated from Appendix 4C Section 5.11; therefore, the definition has been deleted. |
| Section 1.1.30 (renumbered) – Self-Report – (1) The defined term is changed from Self-Reporting to Self-Report (this revision is made throughout the document). (2) Definition is revised to provide that the Self-Report may state that the Registered Entity believes it has, or may have, violated a Reliability Standard. This will enable a Registered Entity to submit a Self-Report without having to conclude that it has violated a Reliability Standard. (3) The provision that the Self-Report should state the actions that have been taken or will be taken to resolve the violation is deleted; this requirement could delay submission of a Self-Report while the Registered Entity determines what actions are to be taken. | **Section 1.1.30.** (definition of Self-Report). The proposed insertion of "or may have" should be deleted because it is ambiguous and conflicts with the definition of Self-Report in section 3.5. There are no benchmarks provided for determining when a Registered Entity "may have" violated a Reliability Standard. (OEV)<br><br>***The clarification that "or may have" was added*** | No additional change.<br><br>***No additional change.*** | "Or may have" was added in response to a stakeholder comment on the earlier (July 1-Aug 15) posting that an entity should be able to file a Self-Report even though it has not concluded that it definitely violated a Standard. For clarification, and in response to stakeholder comments, this change is not intended to require a Registered Entity to submit a Self-Report whenever it believes it may have, but is not certain, that it has violated a Reliability Standard.<br><br>***Section 3.5 of Appendix 4C states that Self-*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | ***to allow a Registered Entity to submit a Self-Report without having to <u>conclude</u> that it in fact violated a Reliability Standard, and does not <u>require</u> a Registered Entity to submit a Self-Report when it "may have" violated a Reliability Standard, is appreciated; but this clarification should be built into the text. (ELCON/OEV)*** | | ***Reports" are encouraged;" it does not state that Self-Reports are required.*** |
| Section 1.1.31 (renumbered) – Spot Check – (1) The defined term is changed from Spot Checking to Spot Check (this revision is made throughout the document). (2) In the third basis stated in the definition on which a Spot Check may be initiated, reference to "events, as described in the Reliability Standard" is deleted and "risk-based assessments" is added. The addition is consistent with NERC's developing risk-based assessment approach to determining the frequency with which to conduct compliance monitoring activities. | **Section 1.31** (definition of Spot Check). Given "the uncertainty and delay associated with risk-based assessment", the revision to this definition to add reference to risk-based assessment should be withdrawn until such processes and/or assessments are developed as part of the CMEP. (MISO) | The proposed risk based assessment text was deleted as unnecessary at this time given the current FERC-approved ROP and FERC Policy Statements and orders that provide this flexibility already to NERC and the Regional Entities. | The proposed risk based assessment text was deleted as unnecessary at this time given the current FERC-approved ROP and FERC Policy Statements and orders that provide this flexibility already to NERC and the Regional Entities.<br><br>Since the effective date of the ROP, NERC and Regional Entities have been evaluating risks to the reliability of the Bulk Power System taking into account the Registered Entity's Bulk Power System Facilities and operations and their significance to the reliability of the Bulk Power System and the Registered Entity's compliance history and internal compliance program or other indicators of its culture of compliance. These reviews take into account prior pronouncements of FERC in its Policy Statements and orders and the current, FERC-approved ROP<br><br>Efforts are underway to allow interested industry stakeholders to provide input into factors to be considered in evaluating the Registered Entity's Bulk Power System Facilities and operations and their significance to the reliability of the Bulk Power System and the Registered Entity's compliance history and internal compliance program or other indicators of its culture of compliance. |
| | **Section 3.0.** Objects to text giving the CEA authority to collect documents, data and information in the manner it deems most appropriate, including removing documents, data and information from the Registered Entity's location. (LGC; OEV) | Text is added to state that the CEA has authority to collect Documents, data and information in the manner it deems most appropriate, including <u>requesting that copies be made</u> of Documents, data and information and <u>removing those copies</u> from the Registered Entity's location in accordance with appropriate security procedures | ROP sections 403.10, 403.10.1, 403.10.2, 403.10.3 already provide NERC and the Regional Entity authority to request and obtain information for purpose of compliance monitoring and enforcement. This change is made to clarify the rights and responsibilities of entities in responding to requests for data, |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | This provision is "heavy-handed" and the need for it has not been shown. Also, the removal of documents may hamper the Registered Entity's ability to respond to later data requests. (MISO)<br><br>The caveats that the information must conform to security procedures and other safeguards as appropriate is insufficient; NERC only has authority to collect documents, data and information necessary to establish and enforce reliability standards. (OEV)<br><br>***(1) These provisions are objectionable because they give the CEA unrestricted access to stakeholders' documents and data, simply by stating that taking the documents and data are necessary for "compliance and enforcement." (2) It is recognized that some information and data must be retained and provided to NERC under the Reliability Standards, but the rules surrounding data collection must be clearly described and justified to provide industry with notice. (3) Also, procedures for recourse from improper data requests need to be specified. (ELCON/OEV)*** | conforming to ROP Section 1500 and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the Documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost if the information were placed into the public domain.<br><br>***No additional changes.*** | documents and information. It does not preclude an opportunity for a registered entity to discuss acceptable alternative formats with the Compliance Enforcement Authority to the extent necessary. It takes into account the provisions of Section 1500 of the ROP regarding confidential information. However, as noted, additional changes have been made in response to stakeholder comments that the CEA should not be allowed to remove original documents, or the Registered Entity's only, existing copies, from the Registered Entity's site.<br><br>***The text of these provisions has been substantially revised from the original proposed version, in response to numerous comments received on the previous postings, and at this point the text is a rather modest statement that the CEA can request and receive copies of documents to take from the Registered Entity's site. In fact, Compliance Audits and Spot Checks conducted by Regional Entities since 2007 have generally required the Registered Entities to (1) provide as much of their compliance evidence to the CEA electronically as possible, and (2) provide paper copies of documents that cannot be provided electronically, to the extent possible. Finally, with respect to item (3) in the comment, the provisions that are the subject of the comment state: "If a Registered Entity believes that a request for Documents, data or information is unreasonable, the Registered Entity may request a written determination from the NERC general counsel."*** |
| | **Section 3.0.** Wasn't the ROP going to be updated to include the ability for the CEA to initiate a violation even if not discovered through one of the seven formal discovery methods? We do not see this update. (SPP RE) | The change was made. | The change is in the second paragraph of section 3.0. |
| Section 3.1 – Compliance Audits – Revised to state that Generally Accepted Auditing Standards, Generally Accepted Government Auditing Standards, and standards sanctioned by | **Section 3.1.** The revision to state that Generally Accepted Auditing Standards, Generally Accepted Government Auditing Standards, or standards | No additional change. | The CEA is not subject to, and is not required to use, these standards; however, the CEA can use them as well as others. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| the Institute of Internal Auditors, are examples of professional auditing standards on which Compliance Audit processes for Compliance Audits in the U.S. should be based. | sanctioned by the Institute of Internal Auditors, are "examples" should be rejected; the text should continue to state that the audits will be conducted based on these sets of auditing standards. | | |
| Section 3.1.4.1 – Reliability Standards – Revised to clarify that a Compliance Audit may include other standards applicable to the Registered Entity, that are not identified in the NERC Implementation Plan, whether or not the other standards are identified in the Regional Entity's Implementation Plan. | **Section 3.1.4.1** (Compliance Audits). Objects to the provision that allows a Compliance Audit to be expanded beyond its stated scope, without some reasonable cause. The scope of the Compliance Audit should be limited to those Standards for which the Registered Entity was specifically notified in advance of the audit. (Trades) | No additional change. | The current provision does not support the commenter's proposed outcome – current text says an audit can cover any standard listed in the NERC Annual Implementation Plan or the Regional Implementation Plan. In addition, the current, FERC-approved language states that: "The Compliance Audit may include any other Reliability Standards that are applicable to the Registered Entity." |
| Section 3.1.4.2 – Period Covered – (1) Revised to emphasize that the Registered Entity's data and information must show compliance with the standards being audited for the entire period covered by the Compliance Audit. (2) Text is added to state that the CEA will indicate the beginning and End Date of the audit period in its notice of the Compliance Audit. (3) Revised to state that the start of the audit period will be the End Date of the previous Compliance Audit (which may be a different date than the last day of the previous Compliance Audit). (4) The existing second sentence of this section, concerning modification of the audit period, is deleted and replaced with a more straightforward sentence ("The Compliance Enforcement Authority may modify the beginning date of the audit period for any given Reliability Standard requirement based on an intervening compliance monitoring process."). (5) Text is revised to state that the End Date may be a predetermined specific date or may be stated generally as the last day of the Compliance Audit. | **Section 3.1.4.2.** (Compliance Audits – period covered). The last sentence ("However, in such cases, the Compliance Enforcement Authority will require the Registered Entity to demonstrate compliance through other means") should be deleted (with the result that the Registered Entity would not be required to demonstrate compliance for a longer historic period than the document retention period specified in the Standard). (Trades; Austin; Constellation) | No additional change. | NERC is not proposing to change the sentence quoted in the comment – it is the current FERC-approved text. |
| See above. | **Section 3.1.4.2** A sentence should be added, "The beginning date of a Compliance Audit will not be before the end date of the prior Compliance Audit." (Austin) | No additional change in response to this comment. | This section was revised in response to other stakeholder comments. |
| See above. | **Section 3.1.4.2.** The end date of the Compliance Audit period should not be the last day of the audit; it is a significant administrative burden to have auditors auditing compliance in real time. The end date should be the date the Registered | Text is revised to state that the End Date should be a specified date prior to the scheduled start of the Compliance Audit, such as the date of the notification of the Compliance Audit issued by the CEA or the date that is thirty days following the | Changes have been made in response to this stakeholder comment. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | Entity receives the formal notification of the audit. (TAPS) | date of the notification. This revision is being made in response to stakeholder comments that making the End Date the last day of the Compliance Audit made it difficult for the Registered Entity to compile and provide evidence of compliance for the entire audit period through the End Date. In conjunction with the preceding revision, however, text is added to specify that if the Compliance Audit team discovers a potential noncompliance occurring subsequent to the End Date, the potential noncompliance will be subject to a Preliminary Screen pursuant to Section 3.8 (which may then result in the potential noncompliance becoming a Possible Violation and being entered into the enforcement process). | |
| Section 3.1.5.1 – Composition of Compliance Audit Teams – (1) Revised to state that the audit team will be comprised of members who the CEA has determined to have the requisite knowledge, training, and skills to conduct the Compliance Audit. (2) Revised to clarify who may be included on Compliance Audit teams, in addition to staff of the Regional Entity: (i) contractors and industry subject matter experts, (ii) NERC staff members (which may include contractors to NERC), (iii) compliance staff<br>members of other Regional Entities, and (iv) representatives of FERC and of other Applicable Governmental Entities that have reliability jurisdiction with respect to the Registered Entity. | **Section 3.1.5.1.** This section should be revised to clarify whether and when FERC staff can be members of an audit team or observers. FERC Staff should be allowed to participate as observers, but not as audit team members, since FERC has its own independent audit authority. (Trades) | No additional change. | FERC would reject such a change that purported to limit its participation. |
| | **Section 3.1.5.1.** Entities being audited are entitled to know in what role NERC staff will be participating in or observing a Compliance Audit. (Trades) | Per 3.1.1, the Registered Entity gets a list of the audit team members. All others are “observers.” This has been clarified by addition of a sentence in 3.1.5.3. | Section 3.1.5.3 has been further revised to state that any members of NERC staff, Regional Entity Compliance Staff, or Compliance Staffs of other Regional Entities or representatives of FERC or other Applicable Governmental Authorities who are not Compliance Audit team members identified pursuant to Section 3.1.1 are observers. |
| | **Section 3.1.5.1.** For a Registered Entity registered in only one Region, why should the Compliance Audit team be allowed to include staff members from other Regional Entities? (Trades) | No additional change. | It is appropriate for staff members from other Regional Entities to participate on a Compliance Audit team for a registered entity not in its region to provide expertise and/or manpower that the “host” Region may not have, or for training. |
| | **Section 3.1.5.1.** It is a conflict of interest to have | No additional change. | The extent of FERC’s authority is beyond the |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | an agency [FERC] that is the final arbiter of appeals to be making initial allegations of non-compliance. Further, FERC staff may now be participating as observers in audits to develop a basis for an audit of the same entity to be conducted by FERC. (MISO) [Note: Apparently MISO thinks FERC staff should not be allowed to be members of an audit team.]<br><br>***FERC staff should not be permitted to be members of an audit team. Section 3.1.5.1 should be revised to only permit FERC staff to be observers on audit teams. (NRECA)*** | ***No additional change.*** | scope of the ROP changes. FERC would reject any change that purported to prohibit FERC participation in Compliance Audits.<br><br>***FERC has previously directed that FERC representatives should be allowed to be members of audit teams and that participation of FERC representatives generally in an audit cannot be objected to or limited. There is not a reasonable possibility that FERC would accept the change proposed in the comment.*** |
| Section 3.1.5.2 – Requirements for Compliance Audit Team Members – (1) First bullet is revised to state that audit team members must be free of conflicts of interest "in accordance with Compliance Enforcement Authority policies." (2) Fourth bullet is revised to eliminate the requirement that the CEA provide to the Registered Entity copies of the confidentiality agreements or acknowledgements executed by the audit team members; instead, the CEA will provide confirmation to the Registered Entity that all audit team members have executed confidentiality agreements or acknowledgements. | **Section 3.1.5.2.** In the first bullet, insert "the" before "Compliance Enforcement Authority" to clarify that NERC and the Regional Entity may have different policies. (SPP RE) | First bullet is revised to state that audit team members must be free of conflicts of interest "in accordance with the Compliance Enforcement Authority policies." | The change was made in response to the stakeholder comment on the November 7 posting. |
| Section 3.1.5.3 – Compliance Audit Observers and Other Attendees – Revised to clarify the distinctions between audit team members (§3.1.5.1), observers, and attendees. The first paragraph is amended to specify that the following may participate as observers: NERC staff; other members of the Regional Entity's compliance staff; with the Regional Entity's permission, compliance staff members of other Regional Entities; and representatives of FERC and of other Applicable Governmental Entities that have reliability jurisdiction with respect to the Registered Entity. The second paragraph, which is not being revised (and was approved by the Commission in its October 7, 2011 Order) states who may be attendees at the audit. A new third paragraph has been added to state that "Compliance Audit observers and attendees are not audit team members and do not participate in conducting the Compliance Audit or in making audit findings and determinations." | **Section 3.1.5.3.** Permission of both the Registered Entity and the Regional Entity should be required to consent to participation by staff members from other Regional Entities as observers. (Trades)<br><br>***Section 3.1.5.3 should be revised to provide that a Registered Entity can invite a representative of its trade association to attend its compliance audit as an observer. (NRECA)*** | No additional change.<br><br>***No additional change.*** | This is a matter subject to the host Regional Entity's discretion. There are mechanisms to address specific concerns regarding conflicts of interest.<br><br>***FERC previously rejected a proposal to allow the Registered Entity being audited to allow representatives of other Registered Entities to attend the Compliance Audit (131 FERC ¶ 61,061 at P 110), and the current provisions of §3.1.5.3 on other attendees were then carefully crafted to address particular needs and obtain FERC approval, which was granted in an Order issued October 7, 2011 (see 137 FERC ¶ 61,028 at PP 23-31). NERC staff does not see a reasonable possibility that FERC would approve a provision that would generally permit the Registered*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | ***Entity to allow a trade association representative to attend the Compliance Audit. That being noted, a consultant, contractor or other non-employee of the Registered Entity who is involved in running the Registered Entity's compliance program or in compiling and presenting the Registered Entity's compliance information in the audit, would typically be allowed to attend as one of the Registered Entity's SMEs or other representatives.*** |
| Section 3.1.6 – Compliance Audit Reports – (1) In the second line, "evidence of possible noncompliance" is changed to "evidence of potential noncompliance" to avoid confusion with the defined term "Possible Violation." (2) In the first paragraph, the phrase "other mitigating activities" is added to "Mitigation Plan," as not all actions taken by Registered Entities to correct a noncompliance and prevent recurrence are memorialized in formal Mitigation Plans. (3) The first paragraph is also revised to state that the audit report may also state areas of concern and recommendations identified by the audit team (rather than specifying that any recommendations of the audit team be provided in a separate document). (4) In the second paragraph, the first sentence is revised to specify that the CEA will provide the final audit report to the Registered Entity on or before the date the report is provided<br>to NERC. (5) Text concerning the provision of non-public compliance information to FERC or to another Applicable Governmental Entity is deleted and replaced with a reference to §8.0, where the full text on this topic is provided. | **Section 3.1.6.** The reason for the change in terminology from "possible noncompliance" to "potential noncompliance" is unclear and needs to be explained. (Trades) | No additional change. | The use of the term potential noncompliance is to avoid confusion with the defined term "Possible Violation." The term potential noncompliance also appears in the FERC-approved definition of Preliminary Screen which is used to determine if there is a Possible Violation. |
| | **Section 3.1.6.** The existing text stating that recommendations by the audit team should be considered nonbinding, should not be deleted. (Austin; KCPL; LGC) In addition, the provision that recommendations from the audit team will be made in a separate document should not be deleted. The audit report should be limited to audit findings. (KCPL; LGC) | No additional change. | This change is a streamlining and simplification move. It allows for one document rather than two to be produced. Further, it will facilitate tracking of the recommendations. In addition, recommendations are made to identify actions or omissions that will benefit reliability of the Bulk Power System. |
| Section 3.2.1 – Self-Certification Process Steps – (1) The first step is revised to specify that the posted reporting schedule should include the applicable reporting periods. (2) The first step is also revised to specify that NERC, along with the CEA, will be responsible to ensure that the appropriate standards, | **Section 3.2.1.** If the deletion of the word "electronically" is intended to allow forms to be available in hard copy instead of in electronic form, it should be rejected. (TAPS) | No additional change. | Removal of the term electronically is intended to ensure flexibility in the use of available technologies. It does not reflect an intent to move to hard copy only. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| compliance procedures and submittal forms are maintained and available (which may be through a means other than electronic). (3) Consistent with the revised definition of Self-Certification (§1.1.29), the third step is revised to list the four possible responses in a Self-Certification. (4) The fourth step is revised to state that, at a minimum, the CEA will review Self-Certifications of non-compliance and Self-Certifications stating that the Registered Entity does not own facilities that are subject to the Reliability Standard requirement or that the requirement is not applicable to the Registered Entity. (5) The fifth step is revised to state that if the CEA identifies a potential noncompliance, the CEA conducts a Preliminary Screen. (6) A paragraph is added stating that receipt of a Self-Certification by the CEA shall not be construed as a finding by the CEA that the Registered Entity is compliant with, not compliant with, or not subject to, the Reliability Standard requirement. This additional text is intended to negate the assumption that if a CEA makes no further response to a Registered Entity concerning a Self-Certification, the CEA has determined that the Registered Entity is compliant with the Reliability Standard requirement. | | | |
| | **Section 3.2.1.** In the sentence that receipt of a Self-Certification shall not be construed as a finding by the CEA that the Registered Entity "is compliant with, not compliant with, or not subject to, the Reliability Standard requirement, "is subject to" should be added before "not subject to." (TAPS) | "The phrase "is subject to" is added per the comment. | Additional text is added in response to the stakeholder comment. |
| Section 3.3 – Spot Check – (1) Revised to state that a Spot Check may be initiated at the discretion of the CEA or as directed by NERC, including on a random schedule. The list of potential reasons is revised to include risk-based assessments based on the Registered Entity's BPS facilities and operations and their significance to the reliability of the BPS and the Registered Entity's compliance history and internal compliance program or other indicators of its culture of compliance. This addition is consistent with NERC's developing program of using risk-based assessments to determine when additional compliance monitoring processes should be initiated, and the scope of the compliance monitoring processes conducted, with respect to a Registered Entity. | **Section 3.3.** (Spot Checks). More clarification and transparency is needed for the provision that Spot Checks will be based on "risk-based assessment based on the Registered Entity's Bulk Power System facilities and operations and their significance to the [BPS]." At the November BOT meeting, CEO Cauley committed to make the criteria for these assessments more transparent and to seek stakeholder input. The ROP should not reflect use of risk-based assessments "until this commitment is fulfilled." (Trades) | The proposed risk based assessment text was deleted as unnecessary at this time given the current FERC-approved ROP and FERC Policy Statements and orders that provide this flexibility already to NERC and the Regional Entities. | The proposed risk based assessment text was deleted as unnecessary at this time given the current FERC-approved ROP and FERC Policy Statements and orders that provide this flexibility already to NERC and the Regional Entities.<br><br>Since the effective date of the ROP, NERC and Regional Entities have been evaluating risks to the reliability of the Bulk Power System taking into account the Registered Entity's Bulk Power System Facilities and operations and their significance to the reliability of the Bulk Power System and the Registered Entity's compliance history and internal compliance program or other indicators of its culture of compliance. These |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | reviews take into account prior pronouncements of FERC in its Policy Statements and orders and the current, FERC-approved ROP<br><br>Efforts are underway to allow interested industry stakeholders to provide input into factors to be considered in evaluating the Registered Entity's Bulk Power System Facilities and operations and their significance to the reliability of the Bulk Power System and the Registered Entity's compliance history and internal compliance program or other indicators of its culture of compliance. |
| | **Section 3.3.** The proposed revisions concerning Spot Checks will make them more complicated, require more administrative work, and make them closely resemble audits. Many of the new "formalities" should be deleted so that Spot Checks can be returned to their original intent as a "snapshot" of compliance without the formalities of an audit. (WECC) | No additional change. | The additional language provides clarification regarding roles and responsibilities and ensures due process. |
| Section 3.3.1 – Spot Check Process Steps – (1) The first step is revised to state that a "notification letter" will be issued by the CEA to the Registered Entity, which will include the scope of the Spot Check including the Reliability Standard requirements that will be covered. (2) The second step is revised to state that the notification package will include the names and employment histories of the persons who will perform the Spot Check. It is also revised to state that the CEA shall provide confirmation to the Registered Entity that the Spot Check team members have executed confidentiality agreements or acknowledgements. The second step is also revised to state that the Registered Entity may object to inclusion of any individual on the Spot Check team on the grounds specified in §3.1.5.4, but that nothing in §3.1 shall be read to limit the participation of NERC staff on a Spot Check team or to limit the participation of FERC staff in a Spot Check of a Registered Entity, or involving a portion of the Bulk Power System, over which FERC has jurisdiction. (3) The third step is revised to specify that the Registered Entity must provide the required information to the CEA by the date specified in the request. (4) The fifth step is revised to state that if the Spot Check team's review of the | **Section 3.3.1.** It is a conflict of interest to have an agency [FERC] that is the final arbiter of appeals to be making initial allegations of non-compliance. Further, FERC staff may now be participating as observers in Spot Checks to develop a basis for an audit of the same entity to be conducted by FERC. (MISO) | No additional change. | Current FERC approved language allows FERC staff to participate on a Spot Check team. The stakeholder comment is beyond the scope of the proposed ROP changes. FERC would reject any change that purported to prohibit FERC participation. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| information submitted indicates a potential noncompliance, the CEA will conduct a Preliminary Screen. (5) The sixth step is revised to state that the Spot Check team will prepare a draft Spot Check report and the Registered Entity will be given ten business days to comment on it. (6) The sixth step is revised to provide that the Spot Check team will consider any corrections based on the Registered Entity's comments, finalize the Spot Check report and provide it to the Registered Entity and to NERC. (7) The step stating that the CEA will send the Registered Entity a Notice of Possible Violation is deleted, as that step will now be covered in Section 5.0, Enforcement Actions. | | | |
| Section 3.3.1 – Spot Check Process Steps – (1) The first step is revised to state that a "notification letter" will be issued by the CEA to the Registered Entity, which will include the scope of the Spot Check including the Reliability Standard Requirements that will be covered. (2) The second step is revised to state that the notification package will include the names and employment histories of the persons who will perform the Spot Check. It is also revised to state that the CEA shall provide confirmation to the Registered Entity that the Spot Check team members have executed confidentiality agreements or acknowledgements. The second step is also revised to state that the Registered Entity may object to inclusion of any individual on the Spot Check team on the grounds specified in §3.1.5.4, but that nothing in §3.1 shall be read to limit the participation generally of NERC staff on a Spot Check team or to limit the participation generally of FERC staff in a Spot Check of a Registered Entity, or involving a portion of the Bulk Power System, over which FERC has jurisdiction. This provision was revised in part based on stakeholder comments on the November 7 posting. (3) The fourth step is revised to specify that the Registered Entity must provide the required information to the CEA by the Required Date specified in the request. (4) A new sixth step is added to state that if the Spot Check team's review of the information submitted indicates a potential noncompliance, the CEA will conduct a Preliminary Screen. (5) The seventh step is revised to state that the Spot Check team will prepare a draft Spot Check report and the Registered Entity will be given ten business days to comment on it. (6) The eighth step is revised to provide that the Spot Check team will consider any corrections based on the Registered Entity's comments, finalize the Spot Check report and provide it to the Registered Entity and to NERC. (7) In the ninth step, text concerning the provision of non-public | **Sections 3.3.1 and 3.4.1.** The Registered Entity should have the ability to object both to specific NERC and FERC staff members, and to participation of governmental entities that do not have specific jurisdiction to enforce NERC Reliability Standards. (OEV)<br><br>***The revisions clarifying that a Registered Entity can object to any specific member of a Spot Check team, on specified grounds, are supported. (ELCON/OEV)*** | The second step is also revised to state that the Registered Entity may object to inclusion of any individual on the Spot Check team on the grounds specified in §3.1.5.4, but that nothing in §3.1 shall be read to limit the participation generally of NERC staff on a Spot Check team or to limit the participation generally of FERC staff in a Spot Check of a Registered Entity, or involving a portion of the Bulk Power System, over which FERC has jurisdiction. | This provision was revised in part based on stakeholder comments on the November 7 posting. Current FERC-approved rules allow for participation by both NERC and FERC staff on a Spot Check team. However, in response to stakeholder comments, text was added/modified to clarify that the Registered Entity may object to participation by particular individual NERC or FERC staff members. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| compliance information to FERC or to another Applicable Governmental Entity is deleted and replaced with a reference to §8.0, where the full text on this topic is provided. (8) The step stating that the CEA will send the Registered Entity a Notice of Possible Violation is deleted, as that step will now be covered in Section 5.0, Enforcement Actions. | | | |
| Section 3.4.1 – Compliance Investigation Process Steps – (1) The first step is revised to provide that the CEA will take certain actions within three (rather than within two) business days of the decision to initiate a Compliance Investigation. (2) The second step is revised to provide that within three (rather than two) business days after receiving notice of the decision to initiate a Compliance Investigation, NERC will notify FERC and other Applicable Governmental Authorities. In addition, text concerning the provision of non-public compliance information to FERC or to another Applicable Governmental Entity is deleted and replaced with a reference to Section 8.0, where the full text is provided. (4) The fourth step is revised to provide that the Registered Entity must provide any required information to the CEA by the Required Date as specified in the request. (5) The eighth step is revised to provide that the CEA may review any mitigating activities (in addition to Mitigation Plans), since not all actions taken by a Registered Entity to correct a noncompliance and prevent recurrence are memorialized in a formal Mitigation Plan. (6) The ninth step is revised to provide that if the CEA identifies a potential noncompliance, it will conduct a Preliminary Screen. (7) In the tenth step, text concerning the provision of non-public compliance information to FERC or to another Applicable Governmental Entity is deleted and replaced with a reference to Section 8.0, where the full text is provided. | **Section 3.4.1** (Compliance Investigations). Object to text that would prohibit a Registered Entity from objecting to participation of specific NERC or FERC staff members on a CI team. (Trades; Austin, LGC) Adding "generally" before "by NERC, by FERC staff or by staff of another Applicable Governmental Entity" would make it clearer that this section allows objections to specific NERC and FERC staff members but not to participation by NERC staff and FERC staff generally. (LGC) | "Generally" was inserted as suggested by the commenter. | See above. Current FERC-approved rules allows for participation by both NERC, FERC and other Applicable Governmental Authority staff on a Compliance Investigation team. |
| | **Section 3.4.1.** The changes to section 3.1.5.4 concerning Registered Entity objections to NERC or FERC participants in audits should also be made to section 3.4.1. (KCPL) | There are no changes in 3.1.5.4; however, changes have made as described above to address the concerns underlying this comment. | See above. Current FERC-approved rules allows for participation by both NERC and FERC staff; however, conforming changes to the provisions have been made to reflect that, while an entity may not object generally to NERC and FERC staff participation, they may identify concerns as to specific individuals. |
| | **Section 3.4.1.** Provision should be clarified to explain when a NERC staff member would serve as an observer or as a team member in a CI. (Trades) | The second step is revised to specify that NERC will assign a staff member to act as an observer or Compliance Investigation team member, as well as serve as a single point of contact, and will | This provision was revised in response to this stakeholder comment on the November 7, 2011 posting. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | notify the Registered Entity as to whether the NERC staff member is acting as an observer or as a team member. | |
| ***Section 3.5 as previously posted was not consistent with the amended definition of Self-Report in §1.1.30. Therefore, §3.5 has been further amended to state: "Self-reports are encouraged at the time a Registered Entity becomes aware (i) that is has, or may have, violated a Reliability Standard, or (ii) the Violation Severity level of a previously-reported violation has changed."*** | | | |
| Section 3.6.1 – Periodic Data Submittals Process Steps – (1) The first step is revised to delete reference to the CEA's Web site; the CEA may make the submittal forms available through other means. (2) The third step is revised to provide that the Registered Entity must provide any required information to the CEA by the Required Date as specified in the request. (3) The fifth step is revised to provide that if the CEA's review of the data submittal indicates a potential noncompliance, the CEA will perform a Preliminary Screen. (4) A paragraph is added at the end of this section stating that receipt of a Periodic Data Submittal by the CEA shall not be construed as a finding by the CEA that the Registered Entity is compliant with, not compliant with, or not subject to, the Reliability Standard requirement. This additional text is intended to negate the assumption that if a CEA makes no further response to a Registered Entity concerning a Periodic Data Submittal, the CEA has determined that the Registered Entity is compliant with the Reliability Standard requirement. | **Section 3.6.1.** In the sentence that receipt of a Periodic Data Submittal shall not be construed as a finding by the CEA that the Registered Entity "is compliant with, not compliant with, or not subject to, the Reliability Standard requirement, "is subject to" should be added before "not subject to." (TAPS) | The phrase "is subject to" was added as suggested by this comment. | The change was made based on the stakeholder comment on the November 7 posting. |
| Section 3.8 – Preliminary Screen – (1) The provisions relating to performance of Preliminary Screen are relocated to Section 3.8 from Section 5.1, as the Preliminary Screen is considered a step in the compliance monitoring process (Section 3.0), rather than in the compliance enforcement process (Section 5.0). (2) Section 3.8 states that the Preliminary Screen will be conducted within five business days after the CEA identifies the potential noncompliance, except that (i) if the CEA identifies the potential noncompliance during a Compliance Audit, the Preliminary Screen will be conducted immediately following the exit briefing of the Registered Entity, and (ii) if the CEA identifies the potential noncompliance during a Compliance Investigation, the Preliminary Screen shall be conducted immediately after the Registered Entity is first notified of the potential noncompliance identified by the Compliance | **Section 3.8** (Preliminary Screen). This section is unnecessary and should be deleted. (Trades) | No additional change. | This is not a new section; rather, it has just been moved to this location from another part of Appendix 4C. It is current FERC-approved language. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| Investigation. The two exceptions are necessary so that the Registered Entity does not receive a Notice of Possible Violation before being notified that the Compliance Audit or Compliance Investigation has found a potential noncompliance. (3) Consistent with the change in definition (§1.1.23), the Preliminary Screen will now include a determination of whether, if known, the potential noncompliance is not a duplication of a Possible Violation or Alleged Violation that is currently being processed. (4) The revised section provides that if the Preliminary Screen results in an affirmative determination with respect to the three criteria, a Possible Violation exists and the CEA shall proceed in accordance with Section 5.0. | | | |
| | **Section 3.8.** The Preliminary Screen is unnecessary because the identical process is built into the current automated reporting systems used by all Regions. If the purpose of the Preliminary Screen is to provide prompt notification to FERC of every possible problem, this can be accomplished without the burdens and complications of the Preliminary Screen (WECC) | No additional change. | The Preliminary Screen is needed to establish consistent processes and a consistent timeframe. The Preliminary Screen is provided for in the current FERC-approved Appendix 4C and deletion was not proposed in the November 7 posting. |
| | **Section 3.8.** The text of the Preliminary Screen provision should be adapted to make the FFTR off-ramp clearer. (TAPS) | No additional change in response to this comment; rather, the section was changed in response to another stakeholder comment. | The Preliminary Screen does not dictate the ultimate disposition of a Possible Violation, so no changes are needed. |
| Section 4.1 – NERC Compliance Monitoring and Enforcement Program Implementation Plans – (1) Revised to provide that the NERC Implementation Plan will be provided to the Regions by on or about September 1 (rather than October 1) of the prior year. (2) Revised to state that NERC may update and revise its Implementation Plan during the course of the year. (3) Revised to state that Regional Entities have discretion to make modifications to the NERC Implementation Plan with respect to individual Registered Entities, based on a determination concerning the Registered Entity's past and current compliance performance. | **Section 4.1.** Objects to provision that authorizes Regional Entities to make modifications to the NERC Implementation Plan with respect to individual Registered Entities, based on a determination concerning the Registered Entity's past and current compliance performance. The second to last sentence of 4.1 should be removed, and the following sentence should be added: "Any changes made to the scope of the implementation plan shall be applied consistently among the registered entities." (FESC) | In Sections 4.1 and 4.2, proposed additional text stating that Regional Entities have discretion to make modifications to the NERC or Regional Entity Implementation Plan with respect to individual Registered Entities "based on a determination concerning the Registered Entity's past and current compliance performance", has been deleted. | The provision described in (3) in the first column is consistent with other ROP provisions that make clear that a Registered Entity must comply with all Reliability Standards, regardless of whether they are on the list and may add to the list as necessary in the interest of ensuring reliability of the Bulk Power System. In addition, the current, FERC-approved language states that: "The Compliance Audit may include any other Reliability Standards that are applicable to the Registered Entity." |
| | **Section 5.0.** Objects to text giving the CEA authority to collect documents, data and information in the manner it deems most appropriate, including removing documents, data and information from the Registered Entity's | Text is added to state that the CEA has authority to collect Documents, data and information in the manner it deems most appropriate, including requesting that copies be made of Documents, data and information and removing those copies | These comments do not recognize that the provision states that "copies" of documents, data and information can be removed.<br><br>As discussed in 3.0 above, requests for data, |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | location. (OEV)<br><br>The caveats that the information must conform to security procedures and other safeguards as appropriate is insufficient; NERC only has authority to collect documents, data and information necessary to establish and enforce reliability standards. (OEV) | from the Registered Entity's location in accordance with appropriate security procedures conforming to ROP Section 1500 and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the Documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost if the information were placed into the public domain. This provision has been revised based on stakeholder comments to the November 7 posting. | documents and information do not preclude an opportunity for a registered entity to discuss acceptable alternative formats with the Compliance Enforcement Authority to the extent necessary. It takes into account the provisions of Section 1500 of the ROP regarding confidential information. However, as noted, additional changes have been made in response to stakeholder comments that the CEA should not be allowed to remove original documents, or the Registered Entity's only, existing copies, from the Registered Entity's site. |
| | ***(1) These provisions are objectionable because they give the CEA unrestricted access to stakeholders' documents and data, simply by stating that taking the documents and data are necessary for "compliance and enforcement." (2) It is recognized that some information and data must be retained and provided to NERC under the Reliability Standards, but the rules surrounding data collection must be clearly described and justified to provide industry with notice. (3) Also, procedures for recourse from improper data requests need to be specified. (ELCON/OEV)*** | ***No additional changes.*** | ***The text of these provisions has been substantially revised from the original proposed version, in response to numerous comments received on the previous postings, and at this point the text is a rather modest statement that the CEA can request and receive copies of documents to take from the Registered Entity's site. In fact, Compliance Audits and Spot Checks conducted by Regional Entities since 2007 have generally required the Registered Entities to (1) provide as much of their compliance evidence to the CEA electronically as possible, and (2) provide paper copies of documents that cannot be provided electronically, to the extent possible. Finally, with respect to item (3) in the comment, the provisions that are the subject of the comment state: "If a Registered Entity believes that a request for Documents, data or information is unreasonable, the Registered Entity may request a written determination from the NERC general counsel."*** |
| | **Section 5.0.** Text should be revised to clarify that the CEA may have copies made of documents, and remove the copies from the Registered Entity's site, but cannot take the Registered Entity's sole existing copies. (TAPS) | See above. | See above. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | |
| | **Section 5.0.** In the new text that says "in such circumstances, other approaches may be considered and employed," text should be added providing that Registered Entities have the opportunity to object to any such "other approaches," as they do for FFTR. (TAPS) | In response to this comment, a statement is added that the Registered Entity is entitled to object to the use of any such other approach. | A revision was made in response to the stakeholder comment on the November 7 posting. |
| | **Section 5.0 and Attachment 1.** NERC should not be able to assess a violation at the Severe VSL unless it has evidence to demonstrate the violation is Severe. (ACES)<br><br>While NERC has the authority to collect data, it is problematic that NERC can establish an arbitrary timeline and mandate data in the form requested, and only "may" allow more time for the Registered Entity's response. (MISO)<br><br>The basis on which sanctions could be imposed and the basis on which they can be imposed are vague and do not provide sufficient notice to Registered Entities. It is unclear what actions are contemplated by Step 2 ("implement a compliance monitoring process directed to the Registered Entity" **[note: current text says "a compliance audit may be scheduled"]** and "apply a Reliability Standard violation at the severe violation level" . Can these include monetary sanctions? Who at NERC or the Regional Entity makes the initial determination that Section 5.0 and Attachment 1 can be invoked, and through what process? Is the NERC or Regional Entity Board approval required? Is there an appeal process? What does it mean that information is not provided "in the form requested", and who determines that? How is confidential data protected? (Trades)<br><br>NERC only has authority under section 215 to impose penalties for violations of Reliability Standards; any imposition of penalties for actions that are not violations of Standards would be | No additional change is made in response to this comment. | Attachment 1 addresses failure to provide documents, data and information requested in a compliance monitoring process, for which the time periods, formats etc. are specified in the CMEP, Appendix 4C. The current, FERC-approved language in Attachment 1 to Appendix 4C allows a Compliance Enforcement Authority to assess a violation at the Severe VSL for failure to provide information requested in connection with a compliance monitoring and enforcement process. The Compliance Enforcement Authority makes the initial determination that Section 5.0 and Attachment 1 can be invoked, in accordance with those provisions. Once the NAVAPS is issued the normal enforcement process would apply. Provisions regarding confidential information are set forth in section 1500 of the ROP. The Penalty would be for violation of a Standard because by failing to provide the requested documents and data, the entity has failed to demonstrate compliance.<br><br>Revised Attachment 1 is, in large part, a restatement of the existing, FERC-approved text. Revisions proposed in the earlier (July 1 – August 15) posting included provisions whereby fines could be imposed for failure to provide requested information; these proposed provisions have been deleted in response to prior stakeholder comments on the first public posting. The proposed language states that:<br><br>. . . upon a request from the Registered Entity submitted prior to the Required Date stating in reasonable detail the basis for the Registered |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | unlawful. (OEV)<br><br>-- If Section 5.0/Attachment 1 are adopted, they should be revised to include specific criteria that NERC or a Regional Entity must meet before this procedure can be invoked: (1) deadlines for providing the information must be reasonable; (2) if entity believes deadline is unreasonable, entity must immediately contact NERC/Regional Entity, and an alternate deadline will be negotiated; (3) any formatting requirements for the data must be clearly specified in the data request; (4) if the requested information is to be provided in a form or manner that is consistent with a designated template, NERC/Regional Entity must provide the template at the time the data request is issued. (Trades) | | Entity's need for additional time, NERC or the Regional Entity may afford the Registered Entity reasonable additional time to submit the data, information or report due to the scope or difficulty of the request or requirement for data, information or reports, the amount of the data, information or reports requested or required, or the form in which the data, information, or other reports has been requested or is required to be provided.<br><br>In response to stakeholder concerns expressed in comments on the November 7 posting, Attachment 1 has been revised to add text stating that, the process described in this Attachment 1 is intended to be applied where a Registered Entity does not respond by the Required Date to an initial request for data, information or reports in connection with a compliance monitoring and enforcement process and does not respond to subsequent requests (Steps 1 and 2 above) by the stated deadline. This process is not intended to apply where the Registered Entity responds, prior to the Required Date, to the initial request or requirement for data, information or reports with requests for clarification, definition of scope, or similar questions concerning the request or requirement for data, information or reports, or requests, prior to the Required Date, additional time to respond based on the scope or difficulty of the request or requirement for data, information or reports, the amount or extent of the data, information or reports requested or required, or the form in which the data, information or report is to be provided, and works with NERC or the Regional Entity in good faith to respond to the request or requirement for data, information or reports, as modified if appropriate by NERC or the Regional Entity based on questions raised by the Registered Entity.<br><br>The NAVAPS or other notification, as applicable, |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | would be issued because, by failing to provide the information requested in a compliance monitoring process, the Registered Entity has failed to provide sufficient evidence to demonstrate compliance.<br>Attachment 1 pertains only to failures to provide information requested in connection with compliance monitoring and enforcement processes. Sections 3.0 and 5.0 provide very explicit process steps about how and when information will be requested and the Registered Entity's responsibility to respond. |
| | **Sections 5.3 and 5.4 (and elsewhere)**. Rather than introducing new phrases such as "other notification" to accommodate differences among Regional Entities in providing notification through a different means than a Notice of Alleged Violation and Proposed Penalty or Sanction, NERC should be working to make the Regional Entity procedure more uniform. (TAPS) | No additional change. | While NERC strives to ensure consistency in the application of enforcement processes, including consistency of terminology, it is not reasonable at this stage to require this type of change.<br>Other notification can include the FFT opt-out letter or a Notice of Waiver of a NAVAPS and negotiated resolution as a Notice of Confirmed Violation. |
| Section 5.4 – Registered Entity Response -- (1) Revised to add agreement by the Registered Entity with the notification of Alleged Violation as establishing acceptance of the CEA's determination of violation and penalty or sanction. (2) Revised to provide that the 30 day period runs from the date of notification of Alleged Violation by electronic mail (consistent with a revision to §5.3, above). (3) Revised to state that the CEA will issue a Notice of Confirmed Violation "or similar notification," to recognize that some Registered Entities' processes may involve providing notification through a different means than a Notice of Confirmed Violation. Similar revisions are made in other sections. (4) Revised to state that the CEA will report the Confirmed Violation to NERC (rather than entering it into the compliance reporting and tracking system – it is not necessary to specify the particular reporting mechanism to be used). (5) Revised to state that the Registered Entity will be allowed to provide a written explanatory statement to accompany the filing with FERC and public posting | **Section 5.4** A Registered Entity should be given 60 days to respond to a proposed penalty or sanction. (Trades; Austin) The Registered Entity should be required to state its intent to contest a notification of violation within 30 days, but be given 60 days to file its detailed response, including supporting documentation. (LGC) | No additional change. | NERC proposed a clarification, not a substantive change to the current FERC-approved timeframe of 30 days. NERC has no basis in experience that 30 days is not sufficient time to provide a full response. The response is that an entity agrees with it, does not contest it or neither admits nor denies it. An entity may also contest it.<br>Additional time is afforded to identify needed mitigating activities to correct an issue or prevent recurrence. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| of the Confirmed Violation. (6) Revised to state that if the Registered Entity contests the Alleged Violation or proposed penalty or sanction, it must submit a response within 30 days following the date of notification of the Alleged Violation. (7) Reference to issuing a Notice of Confirmed Violation by the CEA is deleted, as this topic is covered in a subsequent section. | | | |
| Section 5.6 – Settlement Process -- (1) Revised to provide that the Registered Entity or the CEA may terminate settlement negotiations at any time. Either party should have discretion to terminate settlement negotiations if they are not progressing in a productive manner. (2) Revised to provide that the time for the Registered Entity to respond to the notification of Alleged Violation pursuant to §5.4 is suspended during settlement negotiations. (3) Revised to state that the CEA and the Registered Entity will execute a settlement agreement (rather than that the CEA will issue a letter) setting forth the final settlement terms. (4) Revised to state that within five business days after NERC advises the CEA of NERC's approval, rejection or proposed revisions to a settlement agreement, the CEA will notify the Registered Entity. Notification to the Registered Entity should come from the CEA, not from NERC which has not been in negotiation or other contact with the Registered Entity. (5) Text concerning the provision of non-public compliance information to FERC or another Applicable Governmental Entity is deleted and replaced with a reference to §8.0, where the full text is provided. (6) Text is added to clarify that in the public posting of the settlement agreement or of the terms of the settlement, any Critical Energy Infrastructure Information or Confidential Information will be redacted. | **Section 5.6** Objects to new text, "the Compliance Enforcement Authority may terminate settlement negotiations at any time." (Austin) This sentence should be deleted and replaced with: "The Compliance Enforcement Authority shall engage in good faith settlement negotiations, which can be terminated by the Compliance Enforcement Authority at any time in good faith." (OEV)<br><br>Also, <u>the first sentence should be revised to state that the Registered Entity may terminate settlement negotiations at any time</u>. (OEV)<br><br>Also, what constitutes "during settlement negotiations" needs to be defined. Is it the time between when the Registered Entity requests settlement negotiations, and the execution of the settlement agreement or the termination of settlement negotiations (which also needs to be defined)? (TAPS)<br><br>The provision "the time for the Registered Entity to respond to the notification of Alleged Violation pursuant to Section 5.4 during settlement negotiations" is unclear as to whether it deals only with the timing of the Registered Entity's response, or waives the entire requirement for a response.<br><br>Further, the Registered Entity should always be required to respond to the NOAV; it is difficult to have productive settlement negotiations without the Registered Entity's response to the NOAV. Rather than make this a uniform rule, the Registered Entity should have the flexibility to waive the response if it so desires. (WECC) | No additional change.<br><br>This revision has been made.<br><br>Revised to specify that when the CEA has agreed to engage in settlement negotiations, the running of the time period specified in Section 5.4 for the Registered Entity to respond to the notification of Alleged Violation pursuant to §5.4 is suspended until settlement negotiations are concluded or terminate.<br><br>See change described above. | There is no reason to insert the term "good faith" in this one place, because everything NERC and the Regions do pursuant to the CMEP is presumed to be, and should be, in good faith. Other changes made in response to stakeholder comments as noted.<br><br>Nothing prevents a regional entity from asking for information it needs in connection with settlement discussions. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| Section 5.7 – NERC Appeal Process – Revised to provide that the CEA, as well as the Regional Entity, may appeal the decision of the Regional Entity hearing body, in accordance with amended Section 409 of the ROP. | **Section 5.7.** Regional Entity should not be allowed to appeal the decision of the Regional Entity Hearing Body to NERC. (Trades; Austin; LGC; OEV)<br><br>***See summary of additional comments under ROP Sections 403.15, 408.1, 409.1 above.*** | No additional change. | See above regarding role of hearing body as distinct from regional entity staff.<br><br>***See discussion relating to additional comments under ROP Sections 403.15, 408.1, 409.1 above.*** |
| Section 5.11 -- Special Procedures for an Enforcement Action Against an ISO/RTO Where the Monetary Penalty May be Allocated by the ISO/RTO to Other Entities – This is a new section to establish procedures pursuant to which (1) an ISO/RTO can request the CEA to make a determination, during the enforcement process for a Notice of Possible Violation issued to the ISO/RTO, that one or more specified other entities were responsible, in whole or on part, for actions or omissions that caused or contributed to the violation (if approved), and (2) the specified other entity(ies) can request and be allowed to participate in the enforcement process. | **Section 5.11.** This provision should be deleted. (Trades)<br><br>Section 5.11 should not be adopted as written because it improperly limits the ability of ISO/RTOs to get determinations that another entity or entities was responsible for a violation and therefore to allocate the penalty to the other entity/entities. Objectionable provisions include (i) the Public Notification List (FERC orders provide that all that is needed is notice by the ISO/RTO to the other entity); (ii) the possible limitation of the other entities to Registered Entities; (iii) requirement for ISO/RTO allocating the penalty to the other entity and providing copies of supporting tariffs, agreements, etc.; (iv) provision that the CEA will "verify" that the ISO/RTO has authority to allocate the penalty to the other entity; (v) CEA can refuse to make the requested determination if the ISO/RTO fails to give timely notice to the other entity; (vi) settlements have to be agreed to by the CEA, the ISO/RTO and the other entity, cannot have a settlement between the CEA and the ISO/RTO. (IRC)<br><br>The definition of "ISO/RTO" proposed in section 1.1.12 and used in section 5.11 "is inaccurate as a legal matter" [**note: the comments do not explain why it is "inaccurate as a legal matter"**], and should simply refer to entities that have been recognized as either an ISO or RTO by FERC in accordance with its regulations "and ERCOT as well." (IRC)<br><br>This provision should be removed at this time and | This is a new section to establish procedures pursuant to which (1) an ISO/RTO can request the CEA to make a determination, during the enforcement process for a Notice of Possible Violation issued to the ISO/RTO, that one or more specified other entities were responsible, in whole or on part, for actions or omissions that caused or contributed to the violation (if confirmed), and (2) the specified other entity(ies) can request and be allowed to participate in the enforcement process. Section 5.11 has been substantially revised and shortened from the version included in the November 7 posting, based on stakeholder comments on the November 7 posting – see discussion under "Justification" column | This proposed new section establishes a procedure whereby an ISO or RTO (ISO/RTO) that is the subject of an Alleged Violation and is authorized pursuant to tariffs, agreements or other governance documents to allocate all of part of the Penalty to a third party whose acts or omissions may have caused or contributed to the violation, can request the Regional Entity (Compliance Enforcement Authority or CEA) to make a determination, as part of the enforcement process for the Alleged Violation, that the acts or omissions of a specified third party(ies) in fact caused or contributed to the violation. The ISO/RTO must also give notice to the specified third party(ies), and the third party(ies) will then be entitled to participate in the enforcement process if it requests. The CEA would not determine whether or in what proportion the Penalty (if any) should be allocated to the third party(ies), but only whether the third party's acts or omissions caused or contributed to the violation. As provided for in FERC Orders, the ISO/RTO would then be required to initiate a separate proceeding at FERC under §205 of the Federal Power Act to allocate the Penalty to the third party(ies), in which the CEA or NERC would not be involved.<br><br>This provision has its origins in a Guidance Order issued by FERC in 2008 on the subject of allocations by ISO/RTOs of Penalties for Reliability Standard violations to the ISO/RTO's customers, members and other third parties. The provision has gone through numerous iterations and has been the subject of |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | a separate process should be established to discuss the need for this provision and the best approach for addressing that need. Proposed 5.11 may not provide adequate due process for entities to which an ISO/RTO may attempt to allocate a penalty. (Constellation)<br><br>Section 5.11 should either not be added at this time, or should be simplified. The Public Notification Listing is not needed and too many notices are required; further, any failure to include an entity on the List would seem to satisfy the "extraordinary circumstances" provision. Not being on the list may give entities a false impression that they are not subject to penalty allocations by an ISO/RTO. Section 5.11 only needs to require the ISO/RTO to provide notice to the CEA and the specified other entity that the other entity needs to be included in the proceeding, and that after issuance of the notice the CEA will grant the other entity "intervenor" status. (RFC)<br>Third party "intervention" [participation] under section 5.11 should be limited to Registered Entities. Regional Entities should not have to budget for and conduct enforcement activities to address the culpability of a non-Registered Entity for purposes of the ISO/RTO's Section 205 proceeding. (RFC)<br><br>If Section 5.11 is retained, revisions should be made: (1) It is overly long and wordy and should be streamlined. (2) The Public Notification List is unnecessary and should be deleted. (3) Provision that ISO/RTO's notice to other entity should state that the entity should contact the CEA "as soon as possible" is vague and should be clarified. (4) The ISO/RTO's notice to the other entity should state that the other entity has obligation to preserve documents. (5) NERC should make sure that Section 5.11 is consistent with the Hearing Procedures provision authorizing intervention. (6) NERC should not be making independent legal | | considerable interaction among NERC, Regional Entities, the ISO/RTO Council and other interested stakeholders. NERC staff believes that provisions in the version of §5.11 posted for comment from November 7 – December 22 that the IRC and other stakeholders found particularly objectionable have been removed from the version being presented for approval. These deleted provisions include a requirement for the ISO/RTO to maintain a "public notification list" of all entities to which the ISO/RTO could allocate Penalties, and text that made it appear that in each individual case the CEA would make an independent determination as to whether the ISO/RTO had authority to allocate Penalties to third party(ies). The version of §5.11 being presented for approval has been streamlined in other respects from previously posted/circulated versions.<br><br>Under proposed §5.11, the ISO/RTO can ask the CEA to determine if Registered Entities or non-Registered Entities caused or contributed to the violation. This is based upon the guidance in previous FERC Orders, which properly recognized that CEA enforcement staffs have the training, experience and expertise to evaluate and determine the causes of, and contributions to, a violation.<br><br>In order to justify the introduction of the additional issue into the CEA enforcement process, the resulting expenditure of additional time and resources in the enforcement process by the CEA, and allowing third party(ies) to participate in the enforcement process, it will be necessary for the ISO/RTO to make a showing in each case that the particular third party(ies) it contends caused or contributed to the violation are within the scope of the ISO/RTO's authority to allocate Penalties, whether that authority is based on tariff provisions, agreements, or other governance documents. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | conclusions as to whether the ISO/RTO has authority to allocate to the other entity (5.11.3). (7) Timeframes for giving the required notice should be specified. (8) There should be an explicit process for appealing determinations under Section 5.11. (Trades)<br><br>MISO supports the comments of Trades and IRC.<br><br>Section 5.11 should be deleted because the procedures it establishes are discriminatory and grant preferential treatment to RTOs and ISO, and therefore are not "just, reasonable, not unduly discriminatory or preferential." (OEV)<br><br>If Section 5.11 is retained, it should be simplified and focused to only address how entities may intervene in an enforcement action against an ISO/RTO. (Constellation)<br><br>Section 5.11 should not be restricted to Registered Entities. (PJM TO)<br><br>Section 5.11 should be revised to: (i) eliminate the Public Notification List requirement; (ii) eliminate the requirement that the ISO/RTO request a determination; (iii) adopt a streamlined approach whereby the ISO/RTO must notify the specified other entity of the ISO/RTO's intent to seek a determination and the specified other entity may subsequently intervene in an enforcement action as a matter of right. Section 5.11 should not specify that the CEA must "verify" that the RTO/ISO has the authority to allocate the penalty to the specified other entity. FERC has ruled that the "notice" requirement to the specified other entity is satisfied by appropriate tariff provisions. (PJM TO)<br><br>In Section 5.11, NERC should clarify how it intends for the CEA to issue a blanket finding that the specified other entity contributed "in whole or in part" to actions or omissions that caused or | | |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | contributed to the violation. (PJM TO)<br><br>The requirement for the Public Notification List can be eliminated since the onus is on the ISO/RTO to provide appropriate notice to the Registered Entity or be foreclosed from requesting allocation of the penalty to the Registered Entity. (NPCC)<br><br>Section 5.11.2 should make it clear that the CEA will be making determinations as opposed to engaging in a detailed analysis on its own of the root cause of the violation. Regional Entities do not have the resources to conduct such analyses. (NPCC)<br><br>NERC should be limited to identifying compliance failures of Registered Entities based on their registration status and the administration of fines and sanctions already established by the ROP. (KCPL) Section 5.11 is not needed because if an ISO/RTO has independent authority to allocate part of its penalty to a Registered Entity, the ISO/RTO should make its own determinations regarding the contributions or causation by the Registered Entity. (LGC)<br><br>Section 5.11 is very long and difficult to follow; it should be streamlined. If it is retained: (i) section 5.11.3 needs to clearly provide for a notice to the other entity that it has been implicated and sufficient time for the other entity to decide to participate; (ii) also needs to state that NERC and the CEA will only participate after all entities involved have elected to participate or not participate. (KCPL)<br><br>***This provision is contrary to the FPA because it is unlawful and discriminatory, as it applies only to ISO/RTOs. (ELCON/OEV)***<br><br>***This provision should not be included in the ROP because it gives NERC the authority to make*** | ***Section 5.11 as presented for the March 14 Board call has been further revised subsequent to the February 9 Board meeting based n continuing discussions with the IRC. The definition of the term "ISO/RTO" has been revised, and changes have been made to the text*** | ***(1) With respect to the ELCON/OEV comment, this section is being proposed to implement a framework specifically applicable to the circumstances of ISO/RTOs that FERC has already established. Specifically, addition of §5.11 implements a framework that was*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | ***independent legal conclusions regarding whether an ISO/RTO has authority to allocate monetary penalties to specified entities; this issue must be left to be determined under an applicable FERC tariff. (NRECA)***<br><br>***Concerns with the posted version of this section include: (1) A third party brought into the enforcement process under §5.11 should be allowed to request a Regional Entity hearing, to appeal to NERC and then to FERC, and to contest in the ISO/RTO's §205 proceeding, the CEA's determination that the third party caused or contributed to the alleged violation by the ISO/RTO. In short, the CEA's determination should not be binding or the final say. (2) An express statement may be needed in §5.11 stating that the ISO/RTO needs to make a §205 filing with FERC to allocate penalties to the third party. (3) Additional direction needs to be given on how a "§5.11 proceeding" will be conducted, e.g., will there be a formal hearing, opportunity to file briefs, etc. (Constellation)*** | ***of §5.11 to further avoid any an implication that the CEA would be making independent determinations as to whether the ISO/RTO has the authority under its FERC-approved tariffs, agreements or governance documents to allocate Penalties to third parties. The extent of documentation that the ISO/RTO must provide with its request for a determination is simplified/reduced. The "public notification listing" requirement that was included in earlier posted versions is no longer included in §5.11.***<br><br>***Additionally, the following sentence has been added in §5.11.4: "The specified other entity(ies) shall be entitled to request a hearing on the Compliance Enforcement Authority's determination pursuant to Section 1.3.1 of Attachment 2 of this Appendix 4C, and to appeal the Hearing Body's order pursuant to Section 1.7.10 of Attachment 2 of this Appendix 4C, as though the specified other entity(ies) were a Registered Entity(ies)."*** | ***initiated by a 2008 FERC Order on recovery of Penalty costs by ISO/RTOs from third parties (122 FERC ¶ 61,247) and furthered by subsequent FERC orders approving ISO/RTO's tariff provisions providing for the allocation to third parties of Penalties imposed on the ISO/RTO. (2) With respect to the NRECA comment, proposed §5.11 has been revised to remove the implication that NERC or the CEA would be making "independent legal conclusions" concerning whether the ISO/RTO has authority to allocate penalties to specified entities. All the CEA will determine under §5.11 is whether the specified other entity caused or contributed to the violation that is alleged against the ISO/RTO; the CEA will make no determination as to what portion, if any, of the Penalty assessed against the ISO/RTO should be allocated to the other entity (see first paragraph of §5.11.4). (3) In response to Constellation comment (1), a sentence has been added in §5.11.4, as described in the "Outcome" column." (4) With respect to Constellation comment (2), such an addition would be outside the scope of the NERC/CEA authority and role, and, as noted above, §5.11.4 expressly disclaims that the CEA will determine whether and to what extent the Penalty imposed on the ISO/RTO should be allocated to the other entity. The ISO/RTOs are well aware that they need to file a §205 proceeding at FERC to obtain a determination that some or all of the Penalty imposed on the ISO/RTO for violation of a Reliability Standard will be allocated to other entity(ies). (5) With respect to Constellation comment (3), there is no "proceeding" or "hearing;" §5.11 is about access to the enforcement process, the steps for which are spelled out in detail in §5.0 of Appendix 4C.*** |
| Text is added to state that the CEA has authority to collect documents, data and information in the manner it deems most appropriate, including removing copies of documents, data and information from the Registered Entity's location in accordance | **Section 6.0.** Objects to text giving the CEA authority to collect documents, data and information in the manner it deems most appropriate, including removing documents, data | Text is modified to state that the CEA has authority to collect Documents, data and information in the manner it deems most appropriate, including <u>requesting copies to be</u> | These comments do not recognize that the provision states that "copies" of documents, data and information can be removed. However, changes were made in response to these |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| with appropriate security procedures conforming to ROP Section 1500 and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost if the information were placed into the public domain. | and information from the Registered Entity's location. (Trades; Austin; LGC; OEV)<br><br>Concerns about this provision are exacerbated by the proposed new authority that would allow NERC to impose administrative fines for failure to comply with information requests. (Trades)<br><br>The caveats that the information must conform to security procedures and other safeguards as appropriate is insufficient; NERC only has authority to collect documents, data and information necessary to establish and enforce reliability standards. (OEV)<br><br>Text should be revised to clarify that the CEA may have copies made of documents, and remove the copies from the Registered Entity's site, but cannot take the Registered Entity's sole existing copies. (TAPS)<br><br>If this provision is retained, it should explicitly incorporate a reference to ROP Section 1500 (re protection of Confidential Information). (Trades)<br><br>***(1) These provisions are objectionable because they give the CEA unrestricted access to stakeholders' documents and data, simply by stating that taking the documents and data are necessary for "compliance and enforcement." (2) It is recognized that some information and data must be retained and provided to NERC under the Reliability Standards, but the rules surrounding data collection must be clearly described and justified to provide industry with notice. (3) Also, procedures for recourse from improper data requests need to be specified. (ELCON/OEV)*** | made of Documents, data and information and removing those copies from the Registered Entity's location in accordance with appropriate security procedures conforming to ROP Section 1500 and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the Documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost if the information were placed into the public domain. This provision was revised based on stakeholder comments on the November 7 posting.<br><br>***No additional changes.*** | comments – see discussion under Appendix 4C section 3.0 above.<br><br>NERC notes that the "administrative fines" provision that was initially proposed in the July 1-August 15 posting was deleted in the November posting.<br><br>The collection of documents is made "conforming to Section 1500 of the Rules of Procedure."<br><br>The proposed text already has this reference. Section 1500 is referenced in the proposed text.<br><br>***The text of these provisions has been substantially revised from the original proposed version, in response to numerous comments received on the previous postings, and at this point the text is a rather modest statement that the CEA can request and receive copies of documents to take from the Registered Entity's site. In fact, Compliance Audits and Spot Checks conducted by Regional Entities since 2007 have generally required the Registered Entities to (1) provide as much of their compliance evidence to the CEA electronically as possible, and (2) provide paper copies of documents that cannot be provided electronically, to the extent possible. Finally, with respect to item (3) in the comment, the provisions that are the subject of the comment state: "If a Registered Entity believes that a request for Documents, data or*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | | | ***information is unreasonable, the Registered Entity may request a written determination from the NERC general counsel."*** |
| | ***Section 6.4. The change of text from "Notice of Alleged Violation" to "notification of Alleged Violation" is problematic because what constitutes "notification" is not defined, but it starts the time running on the Registered Entity's obligation to submit a Mitigation Plan.*** | ***No additional change.*** | ***The required, detailed contents of a "notification of Alleged Violation" are set forth in §5.3 of Appendix 5C. The Registered Entity should have no doubt upon receiving and reading the document as to what it is and that the clock is running and what its options are for responding.*** |
| | **Section 7.0.** Objects to new provision that Remedial Action Directive shall include "(v) a statement that the Registered Entity is in a state of noncompliance with the Reliability Standard listed in (i) until the requirements listed in the Remedial Action Directive are completed and certified completed by an officer of the Registered Entity." Objection is due to the fact that a Remedial Action Directive can be based on a Possible Violation. The referenced statement should only be required where the Remedial Action Directive is based on an Alleged Violation. (BPA) | The text in (v) cited in the comment has been removed. | Change made in response to this stakeholder comment on the November 7 posting. |
| | Separate objection to inclusion of the above-referenced statement in the Remedial Action Directive is that noncompliance with a Remedial Action Directive may be an aggravating factor in determination of a penalty, but is not itself an independent violation. (TAPS) | See above. | See above. |
| Appendix 4C Attachment 1 | | | |
| In Attachment 1 to Appendix 4C, the process steps that the CEA will follow for non-submittal of requested or required data have been revised. The revised text more clearly sets forth the three steps that will be followed, including the two additional notifications that will be issued and to whom they will be issued, if the Registered Entity fails to provide data, information or reports requested in a compliance monitoring or enforcement process by the Required Date. | "Seasonable" should be "reasonable". (Austin; LGC; MISO; OEV) | The term "seasonable" was the intended, and correct, word; however, since it was not understood as reflected by the stakeholder comments, it was replaced with "submitted prior to the Required Date." | Clarification of the intent was made. |
| | Steps 1 and 2 – 5 business days should be changed to 10 business days to allow time for proper response. (Austin) | No additional change. | The timeframe is only for proposing a new response date so no additional time should be necessary. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | The provision allowing the application of penalties against the Registered Entity for a Standard violation at the severe VSL level for failure to provide requested documents, data and information and fails to respond within 15 days is unwarranted and unreasonable. (MISO) | Reference to imposition of a Reliability Standard violation was deleted and replaced with issuance of a NAVAPS for the Reliability Standard Requirement to which the requested [but not provided] information relates. | Revised in response to the stakeholder comments on the November 7 posting. A NAVAPS or notification would be issued because, by failing to provide the requested information, the Registered Entity has failed to provide evidence to demonstrate compliance with the Reliability Standard Requirement to which the request related. There are opportunities to cure provided in the Attachment 1 process. The reference to Severe VSL is existing, FERC-approved language and was not revised.<br><br>***This comment seems to presume that NERC or a Regional Entity would continue to expend time and resources to demand production of requested information, send the follow-up notifications required by Attachment 1, and issue a Notice of Alleged Violation and Proposed Penalty or Sanction to the Registered Entity, <u>even though</u> the Registered Entity has satisfactorily demonstrated compliance with the applicable Reliability Standard Requirement through other evidence. This is not a reasonable assumption. Further, this provision has been extensively revised from the versions presented in the earlier postings, in response to stakeholder comments, and as now proposed, provides the Registered Entity with several ways to avoid the ultimate consequence of a Notice of Alleged Violation and Proposed Penalty or Sanction.*** |
| | ***Disagrees with the statement that by failing to provide the information requested in a compliance monitoring process, the Registered Entity has failed to demonstrate compliance with the Reliability Standard. If the Registered Entity can demonstrate compliance through another means, it has no obligation to produce the specific requested information. (ELCON/OEV)*** | | |
| | There should be an independent appeals process for the process described in Attachment 1. | No additional change. | This is not necessary. If the CEA issues a NAVAPS, the normal enforcement process is followed. Also, other CMEP sections specify that Registered Entity can ask NERC General Counsel for a determination on data requests that the entity believes are unreasonable, unclear etc. |
| | The citation to 18 C.F.R. §39.2(c) refers to language that actually appears in 39.2(d) and in any event does not support the conclusion that NERC or a Regional Entity may take the steps described in Attachment 1 when the Registered Entity fails to provide, in a timely manner and I | The reference to 18 CFR § 39.2 was revised. Other changes were made to Attachment 1 as described above. | Attachment 1 is intended to address a Registered Entity's failure to provide information requested in compliance monitoring processes. Thus, the information requested but not provided is specifically information required to implement Section 215, i.e. to monitor and enforce |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | the form requested, information requested in connection with a compliance monitoring or enforcement process. This exceeds NERC's authority under FPA section 215 to require a Registered Entity to provide such information as it necessary to implement section 215, i.e. to establish compliance with and enforce Reliability Standards. Further, NERC or the Regional Entity cannot take the actins specified in Step 2 or Step 3 unless the Registered Entity has violated a Reliability Standard. (OEV) | | compliance with Reliability Standards.<br><br>By failing to provide info requested in a compliance monitoring process, Registered Entity has failed to demonstrate compliance with the Standard. |
| Appendix 4C Attachment 2 | | | |
| | NERC should consider making no revisions to the Hearing Procedures at this time, due to the Regional Entities' collective lack of experience to date with hearings. (RFC) | | There have been hearings and the changes proposed are based on the experience gathered during these hearings. The changes are intended to add guidance and certainty with respect to roles, responsibilities and rights of parties. The proposed changes are based in large part on work and recommendations by NERC and Regional Entity staff. |
| | Objection to proposed revisions that would allow a Hearing Body to have no industry representatives. (MISO) | No additional change. | This change was made in light of NPCC's recently-revised hearing body structure which was approved by FERC. |
| | The proposed revisions to the Hearing Procedures make them overly burdensome; now they approach being like a court proceeding. Objectionable new provisions include: (1) the requirement for a court reporter and transcription, imposes additional costs. (2) Allowing interventions (ISO/RTO issues can often be solved without formal interventions). (3) Interlocutory review and "certification" provisions will increase delay and costs, reduce incentives for cooperation and settlement. (WECC) | No additional change. | There have been hearings and the changes proposed are based on the experience gathered during these hearings. The changes are intended to add guidance and certainty with respect to roles, responsibilities and rights of parties.<br><br>The requirement for a transcript is in the current, FERC-approved rules and is not a new provision.<br><br>The new provision allowing the Hearing Body to allow interventions in specific, limited circumstances is intended to streamline the hearing process since currently, an intervenor must go to FERC to request and be granted intervenor status, which may delay the Regional Entity hearing. |
| | **Section 1.2.12.** Interventions in enforcement | No additional change. | See the discussion above regarding the 2008 |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | hearings should be limited to Registered Entities; "market participants" should not be allowed, as they would potentially bring into issue the application of market rules which are not within the scope of NERC's authority. Further, any entity having a direct and substantial interest in the outcome of the violation would have to be registered. (NPCC) | | Guidance Order that recognized the ability of Registered Entities and non-Registered Entities to participate in the hearing in the event that an ISO/RTO seeks to directly allocate all or a portion of a penalty to them. |
| | **Section 1.2.12.b.2.** This section (on Interventions) is wordy and difficult to understand ; it should be restated for clarity. (ACES) | No additional change. | No specific changes proposed and only one stakeholder expressed this concern. |
| | **Section 1.4.5(d).** The provision that the Regional Entity can only appoint the number of Hearing Body members to achieve a quorum (if there have been recusals, disqualifications, vacancies etc.) should be retained. (Austin; LGC) | No additional change. | The issue seems to be whether the Regional Entity should be allowed to refill the slate completely or just appoint enough members to reach a quorum. The revised text states that the requirement is to appoint "at least" enough replacement members to restore a quorum. It is more appropriate to allow the Regional Entity to replenish the full hearing body if desired. No reason was given as to why the Regional Entity should not be allowed to do this. |
| | **Section 1.5.12.** The reference to "or as to which there are other extraordinary circumstances that make prompt consideration of the question . . . appropriate" should be changed to "provided the Hearing Body finds extraordinary circumstances . . . ."; this revision will cause the text to better track FERC Rules of Practice and Procedure 714 and 715. (RFC) | Section 1.5.12(e) was revised to require that the Hearing Body determine that extraordinary circumstances exist. | This change was made in response to this comment to the November 2011 posting. |
| | **Section 1.6.14.** The revisions "encouraging" the use of leading questions and attacking the credibility of a witness in a hearing do not appear to be warranted or necessary and should be eliminated to preserve the current decorum of hearings. (MISO) | No additional change. | The text states two procedural rules in courts and agencies and clarifies what is permitted during the conduct of the hearing. It does not "encourage" these approaches. |
| | **Section 1.7.10.** The revisions to the appeal process appear intended to discourage the use of | No additional change. | See discussion above regarding the justification for the provision regarding the ability of the |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | hearings by Registered Entities through (1) extension of the process by Regional Entities that failed in previous enforcement arenas, and (2) substantial use of Registered Entity resources over longer periods of time. (MISO) | | Regional Entity to appeal. |
| | NPCC supports the right of the Regional Entity to appeal, because the Hearing Body does not act on behalf of the Regional Entity. (NPCC) | No additional change. | The commenter agreed with the proposed provision and did not propose a change. |
| Appendix 5A | | | |
| None | All of the proposed changes in September, mostly dealing with capitalization and non-substantive, were not included in the November posting. (SPP RE) | These changes are being made for BOT package and FERC filing. | This is correct. These changes are being made for BOT package and FERC filing, consistent with NERC's November 29, 2011 filing of ROP revisions with FERC. |
| In the section captioned "Purpose and Scope," the reference to certification of a new entity that will become NERC certified and registered as a BA, TOP or RC has been expanded to include those entities that perform some or all of the reliability functions of an RC, BA or TOP. | Questions the reason/need for the new text that requires certification of "entities that perform some or all of the reliability provisions [functions] of an RC, BA or TOP." (Trades; TAPS) This revision expands the certification requirements boundlessly and should be rejected. If there is a reliability need for certification of additional entities, it has not been thoroughly vetted. (TAPS)<br><br>***The proposed certification requirement for entities that are not registered as a BA, TOP or RC but perform some or all of the reliability functions of a BA, TOP or RC, is a major change which has not been explained or justified, nor have all the ramifications been considered. For example: what reliability problem is this intended to solve? How many entities will be affected? Will the costs for all the additional certification work be justified by the reliability problem, and will the additional certification efforts divert resources and attention from other, more important reliability concerns? (Constellation)***<br><br>***NRECA is concerned with the proposed certification requirement for entities that are not registered as a BA, TOP or RC but perform some or all of the reliability functions of a BA, TOP or*** | See above regarding Section 500.<br><br>***Based on the stakeholder comments, these provisions have been reviewed and revised to better, and more precisely, express the intent of the revisions. To better state the intent of the revisions and the underlying issue, the revisions in ROP §500 and Appendix 5A have been further modified, as follows:***<br><br>***ROP §501.2 is amended to state that Certification of entities as RCs, BAs and TOPs will include evaluation of the competency of entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions.***<br><br>***In ROP §5.3.4, which states that NERC and/or the Regional Entity shall evaluate the*** | See above regarding Section 500.<br><br>***The underlying reliability concern is that when an entity is evaluated for Certification as a RC, BA or TOP, if the entity has or plans to delegate, assign or contract some of its reliability functions to another entity, the Certification Team needs to be able to evaluate the competency of the third party to perform the delegated, assigned or contracted reliability functions; otherwise, the Certification evaluation will be incomplete. When such arrangements occur, the ERO needs to be able to conduct an appropriate Certification review of the third party's capabilities to perform the delegated certified functions on behalf of the entity that is registering for the certified functions. Revisions to several provisions in ROP §501 and 503 and Appendix 5A have been made to better state the intent of the provisions, as described in the "Outcome" column.*** |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | ***RC. This is a significant change and justification for it has not been provided. The problem that NERC is attempting to address has not been articulated. (NRECA)***<br><br>***Concerns with this provision include: (1) the proposed text that requires certification for "those entities that perform some or all of the reliability functions of a RC, BA or TOP" has not been adequately explained or justified. There needs to be a business case justifying this change. No reliability gap has been identified, and effective measures are already in place to ensure compliance with NERC standards. Given the existence of these comprehensive measures, NERC should explain why additional certification requirements are needed. Also, there has been no information on how many entities would be affected, the costs for the additional certification activities, and the cost-benefit analysis. (2) More implementation details are needed, e.g., (i) whether de minimis exemptions can be granted; (ii) a timeline for completion of the certification process; (iii) qualifications for certification; (iv) the process through which an entity would obtain certification; and (v) any appeal or dispute resolution process. (3) The certification process should not circumvent the registration process – if NERC can require a non-registered entity to conform to certain attributes of Registered Entities (i.e., certification) through a change to the ROP, it circumvents the registration process. (PJM TO)*** | ***competency of entities requiring Certification to meet the NERC Certification requirements, a sentence has been added to specify that the evaluation shall include evaluation of the competency of any entities to which performance of some or all of the reliability functions of a RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions.***<br><br>***In Appendix 5A, §II, text has been revised to specify that Certification of a RC, BA or TOP shall include evaluation of the competency of those entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted functions.***<br><br>***In Appendix 5A, §IV, in the section captioned "Purpose and Scope," a sentence has been added to state that the Certification process steps described in Section IV will be conducted for the proposed RC, BA or TOP and, as applicable, for any entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted.*** | |
| Change from "bulk power system" to "BPS" | The acronym BPS should not be used – should continue to use "bulk power system" throughout. (CCC) | Bulk Power System will be a defined term. "BPS" has been changed to "Bulk Power System." | Bulk Power System will be a defined term. |
| Change from "Entity(ies)" to "Entit(ies)" | The change from "Entity(ies)" to "Entit(ies)" is confusing; should continue with the existing format. (CCC) | This change has been made. | Revisions were made to return to the existing format. |
| | There does not appear to be a mechanism for registration requests that Regional Entity does not approve. There should be a requirement to | This change was made on page 6. | The change was made in response to a comment to the November 2011 posting. |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | notify the applicant that its registration request has been denied. (SPP RE) | | |
| | Page 2 of 20 – The change removing the Regional Entity from the Compliance Registry obligation and stating that NERC is responsible for the Compliance Registry needs to be made elsewhere in the ROP, e.g., Appendix 5B section V bottom of page 9. (CCC) | This change has been made. | This is a conforming change with respect to other proposed changes in the ROP in Section 500 and Appendix 5A. |
| | Page 3 of 20 – An item 4 should be added to the Regional Entity Certification section that requires that the Regional Entity approve or disapprove the certification as included on page 11 of 20 item 19. (CCC) | No additional change. | Item 2 already says "approves or denies." |
| | Need to consistently list either "NERC" first or "Regional Entity" first when both are referred to. (CCC) | No additional change. | This proposed change is burdensome and unnecessary, because both will be referenced as applicable. |
| | Section 8b, page 9 of 20 – appears to have a missing step. How does an entity know who is the team lead? (CCC) | The provision has been revised to state that a roster of the team will be provided. | This change has been made. |
| | The Certification Process as described in Appendix 5A is inconsistent with processes being followed by NERC and the Regional Entities today. For example: (i) in Section III under Organization Registration Process, item 4.b, states that an entity responsible for more than one function will have a single NERC ID, but NERC has allowed some entities that perform multiple functions to have multiple NERC IDs. This text should be updated to reflect current practice. (ii) In Section 1 under "Where did these processes begin," it says certification is ongoing for new entities; but it is also used where existing entities have been identified in a new role. (iii) Section IV under Organization Certification Process, item 8.3 says the Certification Team must consist of 4 members, but under direction from NERC, Certification Teams as small as 2 members have been allowed. Language should be added to allow these types of deviations at the discretion | Changes have been made.<br>Section III was revised to state that an entity responsible for more than one function will use a single NERC ID, unless assignment of more than one NERC ID to the entity is approved by NERC.<br><br>Section I was revised to state that registration of entities [not "new entities"] is an ongoing process.<br><br>Section IV was revised in the changes posted in the November 2011 posting to state that at least two team members are required for an existing certified entity that seeks to expand its footprint. | |

| Change proposed by NERC | Comment received | Outcome | Justification/Notes |
|---|---|---|---|
| | of the Certification Team Lead. (WECC) | | |
| Appendix 8 | | | |
| Appendix 8 has been comprehensively revised from its current version. | In contrast to the stakeholder comments on other provisions of the proposed ROP amendments, which in general have been fairly specific, the comments on revised Appendix 8 tended to focus less on specifics and more on why there is a need to (extensively) revise Appendix 8 at this time.<br><br>Some commenters expressed that any revisions to Appendix 8 should be introduced and implemented contemporaneously with the *Event Analysis Process* document. Some commenters expressed that revised Appendix 8 is duplicative of, or overlaps, the processes and procedures in the *Event Process Manual*. Other commenters expressed that Appendix 8 would impose requirements on Registered Entities that are inappropriate or unauthorized.<br><br>***Removal of Appendix 8 from consideration is appreciated; when Appendix 8 is revisited, it needs to be presented and considered in the context of the ERO Event Analysis Process document and EOP-004-2 (currently in development), and the three documents need to be considered as a package. (Constellation; NRECA)***<br><br>***ELCON/OEV support the decision to drop proposed revisions to App. 8; if these are addressed at a later time, the stakeholder comments previously provided need to be taken into account. (ELCON/OEV)*** | No changes to Appendix 8 are being made at this time; rather, revisions will be addressed at a later time. | The proposed revised version of Appendix 8 posted in the November 7-December 22 posting drew significant stakeholder comment, with much of that comment pertaining not to specific provisions in revised Appendix 8, but rather to (i) the relationship between Appendix 8 and the new *ERO Event Analysis Process document*, and (ii) the respective levels of detail and subject matter content of these two documents. Because of the nature of these comments, NERC staff is not presenting a revised version of Appendix 8 for Board approval at this time.<br><br>NERC's new, non-ROP *ERO Event Analysis Process* manual document is being presented for Board approval. It has been in field tests and was recently endorsed by both the Operating Committee and the Planning Committee. The *ERO Event Analysis Process* document is not being presented as a separate Appendix to the ROP.<br><br>***NERC staff agrees that if there is consideration of revisions to Appendix 8 at a later time, (1) Appendix 8 needs to be considered in conjunction with the ERO Event Analysis Process document and EOP-004 requirements, and (2) stakeholder comments on Appendix 8 submitted during the recent posting periods should be considered.*** |

**List of Acronyms Used for Commenters**

ACES – ACES Power Marketing, Old Dominion Electric Cooperative, Wabash Valley Power Association, Buckeye Power, Inc. and North Carolina Electric Membership Corporation

Austin – City of Austin d/b/a Austin Energy

BPA – Bonneville Power Administration

CCC – NERC Compliance and Certification Committee

Constellation – Constellation Energy Group, Inc., Baltimore Gas & Electric Company, Constellation Energy Commodities Group, Inc., Constellation Energy Control and Dispatch, LLC; Constellation NewEnergy, Inc., Constellation Power Source Generation, Inc., and Constellation Energy Nuclear Group, LLC.

ELCON – Electricity Consumers Resource Council

FESC – First Energy Service Company

FRCC – Florida Reliability Coordinating Council

ITC – ITC Holdings

KCPL – Kansas City Power & Light Company and KCP&L Greater Missouri Operations

LPPC – Large Public Power Council

LGC – Luminant Generation Company LLC

MISO – Midwest Independent System Operator

NPCC – Northeast Power Coordinating Council, Inc.

NRECA – National Rural Electric Cooperative Association

OEV – Occidental Energy Ventures Corp.

PCGC – Personnel Certification Governance Committee section 600 task force

PJM TO – Designated PJM Transmission Owners, comprised of Jersey Central Power & Light Co., Metropolitan Edison Company, Pennsylvania Electric Company, West Penn Power Company, American Transmission Systems, Incorporated, Trans-Allegheny Interstate Line Company, American Electric Power Service Corporation, Baltimore Gas and Electric Company, Dayton Power and Light Company, Exelon Corporation, Pepco Holdings, Inc., Potomac Electric Power Company, Atlantic City Electric Company, Delmarva Power & Light Company, Public Service Electric and Gas Company, Rockland Electric Company, and Virginia Electric and Power Company.

RFC – Reliability*First* Corporation

SERC OC – SERC OC Standards Review Group

SPP RE – SPP Regional Entity

TAPS – Transmission Access Policy Study Group

Trades – American Public Power Association, Edison Electric Institute, Electric Power Supply Association and National Rural Electric Cooperative Association

WECC – Western Electricity Coordinating Council

March 5, 2012

**Discussion of Stakeholder Comments on Proposed Rules of Procedure Revisions**
**Received After the February 9, 2012 Board Meeting**

**ROP §403.15 and 409.1; Appendix 4C §5.7 (provisions allowing Regional Entity to appeal decision of Regional Entity Hearing Body (REHB) to NERC)**

**Comments:**

Several commenters object to these provisions. The REHB is not an "independent tribunal," because its authority stems from delegated power from the Regional Entity. These provisions grant the Regional Entity veto power over its own decisions and are contrary to due process. Also, §403.15 says the REHB is the "final adjudicator." (ELCON/OEV) There is no need for a Regional Entity to have appeal rights, since the REHB is an impartial arbiter. Further, "the probability is that a Regional Entity's organizational link to, and familiarity with, NERC is likely to dispose NERC to weigh the Regional Entity's views more heavily than those of the Registered Entity." Also, allowing the Regional Entity to appeal is inconsistent with the spirit of FPA §215(e) which only allows the BPS user, owner or operator to contest a Penalty at FERC. (Trades)

**Discussion:**

The proposed provision does not give the Regional Entity "veto power over its own decisions;" it only gives the Compliance Enforcement Authority (CEA) a right to appeal to NERC – in which NERC could rule against the CEA. The statement that the REHB is an "impartial arbitrator" supports this provision, as it illustrates that the REHB is separate from the CEA. The provision in ROP §403.15 that the REHB is to be the "final adjudicator" is in the context of the Regional Entity level (this is a required attribute of a Regional Entity CMEP) and does not preclude appeals to NERC. To make this clearer, in §403.15, "at the Regional Entity level" has been added after "final adjudicator." The statement by Trades, quoted above, has no basis; if it were true, there would be no reason to allow Registered Entities to appeal either, since NERC would always rule against them. The fact that FERC, under the FPA, can only take appeals from the Registered Entity is not a basis for concluding that NERC should not take appeals from the CEA. NERC has the ultimate responsibility to determine that the decision as to whether a Reliability Standard has been violated, and any Penalty imposed, are correct based on the Reliability Standards involved and consistent with determinations in other cases involving similar facts; therefore, NERC should take appeals from both the Registered Entity and the CEA.

**ROP §407 & 413 (NERC review of REHB decisions that are not appealed)**

**Comments:**

(1) Text refers to "Regional Entity Hearing Body final decision" but the term is undefined. (2) Allowing a Regional Entity to appeal an REHB decision to NERC is objected to. (ELCON/OEV)

(1) NERC should exercise a high degree of deference in reviewing REHB decisions that relieve Registered Entities of Penalties, similar to the deference appellate courts give trial courts. (2) It would be inappropriate for NERC to impose Penalties directly in such circumstances without providing further due process to a Registered Entity at the Regional Entity level. (Trades)

**Discussion**:

In response to these comments, the following additional revisions have been made: (1) In ROP §407, the phrase "that are specified by a Regional Entity Hearing Body final decision" has been changed to "that are specified by a Regional Entity Hearing Body final decision issued pursuant to Attachment 2 to Appendix 4C." (2) In ROP §413, the phrase "all final decisions of Regional Entity Hearing Bodies" has been changed to "all final decisions of Regional Entity Hearing Bodies issued pursuant to Attachment 2 to **Appendix 4C**."

With respect to Trades' comment (2) above, proposed ROP §413 states that NERC may require that the REHB decision be modified by the Regional Entity "in accordance with, as applicable to the particular decision, Sections 5.8, 5.9 and 6.5 of Appendix 4C." Section 5.8 of Appendix 4C pertains to NERC directing the Regional Entity to modify a Penalty, and allows the Registered Entity or the CEA to reopen the proceeding on any issue on which the Penalty was based. Section 6.5 of Appendix 4C pertains to Mitigation Plans and provides that if NERC disapproves a Mitigation Plan that the Regional Entity has accepted, NERC is to return the Mitigation Plan to the Regional Entity with a statement of the reasons for rejection and may include the changes that would result in approval of the Mitigation Plan by NERC. Therefore, these provisions of Appendix 4C which are referenced in ROP §413 do provide for further due process for the Registered Entity at the Regional Entity level.

**ROP §412 (Certification of questions to BOTCC)**

**Comments:**

ELCON/OEV supports the revision that was made to this provision to specify that the decision on the certified question will only apply to the particular case and to the parties to that case.

**ROP §501 (Organization Certification)**

See Comments and Discussion below under Appendix 5A.

**ROP §1401 (Amendment of Rules of Procedure)**

**Comments:**

NRECA objects to increasing the number of Members needed to request a ROP modification from 10 to 50. Instead, the Bylaws provision should be changed from 50 to 10. There has been no indication of a problem with 10, and the change signals that NERC does not want stakeholders to have a reasonable opportunity to propose ROP modifications. (NRECA)

**Discussion**:

NERC staff believes that the higher-tier document (i.e., the Bylaws) needs to control and that ROP §1401 needs to be made consistent with the Bylaws provision at this time. However, the Board of Trustees would be able to consider if it wishes to evaluate whether both the Bylaws and the ROP provision should be amended in the future to specify a number of Members less than 50 but more than 10 in order to propose an ROP amendment.

**Appendix 4B**

**Comments:**

Concern is expressed with the removal of references to "remedial actions" from App. 4B; App. 4B should clarify that "remedial actions" mandated by NERC or the Regional Entity will be treated in the same manner as other enforcement actions. (ELCON/OEV)

**Discussion:**

The term "remedial actions" is being deleted throughout the ROP because it potentially could be confused with the defined term "Remedial Action Directive." The requirements and procedures for issuance of Remedial Action Directives are specified in great detail in the ROP and include special hearing procedures for a Registered Entity to contest a Remedial Action Directive; these provisions have been in the ROP, in essentially their current (and proposed) form, for a considerable time. (See Appendix 4C, §7.0 and Attachment 2, §1.9.) Material on Remedial Action Directives is being removed from Appendix 4B so that the subject matter of Appendix 4B will be limited to the determination of Penalties and other sanctions. A Remedial Action Directive is not a Penalty but rather is a directive to correct a condition that presents a current or imminent threat to the reliability of the BPS.

**Appendix 4B, §3.3.1**

**Comments:**

ELCON/OEV object to the addition of the compliance history of affiliated entities of the violator as a factor that will be taken into account in determining a Penalty. The actions of an affiliate do not bear upon whether an entity violated a Reliability Standard; also, considering the compliance history of affiliates of the violator is outside the FPA §215 requirement that all Penalties must bear a "reasonable relation to the seriousness of the violation." (ELCON/OEV)

**Discussion:**

The complete provision being commented on is: "In evaluating the violator's compliance history, NERC or the Regional Entity will take into account previous violations by affiliates of the violator, particularly violations of the same or similar Reliability Standard Requirements, and will evaluate whether any such violations reflect recurring conduct by affiliates that are operated by the same corporate entity or whose compliance activities are conducted by the same corporate

entity." This provision is being added based on a 2010 FERC Order (see 132 FERC ¶ 61,182, at P 7, where FERC stated that future NOPs should explain how NERC and the Regional Entities assessed whether the violations may reflect recurring conduct "by the same registered entity or by an affiliate or department that is operated by the same corporate entity or whose compliance activities may be conducted by that entity.") Further, when the statement is read in full context, the factor being considered does relate to the "seriousness of the violation." Moreover, this provision enumerates one of several factors that are considered in determining the amount of a Penalty (under both Appendix 4B specifically and FERC's penalty guidelines generally) that are not strictly limited to the particulars of the specific violation; other such factors include the violator's own violation history and the size of the violator. Finally, "whether [the Registered] entity violated a Reliability Standard" is not relevant to this provision because this provision is about determining the appropriate Penalty in the disposition of a Possible Violation.

**Appendix 4C, §1.1.9 – Definition of "Confirmed Violation"**

**Comments:**

"Confirmed Violation" should not be defined to include settlements in which the Registered Entity neither admits nor denies the violation; a different term should be used. (ELCON/OEV)

**Discussion:**

NERC staff understands that the commenters may perceive a negative connotation to the term "Confirmed Violation," but does not see a need to create another definition for essentially the same end state to encompass enforcement actions that end in settlements. Further, to the extent that the existence of a Confirmed Violation will bear on the determination of Penalties for any future violations by the Registered Entity, the NOP and accompanying record will specify that the Confirmed Violation was based on a settlement agreement in which the Registered Entity neither admitted nor denied the violation. The defined term is created and used for convenience, but the full facts as to what transpired are available in the NOP, settlement agreement and record.

**Appendix 4C, §1.1.30 and 3.5 (Self-Reports – added text that Registered Entity can submit Self-Report if it "may have" violated a Reliability Standard)**

**Comments:**

Commenters appreciate the clarification that "or may have" was added to allow a Registered Entity to submit a Self-Report without having to conclude that it in fact violated a Reliability Standard, and does not require a Registered Entity to submit a Self-Report when it "may have" violated a Reliability Standard; but recommend that this clarification should be built into the text. (ELCON/OEV)

**Discussion:**

Section 3.5 of Appendix 4C states that Self-Reports "are encouraged;" it does not state that Self-Reports are required.

In reviewing the relevant Appendix 4C provisions in connection with this comment, it was noted that §3.5 had not been amended to be consistent with the amendment to the definition of Self-Report in §1.1.30. Therefore, §3.5 is being further revised to state: "Self-Reports are encouraged at the time a Registered Entity becomes aware (i) that it has, or may have, violated a Reliability Standard, or (ii) the Violation Severity Level of a previously-reported violation has changed."

**Appendix 4C, §3.1.5.1**

**Comments:**

NRECA opposes permitting FERC staff to be members of an audit team. This section should be revised to only permit FERC to be observers on audit teams. (NRECA)

**Discussion:**

FERC has previously directed that FERC representatives should be allowed to be members of audit teams and that participation of FERC representatives generally in an audit cannot be objected to or limited. There is not a reasonable possibility that FERC would accept the change proposed in the comment.

**Appendix 4C, §3.1.5.3**

**Comments:**

This section should be revised to provide that a Registered Entity can invite a representative of its trade association to attend its audit as an observer. (NRECA)

**Discussion:**

FERC previously rejected a proposal to allow the Registered Entity being audited to allow representatives of other Registered Entities to attend the Compliance Audit (131 FERC ¶ 61,061 at P 110), and the current provisions of §3.1.5.3 on other attendees were then carefully crafted to address particular needs and obtain FERC approval, which was granted in an Order issued October 7, 2011 (see 137 FERC ¶ 61,028 at PP 23-31). NERC staff does not see a reasonable possibility that FERC would approve a provision that would generally permit the Registered Entity to allow a trade association representative to attend the Compliance Audit. That being noted, a consultant, contractor or other non-employee of the Registered Entity who is involved in running the Registered Entity's compliance program or in compiling and presenting the Registered Entity's compliance information in the audit, would typically be allowed to attend as one of the Registered Entity's SMEs or other representatives.

**Appendix 4C, §3.3.1 & 3.4.1**

**Comments:**

ELCON/OEV support NERC's revisions clarifying that a Registered Entity can object to any

specific member of a Spot Check team on specified grounds.

**Appendix 4C, §3.0, 5.0, 6.0 (CEA can request and take copies of documents from Registered Entity's site)**

**Comments:**

(1) These provisions are objectionable because they give the CEA unrestricted access to stakeholders' documents and data, simply by stating that taking the documents and data are necessary for "compliance and enforcement." (2) It is recognized that some information and data must be retained and provided to NERC under the Reliability Standards, but the rules surrounding data collection must be clearly described and justified to provide industry with notice. (3) Also, procedures for recourse from improper data requests need to be specified. (ELCON/OEV)

**Discussion:**

The text of these provisions has been substantially revised from the original proposed version, in response to numerous comments received on the previous postings, and at this point the text is a rather modest statement that the CEA can request and receive copies of documents to take from the Registered Entity's site. In fact, Compliance Audits and Spot Checks conducted by Regional Entities since 2007 have generally required the Registered Entities to (1) provide as much of their compliance evidence to the CEA electronically as possible, and (2) provide paper copies of documents that cannot be provided electronically, to the extent possible. Finally, with respect to item (3) in the comment, the provisions that are the subject of the comment state: "If a Registered Entity believes that a request for Documents, data or information is unreasonable, the Registered Entity may request a written determination from the NERC general counsel."

**Appendix 4C, §5.11 (ISO/RTO provision)**

**Comments:**

This provision is contrary to the FPA because it is unlawful and discriminatory, as it applies only to ISO/RTOs. (ELCON/OEV)

This provision should not be included in the ROP because it gives NERC the authority to make independent legal conclusions regarding whether an ISO/RTO has authority to allocate monetary penalties to specified entities; this issue must be left to be determined under an applicable FERC tariff. (NRECA)

Concerns with the posted version of this section include: (1) A third party brought into the enforcement process under §5.11 should be allowed to request a Regional Entity hearing, to appeal to NERC and then to FERC, and to contest in the ISO/RTO's §205 proceeding, the CEA's determination that the third party caused or contributed to the alleged violation by the ISO/RTO. In short, the CEA's determination should not be binding or the final say. (2) An express statement may be needed in §5.11 stating that the ISO/RTO needs to make a §205 filing

with FERC to allocate penalties to the third party. (3) Additional direction needs to be given on how a "§5.11 proceeding" will be conducted, e.g., will there be a formal hearing, opportunity to file briefs, etc. (Constellation)

**Discussion:**

(1) With respect to the ELCON/OEV comment, this section is being proposed to implement a framework specifically applicable to the circumstances of ISO/RTOs that FERC has already established. Specifically, addition of §5.11 implements a framework that was initiated by a 2008 FERC Order on recovery of Penalty costs by ISO/RTOs from third parties (122 FERC ¶ 61,247) and furthered by subsequent FERC orders approving ISO/RTO's tariff provisions providing for the allocation to third parties of Penalties imposed on the ISO/RTO. (2) With respect to the NRECA comment, proposed §5.11 has been revised (twice) to remove the implication that NERC or the CEA would be making "independent legal conclusions" concerning whether the ISO/RTO has authority to allocate penalties to specified entities. All the CEA will determine under §5.11 is whether the specified other entity caused or contributed to the violation that is alleged against the ISO/RTO; the CEA will make no determination as to what portion, if any, of the Penalty assessed against the ISO/RTO should be allocated to the other entity (see first paragraph of §5.11.4). (3) In response to Constellation comment (1) above, the following text has been added in §5.11.4: "The specified other entity(ies) shall be entitled to request a hearing on the Compliance Enforcement Authority's determination pursuant to Section 1.3.1 of Attachment 2 of this Appendix 4C, and to appeal the Hearing Body's order pursuant to Section 1.7.10 of Attachment 2 of this Appendix 4C, as though the specified other entity(ies) were a Registered Entity(ies)." (4) With respect to Constellation comment (2) above, such an addition would be outside the scope of the NERC/CEA authority and role, and, as noted above, §5.11.4 expressly disclaims that the CEA will determine whether and to what extent the Penalty imposed on the ISO/RTO should be allocated to the other entity. The ISO/RTOs are well aware that they need to file a §205 proceeding at FERC to obtain a determination that some or all of the Penalty imposed on the ISO/RTO for violation of a Reliability Standard will be allocated to other entity(ies). (5) With respect to Constellation comment (3), there is no "proceeding" or "hearing;" §5.11 is about access to the enforcement process, the steps for which are spelled out in detail in §5.0 of Appendix 4C.

**Appendix 4C, §6.4**

**Comments:**

The change of text from "Notice of Alleged Violation" to "notification of Alleged Violation" is problematic because what constitutes "notification" is not defined, but it starts the time running on the Registered Entity's obligation to submit a Mitigation Plan. (ELCON/OEV)

**Discussion:**

The required, detailed contents of a "notification of Alleged Violation" are set forth in §5.3 of Appendix 5C. The Registered Entity should have no doubt upon receiving and reading the document as to what it is and that the clock is running and what its options are for responding.

**Appendix 4C, Attachment 1**

**Comments:**

Disagreement with NERC statement that "by failing to provide information requested in a compliance monitoring process, Registered Entity has failed to demonstrate compliance with the Standard." If the Registered Entity can demonstrate compliance through another means, it has no obligation to produce the specific requested information. (ELCON/OEV)

**Discussion:**

This comment seems to presume that NERC or a Regional Entity would continue to expend time and resources to demand production of requested information, send the follow-up notifications required by Attachment 1, and issue a Notice of Alleged Violation and Proposed Penalty or Sanction to the Registered Entity, even though the Registered Entity has satisfactorily demonstrated compliance with the applicable Reliability Standard Requirement through other evidence. This is not a reasonable assumption. Further, this provision has been extensively revised from the versions presented in the earlier postings, in response to stakeholder comments, and as now proposed, provides the Registered Entity with several ways to avoid the ultimate consequence of a Notice of Alleged Violation and Proposed Penalty or Sanction.

**Appendix 5A (and ROP §500) – Certification requirement**

**Comments:**

The proposed certification requirement for entities that are not registered as a BA, TOP or RC but perform some or all of the reliability functions of a BA, TOP or RC, is a major change which has not been explained or justified, nor have all the ramifications been considered. For example: what reliability problem is this intended to solve? How many entities will be affected? Will the costs for all the additional certification work be justified by the reliability problem, and will the additional certification efforts divert resources and attention from other, more important reliability concerns? (Constellation)

NRECA is concerned with the proposed certification requirement for entities that are not registered as a BA, TOP or RC but perform some or all of the reliability functions of a BA, TOP or RC. This is a significant change and justification for it has not been provided. The problem that NERC is attempting to address has not been articulated. (NRECA)

Concerns with this provision include: (1) the proposed text that requires certification for "those entities that perform some or all of the reliability functions of a RC, BA or TOP" has not been adequately explained or justified. There needs to be a business case justifying this change. No reliability gap has been identified, and effective measures are already in place to ensure compliance with NERC standards. Given the existence of these comprehensive measures, NERC should explain why additional certification requirements are needed. Also, there has been no information on how many entities would be affected, the costs for the additional certification

activities, and the cost-benefit analysis. (2) More implementation details are needed, e.g., (i) whether *de minimis* exemptions can be granted; (ii) a timeline for completion of the certification process; (iii) qualifications for certification; (iv) the process through which an entity would obtain certification; and (v) any appeal or dispute resolution process. (3) The certification process should not circumvent the registration process – if NERC can require a non-registered entity to conform to certain attributes of Registered Entities (i.e., certification) through a change to the ROP, it circumvents the registration process. (PJM Transmission Owners)

**Discussion:**

Based on the stakeholder comments, these provisions have been reviewed and revised to better, and more precisely, express the intent of the revisions. The underlying reliability concern is that when an entity is evaluated for Certification as a RC, BA or TOP, if the entity has or plans to delegate, assign or contract some of its reliability functions to another entity, the Certification Team needs to be able to evaluate the competency of the third party to perform the delegated, assigned or contracted reliability functions; otherwise, the Certification evaluation will be incomplete. When such arrangements occur, the ERO needs to be able to conduct an appropriate Certification review of the third party's capabilities to perform the delegated certified functions on behalf of the entity that is registering for the certified functions. To better state the intent of the revisions and the underlying issue, the revisions in ROP §500 and Appendix 5A have been further modified, as follows:

- ROP §501.2 is amended to state that Certification of entities as RCs, BAs and TOPs will include evaluation of the competency of entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions.

- In ROP §5.3.4, which states that NERC and/or the Regional Entity shall evaluate the competency of entities requiring Certification to meet the NERC Certification requirements, a sentence has been added to specify that the evaluation shall include evaluation of the competency of any entities to which performance of some or all of the reliability functions of a RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions.

- In Appendix 5A, §II, text has been revised to specify that Certification of a RC, BA or TOP shall include evaluation of the competency of those entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted functions.

- In Appendix 5A, §IV, in the section captioned "Purpose and Scope," a sentence has been added to state that the Certification process steps described in Section IV will be conducted for the proposed RC, BA or TOP and, as applicable, for any entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted.

**Appendix 8**

**Comments:**

Removal of Appendix 8 from consideration is appreciated; when Appendix 8 is revisited, it needs to be presented and considered in the context of the ERO Event Analysis Process document and EOP-004-2 (currently in development), and the three documents need to be considered as a package. (Constellation; NRECA)

ELCON/OEV support the decision to drop proposed revisions to App. 8; if these are addressed at a later time, the stakeholder comments previously provided need to be taken into account.

**Processes for Developing, Proposing and Obtaining Stakeholder Comments on Proposed Revisions to the Rules of Procedure**

The stakeholder comments received after the February 9 Board meeting, as was the case with the comments received on the two previous postings of the proposed ROP revisions, included comments on the process by which the proposed ROP revisions were developed and presented to stakeholders. Based on consideration of the comments received on this topic during the three comment rounds, NERC staff has compiled the following points for future ROP revisions:

1. The extent of the effort to explain the proposed revisions to stakeholders needs to be proportional to the scope and extent of the revisions. More comprehensive proposed revisions may require more extensive efforts in this regard.

2. In posting or presenting proposed ROP revisions, greater attention needs to be paid to explaining the reason the change is being proposed, in addition to identifying and explaining the proposed change.

3. Where extensive or complex changes are proposed, it may be appropriate to conduct workshops or webinars for stakeholders to bring the proposed changes to their attention and explain them, before initiating (or at the start of) the formal comment period required by the Bylaws and ROP. One webinar was held following the initial posting. The current proposals were developed through an extensive process involving NERC and Regional Entity Compliance, Standards and Legal staffs, but this extensive ERO process does not equate to a stakeholder outreach process.

NERC

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

**Proposed Revisions 3-05-2012**
**[Incorporates proposed revisions filed with FERC on March 18, 2011 and January 25, 2012]**

# Rules of Procedure

Effective: March 1, 2012

**TABLE OF CONTENTS**

**SECTION 100 — APPLICABILITY OF RULES OF PROCEDURE ..... 1**

**SECTION 200 — DEFINITIONS OF TERMS ..... 2**

**SECTION 300 — RELIABILITY STANDARDS DEVELOPMENT ..... 3**

301. General ..... 3
302. Essential Attributes for Technically Excellent Reliability Standards ..... 3
303. Relationship between Reliability Standards and Competition ..... 5
304. Essential Principles for the Development of Reliability Standards ..... 6
305. Registered Ballot Body ..... 6
306. Standards Committee ..... 8
307. Standards Process Management ..... 9
308. Steps in the Development of Reliability Standards ..... 9
309. Filing of Reliability Standards for Approval by Applicable Governmental Authorities ..... 10
310. Annual Reliability Standards Development Plan ..... 11
311. Regional Entity Standards Development Procedures ..... 11
312. Regional Reliability Standards ..... 13
313. Other Regional Criteria, Guides, Procedures, Agreements, Etc. ..... 16
314. Conflicts with Statutes, Regulations, and Orders ..... 17
315. Revisions to NERC Standard Processes Manual ..... 17
316. Accreditation ..... 18
317. Five-Year Review of Reliability Standards ..... 18
318. Coordination with the North American Energy Standards Board ..... 18
319. Archived Standards Information ..... 18
320. Procedure for Developing and Approving Violation Risk Factors and Violation Severity Levels ..... 18
321. Special Rule to Address Certain Regulatory Directives ..... 19

**SECTION 400 — COMPLIANCE ENFORCEMENT ..... 23**

401. Scope of the NERC Compliance Monitoring and Enforcement Program ..... 23
402. NERC Oversight of the Regional Entity Compliance Monitoring and Enforcement Programs 26
403. Required Attributes of Regional Entity Compliance Monitoring and Enforcement Programs . 30
404. NERC Monitoring of Compliance for Regional Entities or Bulk Power Owners, Operator, or Users ..... 36
405. Monitoring of Reliability Standards and Other Requirements Applicable to NERC ..... 37
406. Independent Audits of the NERC Compliance Monitoring and Enforcement Program ..... 38
407. Penalties, Sanctions, and Remedial Action Directives ..... 38
408. Review of NERC Decisions ..... 39
409. Appeals from Final Decisions of Regional Entity Hearing Bodies ..... 40~~40~~
410. Hold Harmless ..... 41~~41~~
411. Requests for Technical Feasibility Exceptions to NERC Critical Infrastructure Protection Reliability Standards ..... 41~~41~~
412. Certification of Questions from Regional Entity Hearing Bodies for Decision by the NERC Board of Trustees Compliance Committee ..... 42
413. Review and Processing of Regional Entity Hearing Body Final Decisions that Are Not Appealed ..... 42
414. Appeals of Decisions of Regional Entity Hearing Bodies Granting or Denying Motions to Intervene in Regional Entity Hearing Body Proceedings ..... 43

**SECTION 500 — ORGANIZATION REGISTRATION AND CERTIFICATION ..... 4545**

501. Scope of the Organization Registration and Organization Certification Programs ..... 4545
502. Organization Registration and Organization Certification Program Requirements ..... 4949
503. Regional Entity Implementation of Organization Registration and Organization Certification Program Requirements ..... 5151
504. Appeals ..... 5252
505. Program Maintenance ..... 5352
506. Independent Audit of NERC Organization Registration and Organization Certification Program ..... 5353
507. Provisions Relating to Joint Registration Organizations (JRO) ..... 5353
508. Provisions Relating to Coordinated Functional Registration (CFR) Entities ..... 5454
509. Exceptions to the Definition of the Bulk Electric System……..…55

**SECTION 600 — PERSONNEL CERTIFICATION ..... 5757**

601. Scope of Personnel Certification ..... 5757
602. Structure of ERO Personnel Certification Program..... 5757
603. Examination and Maintenance of NERC System Operator Certification Credentials……...58
604. Dispute Resolution Process……...59
605. Disciplinary Action……61
606. Candidate Testing Mechanisms..... 6363
607. Public Information About the Personnel Certification Program ..... 6363
608. Responsibilities to Applicants for Certification or Re-Certification ..... 6363
609. Responsibilities to the Public and to Employers of Certified Practitioners..... 6464

**SECTION 700 — RELIABILITY READINESS EVALUATION AND IMPROVEMENT AND FORMATION OF SECTOR FORUMS..... 6666**

701. Confidentiality Requirements for Readiness Evaluations and Evaluation Team Members .. 6666
702. Formation of Sector Forum ..... 6666

**SECTION 800 — RELIABILITY ASSESSMENT AND PERFORMANCE ANALYSIS..... 6767**

801. Objectives of the Reliability Assessment and Performance Analysis Program ..... 6767
802. Scope of the Reliability Assessment Program..... 6767
803. Reliability Assessment Reports..... 6868
804. Reliability Assessment Data and Information Requirements..... 6969
805. Reliability Assessment Process ..... 7070
806. Scope of the Reliability Performance and Analysis Program..... 7272
807. Analysis of Major Events ..... 7272
808. Analysis of Off-Normal Occurrences, Bulk Power System Performance, and Bulk Power System Vulnerabilities..... 7373
809. Reliability Benchmarking..... 7474
810. Information Exchange and Issuance of NERC Advisories, Recommendations and Essential Actions..... 7474
811. Equipment Performance Data..... 7575

**SECTION 900 — TRAINING AND EDUCATION ..... 7676**

901. Scope of the Training and Education Program..... 7676
902. Continuing Education Program ..... 7676

**SECTION 1000 — SITUATION AWARENESS AND INFRASTRUCTURE SECURITY ..... 7878**

1001. Situation Awareness ..... 7878

1002. Reliability Support Services ..... 78~~78~~
1003. Infrastructure Security Program ..... 79~~79~~

**SECTION 1100 — ANNUAL NERC BUSINESS PLANS AND BUDGETS ..... 82~~82~~**

1101. Scope of Business Plans and Budgets ..... 82~~82~~
1102. NERC Funding and Cost Allocation ..... 82~~82~~
1103. NERC Budget Development ..... 82~~82~~
1104. Submittal of Regional Entity Budgets to NERC ..... 83~~83~~
1105. Submittal of NERC and Regional Entity Budgets to Governmental Authorities for Approval ..... 83~~83~~
1106. NERC and Regional Entity Billing and Collections ..... 84~~84~~
1107. Penalty Applications ..... 85~~85~~
1108. Special Assessments ..... 86~~86~~

**SECTION 1200 — REGIONAL DELEGATION AGREEMENTS ..... 87~~87~~**

1201. Pro Forma Regional Delegation Agreement ..... 87~~87~~
1202. Regional Entity Essential Requirements ..... 87~~87~~
1203. Negotiation of Regional Delegation Agreements ..... 87~~87~~
1204. Conformance to Rules and Terms of Regional Delegation Agreements ..... 87~~87~~
1205. Sub-delegation ..... 87~~87~~
1206. Nonconformance to Rules or Terms of Regional Delegation Agreement ..... 87~~87~~
1207. Regional Entity Audits ..... 88~~88~~
1208. Process for Considering Registered Entity Requests to Transfer to Another Regional Entity ..... 88~~88~~

**SECTION 1300 — COMMITTEES ..... 91~~91~~**

1301. Establishing Standing Committees ..... 91~~91~~
1302. Committee Membership ..... 91~~91~~
1303. Procedures for Appointing Committee Members ..... 91~~91~~
1304. Procedures for Conduct of Committee Business ..... 91~~91~~
1305. Committee Subgroups ..... 92~~92~~

**SECTION 1400 — AMENDMENTS TO THE NERC RULES OF PROCEDURE ..... 93~~93~~**

1401. Proposals for Amendment or Repeal of Rules of Procedure ..... 93~~93~~
1402. Approval of Amendment or Repeal of Rules of Procedure ..... 93~~93~~

**SECTION 1500 — CONFIDENTIAL INFORMATION ..... 94~~94~~**

1501. Definitions ..... 94~~94~~
1502. Protection of Confidential Information ..... 94~~94~~
1503. Requests for Information ..... 95~~95~~
1504. Employees, Contractors and Agents ..... 97~~97~~
1505. Provision of Information to FERC and Other Governmental Authorities ..... 97~~97~~
1506. Permitted Disclosures ..... 97~~97~~
1507. Remedies for Improper Disclosure ..... 97~~97~~

**SECTION 1600 — REQUESTS FOR DATA OR INFORMATION ..... 99~~99~~**

1601. Scope of a NERC or Regional Entity Request for Data or Information ..... 99~~99~~
1602. Procedure for Authorizing a NERC Request for Data or Information ..... 99~~99~~
1603. Owners, Operators, and Users to Comply ..... 100~~100~~
1604. Requests by Regional Entity for Data or Information ..... 100~~100~~
1605. Confidentiality ..... 101~~101~~

1606. Expedited Procedures for Requesting Time-Sensitive Data or Information ..... 101~~101~~

**SECTION 1700 — CHALLENGES TO DETERMINATIONS..... 103**

1701. Scope of Authority……103
1702. Challenges to Determinations by Planning Coordinators Under Reliability Standard PRC-023……103
1703. Challenges to NERC Determinations of BES Exception Requests Under Section 509…...…105

# SECTION 100 — APPLICABILITY OF RULES OF PROCEDURE

NERC and NERC Members shall comply with these Rules of Procedure. Each Regional Entity shall comply with these Rules of Procedure as applicable to functions delegated to the Regional Entity by NERC or as required by an Applicable Governmental Authority or as otherwise provided.

Each Bulk Power System owner, operator, and user shall comply with all Rules of Procedure of NERC that are made applicable to such entities by approval pursuant to applicable legislation or regulation, or pursuant to agreement.

Any entity that is unable to comply or that is not in compliance with a NERC Rule of Procedure shall immediately notify NERC in writing, stating the Rule of Procedure of concern and the reason for not being able to comply with the Rule of Procedure.

NERC shall evaluate each case and inform the entity of the results of the evaluation. If NERC determines that a Rule of Procedure has been violated, or cannot practically be complied with, NERC shall notify the Applicable Governmental Authorities and take such other actions as NERC deems appropriate to address the situation.

NERC shall comply with each approved Reliability Standard that identifies NERC or the Electric Reliability Organization as a responsible entity. Regional Entities shall comply with each approved Reliability Standard that identifies Regional Entities as responsible entities. A violation by NERC or a Regional Entity of such a Reliability Standard shall constitute a violation of these Rules of Procedure.

# SECTION 200 — DEFINITIONS OF TERMS

Definitions of terms used in the NERC Rules of Procedure are set forth in **Appendix 2**, *Definitions Used in the Rules of Procedure*.

# SECTION 300 — RELIABILITY STANDARDS DEVELOPMENT

## 301. General

NERC shall develop and maintain Reliability Standards that apply to Bulk Power System owners, operators, and users and that enable NERC and Regional Entities to measure the reliability performance of Bulk Power System owners, operators, and users; and to hold them accountable for Reliable Operation of the Bulk Power Systems. The Reliability Standards shall be technically excellent, timely, just, reasonable, not unduly discriminatory or preferential, in the public interest, and consistent with other applicable standards of governmental authorities.

## 302. Essential Attributes for Technically Excellent Reliability Standards

1. **Applicability** — Each Reliability Standard shall clearly identify the functional classes of entities responsible for complying with the Reliability Standard, with any specific additions or exceptions noted. Such functional classes[1] include: Reliability Coordinators, Balancing Authorities, Transmission Operators, Transmission Owners, Generator Operators, Generator Owners, Interchange Authorities, Transmission Service Providers, market operators, Planning Authorities, Transmission Planners, Resource Planners, Load-Serving Entities, Purchasing-Selling Entities, and Distribution Providers. Each Reliability Standard shall also identify the geographic applicability of the Reliability Standard, such as the entire North American Bulk Power System, an Interconnection, or within a Region. A Reliability Standard may also identify any limitations on the applicability of the Reliability Standard based on electric Facility characteristics.

2. **Reliability Objectives** — Each Reliability Standard shall have a clear statement of purpose that shall describe how the Reliability Standard contributes to the reliability of the Bulk Power System. The following general objectives for the Bulk Power System provide a foundation for determining the specific objective(s) of each Reliability Standard:

    2.1 **Reliability Planning and Operating Performance**— Bulk Power Systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions.

    2.2 **Frequency and Voltage Performance**— The frequency and voltage of Bulk Power Systems shall be controlled within defined limits through the balancing of Real and Reactive Power supply and demand.

[1] These functional classes of entities are derived from NERC's Reliability Functional Model. When a Reliability Standard identifies a class of entities to which it applies, that class must be defined in the Glossary of Terms Used in NERC Reliability Standards.

2.3 **Reliability Information** — Information necessary for the planning and operation of reliable Bulk Power Systems shall be made available to those entities responsible for planning and operating Bulk Power Systems.

2.4 **Emergency Preparation** — Plans for emergency operation and system restoration of Bulk Power Systems shall be developed, coordinated, maintained, and implemented.

2.5 **Communications and Control** — Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of Bulk Power Systems.

2.6 **Personnel** — Personnel responsible for planning and operating Bulk Power Systems shall be trained and qualified, and shall have the responsibility and authority to implement actions.

2.7 **Wide-Area View** — The reliability of the Bulk Power Systems shall be assessed, monitored, and maintained on a Wide-Area basis.

2.8 **Security** —Bulk Power Systems shall be protected from malicious physical or cyber attacks.

3. **Performance Requirement or Outcome**— Each Reliability Standard shall state one or more performance Requirements, which if achieved by the applicable entities, will provide for a reliable Bulk Power System, consistent with good utility practices and the public interest. Each Requirement is not a "lowest common denominator" compromise, but instead achieves an objective that is the best approach for Bulk Power System reliability, taking account of the costs and benefits of implementing the proposal.

4. **Measurability** — Each performance Requirement shall be stated so as to be objectively measurable by a third party with knowledge or expertise in the area addressed by that Requirement. Each performance Requirement shall have one or more associated measures used to objectively evaluate compliance with the Requirement. If performance can be practically measured quantitatively, metrics shall be provided to determine satisfactory performance.

5. **Technical Basis in Engineering and Operations**— Each Reliability Standard shall be based upon sound engineering and operating judgment, analysis, or experience, as determined by expert practitioners in that particular field.

6. **Completeness** — Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.

7. **Consequences for Noncompliance** — In combination with guidelines for Penalties and sanctions, as well as other ERO and Regional Entity compliance documents, the consequences of violating a Reliability Standard are clearly presented to the entities responsible for complying with the Reliability Standards.

8. **Clear Language** — Each Reliability Standard shall be stated using clear and unambiguous language. Responsible entities, using reasonable judgment and in keeping with good utility practices, are able to arrive at a consistent interpretation of the required performance.

9. **Practicality** — Each Reliability Standard shall establish Requirements that can be practically implemented by the assigned responsible entities within the specified effective date and thereafter.

10. **Consistent Terminology** — To the extent possible, Reliability Standards shall use a set of standard terms and definitions that are approved through the NERC Reliability Standards development process.

## 303. Relationship between Reliability Standards and Competition

To ensure Reliability Standards are developed with due consideration of impacts on competition, to ensure Reliability Standards are not unduly discriminatory or preferential, and recognizing that reliability is an essential requirement of a robust North American economy, each Reliability Standard shall meet all of these market-related objectives:

1. **Competition** — A Reliability Standard shall not give any market participant an unfair competitive advantage.

2. **Market Structures** — A Reliability Standard shall neither mandate nor prohibit any specific market structure.

3. **Market Solutions** — A Reliability Standard shall not preclude market solutions to achieving compliance with that Reliability Standard.

4. **Commercially Sensitive Information** — A Reliability Standard shall not require the public disclosure of commercially sensitive information or other Confidential Information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with Reliability Standards.

5. **Adequacy** — NERC shall not set Reliability Standards defining an adequate amount of, or requiring expansion of, Bulk Power System resources or delivery capability.

## 304. Essential Principles for the Development of Reliability Standards

NERC shall develop Reliability Standards in accordance with the NERC *Standard Processes Manual*, which is incorporated into these Rules of Procedure as **Appendix 3A**. Appeals in connection with the development of a Reliability Standard shall also be conducted in accordance with the NERC *Standard Processes Manual*. Any amendments or revisions to the *Standard Processes Manual* shall be consistent with the following essential principles:

1. **Openness** — Participation shall be open to all Persons and entities who are directly and materially affected by the reliability of the North American Bulk Power System. There shall be no undue financial barriers to participation. Participation shall not be conditional upon membership in NERC or any other organization, and shall not be unreasonably restricted on the basis of technical qualifications or other such requirements.

2. **Transparency** — The process shall be transparent to the public.

3. **Consensus-building** —The process shall build and document consensus for each Reliability Standard, both with regard to the need and justification for the Reliability Standard and the content of the Reliability Standard.

4. **Fair Balance of Interests** — The process shall fairly balance interests of all stakeholders and shall not be dominated by any two Segments as defined in **Appendix 3D**, *Development of the Registered Ballot Body*, of these Rules of Procedure, and no single ~~interest category~~Segment, individual or organization shall be able to defeat a matter.

5. **Due Process** — Development of Reliability Standards shall provide reasonable notice and opportunity for any Person with a direct and material interest to express views on a proposed Reliability Standard and the basis for those views, and to have that position considered in the development of the Reliability Standards.

6. **Timeliness** — Development of Reliability Standards shall be timely and responsive to new and changing priorities for reliability of the Bulk Power System.

## 305. Registered Ballot Body

NERC Reliability Standards shall be approved by a Registered Ballot Body prior to submittal to the Board and then to Applicable Governmental Authorities for their approval, where authorized by applicable legislation or agreement. This Section 305 sets forth the rules pertaining to the composition of, and eligibility to participate in, the Registered Ballot Body.

1. **Eligibility to Vote on Reliability Standards** — Any person or entity may join the Registered Ballot Body to vote on Reliability Standards, whether or not such person or entity is a Member of NERC.

2. **Inclusive Participation** — The Segment qualification guidelines are inclusive; i.e., any entity with a legitimate interest in the reliability of the Bulk Power System that can meet any one of the eligibility criteria for a Segment is entitled to belong to and vote in each Segment for which it qualifies, subject to limitations defined in Sections 305.3 and 305.5.

3. **General Criteria for Registered Ballot Body Membership** — The general criteria for membership in the Segments are:

   3.1 **Multiple Segments** — A corporation or other organization with integrated operations or with affiliates that qualifies to belong to more than one Segment (e.g., Transmission Owners and Load-Serving Entities) may join once in each Segment for which it qualifies, provided that each Segment constitutes a separate membership and the organization is represented in each Segment by a different representative. Affiliated entities are collectively limited to one membership in each Segment for which they are qualified.

   3.2 **Withdrawing from a Segment or Changing Segments** — After its initial registration in a Segment, each registered participant may elect to withdraw from a Segment or apply to change Segments at any time.

   3.3 **Review of Segment Criteria** — The Board shall review the qualification guidelines and rules for joining Segments at least every three years to ensure that the process continues to be fair, open, balanced, and inclusive. Public input will be solicited in the review of these guidelines.

4. **Proxies for Voting on Reliability Standards** — Any registered participant may designate an agent or proxy to vote on its behalf. There are no limits on how many proxies an agent may hold. However, for the proxy to be valid, NERC must have in its possession written documentation signed by the representative of the registered participant that the voting right by proxy has been transferred from the registered participant to the agent.

5. **Segments** — The specific criteria for membership in each Registered Ballot Body Segment are defined in the ~~*Standard Processes Manual*~~*Development of the Registered Ballot Body* in **Appendix ~~3A~~3D.**

6. **Review of Segment Entries** — NERC shall review all applications for joining the Registered Ballot Body, and shall make a determination of whether the applicant's self-selection of a Segment satisfies at least one of the guidelines to

belong to that Segment. The entity shall then become eligible to participate as a voting member of that Segment. The Standards Committee shall resolve disputes regarding eligibility for membership in a Segment, with the applicant having the right of appeal to the Board.

## 306. Standards Committee

The Standards Committee shall provide oversight of the Reliability Standards development process to ensure stakeholder interests are fairly represented. The Standards Committee shall not under any circumstance change the substance of a draft or approved Reliability Standard.

1. **Membership** — The Standards Committee is a representative committee comprising representatives of two members of each of the Segments in the Registered Ballot Body and two officers elected to represent the interests of the industry as a whole.

2. **Elections** — Standards Committee members are elected for staggered (one per Segment per year) two-year terms by the respective Segments in accordance with the *Procedure for the Election of Members of the NERC Standards Committee*, which is incorporated into these Rules of Procedure as **Appendix 3B**. Segments may use their own election procedure if such a procedure is ratified by two-thirds of the members of a Segment and approved by the Board.

3. **Canadian Representation**

   The Standards Committee will include Canadian representation as provided in **Appendix 3B**, *Procedure for the Election of Members of the NERC Standards Committee*.

   ~~3.1 **Provision for Sufficient Canadian Representation** — If any regular election of Standards Committee members does not result in at least two Canadian members on the Standards Committee, the Canadian nominees who were not elected but who received the next highest percentage of votes within their respective Segment(s) will be designated as additional members of the Standards Committee, as needed to achieve a total of two Canadian members.~~

   ~~3.2 **Terms of Specially Designated Canadian Members** — Each specially designated Canadian member of the Standards Committee shall have a term ending with the next annual election.~~

   ~~3.3 **Segment Preference** — If any Segment has an unfilled representative position on the Standards Committee following the annual election, the first preference is to assign each specially designated Canadian representative~~

~~to a Segment with an unfilled representative position for which his or her organization qualifies.~~

~~3.4**Rights of Specially Designated Canadian Members** — Any specially designated Canadian members of the Standards Committee shall have the same rights and obligations as all other members of the Standards Committee.~~

4. **Open Meetings** — All meetings of the Standards Committee shall be open and publicly noticed on the NERC website.

**307. Standards Process Management~~Manager~~**

NERC shall assign a standards process manager to administer the development of continent-wide Reliability Standards and a regional standards manager to administer the development of Regional Reliability Standards. The standards process manager shall be responsible for ensuring that the development and revision of Reliability Standards are in accordance with the NERC *Standard Processes Manual*. The standards process manager and the regional standards manager shall work to achieve the highest degree of integrity and consistency of quality and completeness of the Reliability Standards. The regional standards ~~process~~ manager shall coordinate with any Regional Entities that develop Regional Reliability Standards to ensure those Regional Reliability Standards are effectively integrated with the NERC Reliability Standards.

**308. Steps in the Development of Reliability Standards**

1. **Procedure** — NERC shall develop Reliability Standards through the process set forth in the NERC *Standard Processes Manual* (**Appendix 3A**). The ~~procedure~~*Standard Processes Manual* includes ~~a~~ provisions for developing~~approval of urgent action~~ Reliability Standards that can be completed using expedited processes, including a process to develop Reliability Standards to address national security situations that involve confidential issues~~within 60 days and emergency actions that may be further expedited~~.

2. **Board Adoption~~Approval~~** — Reliability Standards or revisions to Reliability Standards approved by the ballot pool in accordance with the *Standard Processes Manual* shall be submitted for adoption~~approval~~ by the Board. No Reliability Standard or revision to a Reliability Standard shall be effective unless adopted~~approved~~ by the Board.

3. **Governmental Approval** — After ~~receiving~~ Board ~~approval~~adoption, a Reliability Standard or revision to a Reliability Standard shall be submitted to all Applicable Governmental Authorities in accordance with Section 309. No Reliability Standard or revision to a Reliability Standard shall be effective within a geographic area over which an Applicable Governmental Authority has

jurisdiction unless it is approved by such Applicable Governmental Authority or is otherwise made effective pursuant to the laws applicable to such Applicable Governmental Authority.

### 309. Filing of Reliability Standards for Approval by Applicable Governmental Authorities

1. **Filing of Reliability Standards for Approval** — Where authorized by applicable legislation or agreement, NERC shall file with the Applicable Governmental Authorities each Reliability Standard, modification to a Reliability Standard, or withdrawal of a Reliability Standard that is adoptedapproved by the Board. Each filing shall be in the format required by the Applicable Governmental Authority and shall include: a concise statement of the basis and purpose of the Reliability Standard; the text of the Reliability Standard; the implementation plan for the Reliability Standard; a demonstration that the Reliability Standard meets the essential attributes of Reliability Standards as stated in Section 302; the drafting team roster; the ballot pool and final ballot results; and a discussion of public comments received during the development of the Reliability Standard and the consideration of those comments.

2. **Remanded Reliability Standards and Directives to Develop Standards** — If an Applicable Governmental Authority remands a Reliability Standard to NERC or directs NERC to develop a Reliability Standard, NERC shall within five (5) business days notify all other Applicable Governmental Authorities, and shall within thirty (30) calendar days report to all Applicable Governmental Authorities a plan and timetable for modification or development of the Reliability Standard. Reliability Standards that are remanded or directed by an Applicable Governmental Authority shall be modified or developed using the *Standard Processes Manual*. NERC shall, during the development of a modification for the remanded Reliability Standard or directed Reliability Standard, consult with other Applicable Governmental Authorities to coordinate any impacts of the proposed Reliability Standards in those other jurisdictions. The expedited standards development processaction procedure may be applied if necessary to meet a timetable for action required by the Applicable Governmental Authorities, respecting to the extent possible the provisions in the Reliability Standards development process for reasonable notice and opportunity for public comment, due process, openness, and a balance of interest in developing Reliability Standards. If the Board of Trustees determines that the process did not result in a Reliability Standard that addresses a specific matter that is identified in a directive issued by an Applicable Governmental Authority, then Rule 321 of these Rules of Procedure shall apply.

3. **Directives to Develop Reliability Standards under Extraordinary Circumstances** — An Applicable Governmental Authority may, on its own initiative, determine that extraordinary circumstances exist requiring expedited

development of a Reliability Standard. In such a case, the Applicable Governmental Authority may direct the development of a Reliability Standard within a certain deadline. NERC staff shall prepare the Standards Authorization Request ~~and seek a stakeholder sponsor for the request. If NERC is unable to find a sponsor for the proposed Reliability Standard, NERC will be designated as the requestor~~. The proposed Reliability Standard will then proceed through the Reliability Standards development process, using the expedited action process~~procedures~~ described in the *Standard Processes Manual* as necessary to meet the specified deadline. The timeline will be developed to respect, to the extent possible, the provisions in the Reliability Standards development process for reasonable notice and opportunity for public comment, due process, openness, and a balance of interests in developing Reliability Standards. If the Board of Trustees determines that the process did not result in a Reliability Standard that addresses a specific matter that is identified in a directive issued by an Applicable Governmental Authority, then Rule 321 of these Rules of Procedure shall apply, with appropriate modification of the timeline.

~~3.1Consistent with all Reliability Standards developed under the expedited action process, each of the three possible follow-up actions as documented in the *Standard Processes Manual* are to be completed through the Reliability Standards development process and are subject to approval by the Applicable Governmental Authorities in the U.S. and Canada.~~

**310. Annual Reliability Standards Development Plan**

NERC shall develop and provide an annual Reliability Standards Development Plan for development of Reliability Standards to the Applicable Governmental Authorities. NERC shall consider the comments and priorities of the Applicable Governmental Authorities in developing and updating the annual Reliability Standards Development Plan. Each annual Reliability Standards Development Plan shall include a progress report comparing results achieved to the prior year's Reliability Standards Development Plan.

**311. Regional Entity Standards Development Procedures**

1. **NERC Approval of Regional Entity Reliability Standards Development Procedure** — To enable a Regional Entity to develop Regional Reliability Standards that are to be recognized and made part of NERC Reliability Standards, a Regional Entity may request NERC to approve a Regional Reliability Standards development procedure.

2. **Public Notice and Comment on Regional Reliability Standards Development Procedure** — Upon receipt of such a request, NERC shall publicly notice and request comment on the proposed Regional Reliability Standards development procedure, allowing a minimum of 45 days for comment. The Regional Entity shall have an opportunity to resolve any objections identified in the comments and may choose to withdraw the request, revise the Regional Reliability Standards

development procedure and request another posting for comment, or submit the Regional Reliability Standards development procedure, along with its consideration of any objections received, for approval by NERC.

3. **Evaluation of Regional Reliability Standards Development Procedure** — NERC shall evaluate whether a Regional Reliability Standards development procedure meets the criteria listed below and shall consider stakeholder comments, any unresolved stakeholder objections, and the consideration of comments provided by the Regional Entity, in making that determination. If NERC determines the Regional Reliability Standards development procedure meets these requirements, the Regional Reliability Standards development procedure shall be submitted to the Board for approval. The Board shall consider the recommended action, stakeholder comments, any unresolved stakeholder comments, and the Regional Entity consideration of comments in determining whether to approve the Regional Reliability Standards development procedure.

3.1 **Evaluation Criteria** — The Regional Reliability Standards development procedure shall be:

3.1.1 **Open** — The Regional Reliability Standards development procedure shall provide that any person or entity who is directly and materially affected by the reliability of the Bulk Power Systems within the Regional Entity shall be able to participate in the development and approval of Reliability Standards. There shall be no undue financial barriers to participation. Participation shall not be conditional upon membership in the Regional Entity, a Regional Entity or any organization, and shall not be unreasonably restricted on the basis of technical qualifications or other such requirements.

3.1.2 **Inclusive** — The Regional Reliability Standards development procedure shall provide that any Person with a direct and material interest has a right to participate by expressing an opinion and its basis, having that position considered, and appealing through an established appeals process if adversely affected.

3.1.3 **Balanced** — The Regional Reliability Standards development procedure shall have a balance of interests and shall not permit any two interest categories to ~~control the vote on~~dominate a matter or any single interest category to defeat a matter.

3.1.4 **Due Process** — The Regional Reliability Standards development procedure shall provide for reasonable notice and opportunity for public comment. At a minimum, the Regional Reliability Standards development procedure shall include public notice of the intent to develop a Regional Reliability Standard, a public

comment period on the proposed Regional Reliability Standard, due consideration of those public comments, and a ballot of interested stakeholders.

3.1.5 **Transparent** — All actions material to the development of Regional Reliability Standards shall be transparent. All Regional Reliability Standards development meetings shall be open and publicly noticed on the Regional Entity's website.

3.1.6 **Accreditation of Regional Standards Development Procedure** — A Regional Entity's Regional Reliability Standards development procedure that is accredited by the American National Standards Institute ~~or the Standards Council of Canada~~ shall be deemed to meet the criteria listed in this Section 311.3.1, although such accreditation is not a prerequisite for approval by NERC.

3.1.7 **Use of NERC Procedure** — A Regional Entity may adopt the NERC *Standard Processes Manual* as the Regional Reliability Standards development procedure, in which case the Regional Entity's Regional Reliability Standards development procedure shall be deemed to meet the criteria listed in this Section 311.3.1.

4. **Revisions of Regional Reliability Standards Development Procedures** — Any revision to a Regional Reliability Standards development procedure shall be subject to the same approval requirements set forth in Sections 311.1 through 311.3.

5. **Duration of Regional Reliability Standards Development Procedures** — The Regional Reliability Standards development procedure shall remain in effect until such time as it is replaced with a new version approved by NERC or it is withdrawn by the Regional Entity. The Regional Entity may, at its discretion, withdraw its Regional Reliability Standards development procedure at any time.

## 312. Regional Reliability Standards

1. **Basis for Regional Reliability Standards** — Regional Entities may propose Regional Reliability Standards that set more stringent reliability requirements than the NERC Reliability Standard or cover matters not covered by an existing NERC Reliability Standard. Such Regional Reliability Standards shall in all cases be submitted to ~~approved by~~ NERC for adoption and, if adopted, made part of the NERC Reliability Standards and shall be enforceable in accordance with the delegation agreement between NERC and the Regional Entity or other instrument granting authority over enforcement to the Regional Entity. No entities other than NERC and the Regional Entity shall be permitted to develop Regional Reliability

Standards that are enforceable under statutory authority delegated to NERC and the Regional Entity.

2. **Regional Reliability Standards That are Directed by a NERC Reliability Standard** — Although it is the intent of NERC to promote uniform Reliability Standards across North America, in some cases it may not be feasible to achieve a reliability objective with a Reliability Standard that is uniformly applicable across North America. In such cases, NERC may direct Regional Entities to develop Regional Reliability Standards necessary to implement a NERC Reliability Standard. Such Regional Reliability Standards that are developed pursuant to a direction by NERC shall be made part of the NERC Reliability Standards.

3. **Procedure for Developing an Interconnection-wide Regional Standard** — A Regional Entity organized on an Interconnection-wide basis may propose a Regional Reliability Standard for approval as a NERC Reliability Standard to be made mandatory for all applicable Bulk Power System owners, operators, and users within that Interconnection.

   3.1 **Presumption of Validity** — An Interconnection-wide Regional Reliability Standard that is determined by NERC to be just, reasonable, and not unduly discriminatory or preferential, and in the public interest, and consistent with such other applicable standards of governmental authorities, shall be adopted as a NERC Reliability Standard. NERC shall rebuttably presume that a Regional Reliability Standard developed, in accordance with a Regional Reliability Standards development process approved by NERC, by a Regional Entity organized on an Interconnection-wide basis, is just, reasonable, and not unduly discriminatory or preferential, and in the public interest, and consistent with such other applicable standards of governmental authorities.

   3.2 **Notice and Comment Procedure for Interconnection-wide Regional Reliability Standard** — NERC shall publicly notice and request comment on the proposed Interconnection-wide Regional Reliability Standard, allowing a minimum of 45 days for comment. NERC may publicly notice and post for comment the proposed Regional Reliability Standard concurrent with similar steps in the Regional Entity's Regional Reliability Standards development process. The Regional Entity shall have an opportunity to resolve any objections identified in the comments and may choose to comment on or withdraw the request, revise the proposed Regional Reliability Standard and request another posting for comment, or submit the proposed Regional Reliability Standard along with its consideration of any objections received, for approval by NERC.

   3.3 ~~**Approval**~~**Adoption of Interconnection-wide Regional Reliability Standard by NERC** — NERC shall evaluate and recommend whether a proposed Interconnection-wide Regional Reliability Standard has been

developed in accordance with all applicable procedural requirements and whether the Regional Entity has considered and resolved stakeholder objections that could serve as a basis for rebutting the presumption of validity of the Regional Reliability Standard. The Regional Entity, having been notified of the results of the evaluation and recommendation concerning theNERC proposed Regional Reliability Standard, shall have the option of presenting the proposed Regional Reliability Standard to the Board for approvaladoption as a NERC Reliability Standard. The Board shall consider the Regional Entity's request, NERC's recommendation for action on the Regional Reliability Standard, any unresolved stakeholder comments, and the Regional Entity's consideration of comments, in determining whether to approveadopt the Regional Reliability Standard as a NERC Reliability Standard.

3.4 **Applicable Governmental Authority Approval** — An Interconnection-wide Regional Reliability Standard that has been approvedadopted by the Board shall be filed with the Applicable Governmental Authorities for approval, where authorized by applicable legislation or agreement, and shall become effective when approved by such Applicable Governmental Authorities or on a date set by the Applicable Governmental Authorities.

3.5 **Enforcement of Interconnection-wide Regional Reliability Standard** — An Interconnection-wide Regional Reliability Standard that has been adoptedapproved by the Board and by the Applicable Governmental Authorities or is otherwise made effective within Canada as mandatory within a particular Region shall be applicable and enforced as a NERC Reliability Standard within the Region.

4. **Procedure for Developing Non-Interconnection-Wide Regional Reliability Standards** — Regional Entities that are not organized on an Interconnection-wide basis may propose Regional Reliability Standards to apply within their respective Regions. Such Regional Reliability Standards may be developed through the NERC Reliability Standards development procedure, or alternatively, through a Regional Reliability Standards development procedure that has been approved by NERC.

4.1 **No Presumption of Validity** — Regional Reliability Standards that are not proposed to be applied on an Interconnection-wide basis are not presumed to be valid but may be demonstrated by the proponent to be valid.

4.2 **Notice and Comment Procedure for Non-Interconnection-wide Regional Reliability Standards** — NERC shall publicly notice and request comment on the proposed Regional Reliability Standard, allowing a minimum of 45 days for comment. NERC may publicly notice and post for comment the proposed Regional Reliability Standard concurrent with

similar steps in the Regional Entity's Regional Reliability Standards development process. The Regional Entity shall have an opportunity to comment on or resolve any objections identified in the comments and may choose to withdraw the request, revise the proposed Regional Reliability Standard and request another posting for comment, or submit the proposed Regional Reliability Standard along with its consideration of any objections received, for ~~approval~~adoption by NERC.

4.3 **NERC ~~Approval~~Adoption of Non-Interconnection-wide Regional Reliability Standards** — NERC shall evaluate and recommend whether a proposed non-Interconnection-wide Regional Reliability Standard has been developed in accordance with all applicable procedural requirements and whether the Regional Entity has considered and resolved stakeholder objections. The Regional Entity, having been notified of the results of the evaluation and recommendation concerning proposed Regional Reliability Standard, shall have the option of presenting the proposed Regional Reliability Standard to the Board for ~~approval~~adoption as a NERC Reliability Standard. The Board shall consider the Regional Entity's request, the recommendation for action on the Regional Reliability Standard, any unresolved stakeholder comments, and the Regional Entity's consideration of comments, in determining whether to ~~approve~~adopt the Regional Reliability Standard as a NERC Reliability Standard.

4.4 **Applicable Governmental Authority Approval** — A non-Interconnection-wide Regional Reliability Standard that has been ~~approved~~adopted by the Board shall be filed with the Applicable Governmental Authorities for approval, where authorized by applicable legislation or agreement, and shall become effective when approved by such Applicable Governmental Authorities or on a date set by the Applicable Governmental Authorities.

4.5 **Enforcement of Non-Interconnection-wide Regional Reliability Standards** — A non-Interconnection-wide Regional Reliability Standard that has been ~~approved~~adopted by the Board and by the Applicable Governmental Authorities or is otherwise made effective within Canada as mandatory within a particular Region shall be applicable and enforced as a NERC Reliability Standard within the Region.

5. **Appeals** — A Regional Entity shall have the right to appeal NERC's decision not to ~~approve~~adopt a proposed Regional Reliability Standard or Variance to the Commission or other Applicable Governmental Authority.

**313. Other Regional Criteria, Guides, Procedures, Agreements, Etc.**

1. **Regional Criteria** — Regional Entities may develop Regional Criteria that are necessary to implement, to augment, or to comply with NERC Reliability Standards, but which are not Reliability Standards. Regional Criteria may also address issues not within the scope of Reliability Standards, such as resource adequacy. Regional Criteria may include specific acceptable operating or planning parameters, guides, agreements, protocols or other documents used to enhance the reliability of the Bulk Power System in the Region. These documents typically provide benefits by promoting more consistent implementation of the NERC Reliability Standards within the Region. These documents are not NERC Reliability Standards, Regional Reliability Standards, or regional Variances, and therefore are not enforceable under authority delegated by NERC pursuant to delegation agreements and do not require NERC approval.

2. **Catalog of Regional Criteria** — NERC shall maintain a current catalog of Regional Criteria. Regional Entities shall provide a catalog listing of Regional Criteria to NERC and shall notify NERC of changes to the listing. Regional Entities shall provide any listed document to NERC upon written request.

## 314. Conflicts with Statutes, Regulations, and Orders

**Notice of Potential Conflict** — If a Bulk Power System owner, operator, or user determines that a NERC or Regional Reliability Standard may conflict with a function, rule, order, tariff, rate schedule, legislative requirement or agreement that has been accepted, approved, or ordered by a governmental authority affecting that entity, the entity shall expeditiously notify the governmental authority, NERC, and the relevant Regional Entity of the conflict.

1. **Determination of Conflict —** NERC, upon request of the governmental authority, may advise the governmental authority regarding the conflict and propose a resolution of the conflict, including revision of the Reliability Standard if appropriate.

2. **Regulatory Precedence** — Unless otherwise ordered by a governmental authority, the affected Bulk Power System owner, operator, or user shall continue to follow the function, rule, order, tariff, rate schedule, legislative requirement, or agreement accepted, approved, or ordered by the governmental authority until the governmental authority finds that a conflict exists and orders a remedy and such remedy is affected.

## 315. Revisions to NERC ~~Reliability~~ Standard~~s~~ Processes Manual~~Development Procedure~~

Any person or entity may submit a written request to modify NERC *Standard Processes Manual*. Consideration of the request and development of the revision shall follow the process defined in the NERC *Standard Processes Manual*. Upon approval by the Board,

the revision shall be submitted to the Applicable Governmental Authorities for approval. Changes shall become effective only upon approval by the Applicable Governmental Authorities or on a date designated by the Applicable Governmental Authorities or as otherwise applicable in a particular jurisdiction.

**316. Accreditation**

NERC shall seek and maintain~~continuing~~ accreditation of the NERC Reliability Standards development process by the American National Standards Institute ~~and the Standards Council of Canada~~.

**317. Five-Year Review of Reliability Standards**

NERC shall complete a review of each NERC Reliability Standard at least once every five years, or such longer period as is permitted by the American National Standards Institute, from the effective date of the Reliability Standard or the latest revision to the Reliability Standard, whichever is later. The review process shall be conducted in accordance with the NERC *Standard Processes Manual*. The standards process manager shall be responsible for administration of the five-year review of Reliability Standards. As a result of this review, the NERC Reliability Standard shall be reaffirmed, revised, or withdrawn. If the review indicates a need to revise or withdraw the Reliability Standard, a request for revision or withdrawal shall be prepared, submitted and addressed in accordance with the NERC *Standard Processes Manual*.

**318. Coordination with the North American Energy Standards Board**

NERC shall~~, through a memorandum of understanding,~~ maintain a close working relationship with the North American Energy Standards Board and ISO/RTO Council to ensure effective coordination of wholesale electric business practice standards and market protocols with the NERC Reliability Standards.

**319. Archived Standards Information**

NERC shall maintain a historical record of Reliability Standards information that is no longer maintained on-line. For example, Reliability Standards that have been retired~~expired or were replaced~~ may be removed from the on-line system. Archived information shall be retained indefinitely as practical, but in no case less than ~~five~~six years or one complete Reliability Standards review cycle from the date on which the Reliability Standard was no longer in effect. Archived records of Reliability Standards information shall be available electronically within 30 days following the receipt by the NERC standards information~~process~~ manager of a written request.

**320. ~~Alternate Method~~Procedure for Developing and Approving~~Adopting~~ Violation Risk Factors and Violation Severity Levels**

1. **Development of Violation Risk Factors and Violation Severity Levels** — NERC shall follow the process for developing Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs) as set forth in the *Standard Processes Manual*, **Appendix 3A** to these Rules of Procedure.

2. **Remands of Directed Revision of VRFs and VSLs by Applicable Governmental Authorities** — If an Applicable Governmental Authority remands or directs a revision to a Board-approved VRF or VSL assignment, the NERC director of standards, after consulting with the standard drafting team, Standards Committee, and the NERC director of compliance operations, will recommend to the Board one of the following actions: (1) filing a request for clarification; (2) filing for rehearing or for review of the Applicable Governmental Authority decision; or (3) approval of the directed revisions to the VRF or VSL. If and to the extent time is available prior to the deadline for the Board's decision, an opportunity for interested parties to comment on the action taken will be provided.

3. **Alternative Procedure for Developing and Approving Violation Risk Factors and Violation Severity Levels** — In the event the Reliability Standards development process fails to produce Violation Risk Factors or Violation Severity Levels for a particular Reliability Standard in a timely manner, the Board of Trustees may approve~~adopt~~ Violation Risk Factors or Violation Severity Levels for that Reliability Standard after notice and opportunity for comment. In approving VRFs and VSLs, the Board shall consider the inputs of the Member Representatives Committee, affected stakeholders and NERC staff~~using the procedures set out in Section 1400 of these Rules of Procedure~~.

**321. Special Rule to Address Certain Regulatory Directives**

In circumstances where this Rule 321 applies, the Board of Trustees shall have the authority to take one or more of the actions set out below. The Board of Trustees shall have the authority to choose which one or more of the actions are appropriate to the circumstances and need not take these actions in sequential steps.

1. The Standards Committee shall have the responsibility to ensure that standards drafting teams address specific matters that are identified in directives issued by Applicable Governmental Authorities. If the Board of Trustees is presented with a proposed Reliability Standard that fails to address such directives, the Board of Trustees has the authority to remand, with instructions (including establishing a timetable for action), the proposed Reliability Standard to the Standards Committee.

2. Upon a written finding by the Board of Trustees that a ballot pool has failed to approve a proposed Reliability Standard that contains a provision to address a specific matter identified in a directive issued by an Applicable Governmental Authority, the Board of Trustees has the authority to remand the proposed

Reliability Standard to the Standards Committee, with instructions to (i) convene a public technical conference to discuss the issues surrounding the regulatory directive, including whether or not the proposed Reliability Standard is just, reasonable, not unduly discriminatory or preferential, in the public interest, helpful to reliability, practical, technically sound, technically feasible, and cost-justified; (ii) working with NERC staff, prepare a memorandum discussing the issues, an analysis of the alternatives considered and other appropriate matters; and (iii) re-ballot the proposed Reliability Standard one additional time, with such adjustments in the schedule as are necessary to meet the deadline contained in paragraph 2.1 of this Rule.

2.1 Such a re-ballot shall be completed within forty-five (45) days of the remand. The Standards Committee memorandum shall be included in the materials made available to the ballot pool in connection with the re-ballot.

2.2 In any such re-ballot, negative votes without comments related to the proposal shall be counted for purposes of establishing a quorum, but only affirmative votes and negative votes with comments related to the proposal shall be counted for purposes of determining the number of votes cast and whether the proposed Reliability Standard has been approved.

3. If the re-balloted proposed Reliability Standard achieves at least an affirmative two-thirds majority vote of the weighted Segment votes cast, with a quorum established, then the proposed Reliability Standard shall be deemed approved by the ballot pool and shall be considered by the Board of Trustees for approval.

4. If the re-balloted proposed Reliability Standard fails to achieve at least an affirmative two-thirds majority vote of the weighted Segment votes cast, but does achieve at least a sixty percent affirmative majority of the weighted Segment votes cast, with a quorum established, then the Board of Trustees has the authority to consider the proposed Reliability Standard for approval under the following procedures:

4.1 The Board of Trustees shall issue notice of its intent to consider the proposed Reliability Standard and shall solicit written public comment particularly focused on the technical aspects of the provisions of the proposed Reliability Standard that address the specific matter identified in the regulatory directive, including whether or not the proposed Reliability Standard is just, reasonable, not unduly discriminatory or preferential, in the public interest, helpful to reliability, practical, technically sound, technically feasible, and cost-justified.

4.2 The Board of Trustees may, in its discretion, convene a public technical conference to receive additional input on the matter.

4.3 After considering the developmental record, the comments received during balloting and the additional input received under paragraphs 4.1

and 4.2 of this Rule, the Board of Trustees has authority to act on the proposed Reliability Standard.

4.3.1 If the Board of Trustees finds that the proposed Reliability Standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest, considering (among other things) whether it is helpful to reliability, practical, technically sound, technically feasible, and cost-justified, then it has authority to approve the proposed Reliability Standard and direct that it be filed with Applicable Governmental Authorities with a request that it be made effective.

4.3.2 If the Board of Trustees is unable to find that the proposed Reliability Standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest, considering (among other things) whether it is helpful to reliability, practical, technically sound, technically feasible, and cost-justified, then it has authority to treat the proposed Reliability Standard as a draft Reliability Standard and direct that the draft Reliability Standard and complete developmental record, including the additional input received under paragraphs 4.1 and 4.2 of this Rule, be filed with the Applicable Governmental Authorities as a compliance filing in response to the order giving rise to the regulatory directive, along with a recommendation that the Reliability Standard not be made effective and an explanation of the basis for the recommendation.

5. Upon a written finding by the Board of Trustees that standard drafting team has failed to develop, or a ballot pool has failed to approve, a proposed Reliability Standard that contains a provision to address a specific matter identified in a directive issued by an Applicable Governmental Authority, the Board of Trustees has the authority to direct the Standards Committee (with the assistance of stakeholders and NERC staff) to prepare a draft Reliability Standard that addresses the regulatory directive, taking account of the entire developmental record pertaining to the matter. If the Standards Committee fails to prepare such draft Reliability Standard, the Board of Trustees may direct NERC management to prepare such draft Reliability Standard.

5.1 The Board of Trustees may, in its discretion, convene a public technical conference to receive input on the matter. The draft Reliability Standard shall be posted for a 45-day public comment period.

5.2 If, after considering the entire developmental record (including the comments received under paragraph 5.1 of this Rule), the Board of Trustees finds that the draft Reliability Standard, with such modifications as the Board of Trustees determines are appropriate in light of the comments received, is just, reasonable, not unduly discriminatory or preferential, and in the public interest, considering (among other things)

whether it is practical, technically sound, technically feasible, cost-justified and serves the best interests of reliability of the Bulk Power System, then the Board of Trustees has the authority to approve the draft Reliability Standard and direct that the proposed Reliability Standard be filed with Applicable Governmental Authorities with a request that the proposed Reliability Standard be made effective.

5.3 If, after considering the entire developmental record (including the comments received under paragraph 5.1 of this Rule), the Board of Trustees is unable to find that the draft Reliability Standard, even with modifications, is just, reasonable, not unduly discriminatory or preferential, and in the public interest, considering (among other things) whether it is practical, technically sound, technically feasible, cost-justified and serves the best interests of reliability of the Bulk Power System, then the Board of Trustees has the authority to direct that the draft Reliability Standard and complete developmental record be filed as a compliance filing in response to the regulatory directive with the Applicable Governmental Authority issuing the regulatory directive, with a recommendation that the draft Reliability Standard not be made effective.

5.4 The filing of the Reliability Standard under either paragraph 5.2 or paragraph 5.3 of this Rule shall include an explanation of the basis for the decision by the Board of Trustees.

5.5 A Reliability Standard approved under paragraph 5 of this Rule shall not be eligible for submission as an American National Standard.

6. NERC shall on or before March 31st of each year file a report with Applicable Governmental Authorities on the status and timetable for addressing each outstanding directive to address a specific matter received from an Applicable Governmental Authority.

# SECTION 400 — COMPLIANCE ENFORCEMENT

## 401. Scope of the NERC Compliance Monitoring and Enforcement Program

1. **Components of the NERC Compliance Monitoring and Enforcement Program** — NERC shall develop and implement a NERC Compliance Monitoring and Enforcement Program to promote the reliability of the Bulk Power System by enforcing compliance with approved Reliability Standards in those regions of North American in which NERC and/or a Regional Entity (pursuant to a delegation agreement with NERC that has been approved by the Applicable Governmental Authority) has been given enforcement authority. There are four distinct parts of the NERC Compliance Monitoring and Enforcement Program: (1) NERC's oversight of the Regional Entity Compliance Monitoring and Enforcement Programs (Section 402), (2) the definition of the required Regional Entity Compliance Monitoring and Enforcement Program attributes (Section 403), (3) NERC's monitoring of Regional Entity compliance with Reliability Standards (Section 404), and (4) the monitoring of compliance with Reliability Standards that are applicable to NERC (Sections 405–406).

2. **Who Must Comply** — Where required by applicable legislation, regulation, rule or agreement, all Bulk Power System owners, operators, and users, Regional Entities, and NERC, are required to comply with all approved NERC Reliability Standards at all times. Regional Reliability Standards and Variances approved by NERC and the Applicable Governmental Authority shall be considered NERC Reliability Standards and shall apply to all Bulk Power System owners, operators, or users responsible for meeting those Reliability Standards within the Regional Entity boundaries, whether or not the Bulk Power System owner, operator, or user is a member of the Regional Entity.

3. **Data Access** — All Bulk Power System owners, operators, and users shall provide to NERC and the applicable Regional Entity such information as is necessary to monitor compliance with the Reliability Standards. NERC and the applicable Regional Entity will define the data retention and reporting requirements in the Reliability Standards and compliance reporting procedures.

4. **Role of Regional Entities in the Compliance Monitoring and Enforcement Program** — Each Regional Entity that has been delegated authority through a delegation agreement or other legal instrument approved by the Applicable Governmental Authority shall, in accordance with the terms of the approved delegation agreement, administer a Regional Entity Compliance Monitoring and Enforcement program to meet the NERC Compliance Monitoring and Enforcement Program goals and the requirements in this Section 400.

5. **Program Continuity** — NERC will ensure continuity of compliance monitoring and enforcement within the geographic boundaries of a Regional Entity in the event that NERC does not have a delegation agreement, or the Regional Entity withdraws from the agreement or does not operate its Compliance Monitoring and Enforcement Program in accordance with the delegation agreement or other applicable requirements.

5.1 Should NERC not have a delegation agreement with a Regional Entity covering a geographic area, or a Regional Entity withdraws from an existing delegation agreement or the delegation agreement is otherwise terminated, NERC will directly administer the Compliance Monitoring and Enforcement Program applicable to owners, operators and users of the Bulk Power System within that geographic area.

1. This monitoring and enforcement will be accomplished by NERC and Compliance Staff from another approved Regional Entity.

2. If an existing delegation agreement with a Regional Entity is terminating, the Regional Entity shall promptly provide to NERC all relevant compliance information regarding Registered Entities, contacts, prior compliance information and actions, Mitigation Plans, and ~~r~~Remedial ~~a~~Action Directives for the period in which the Regional Entity was responsible for administering the Compliance Monitoring and Enforcement Program.

3. NERC will levy and collect all Penalties directly and will utilize any Penalty monies collected to offset the expenses of administering the Compliance Monitoring and Enforcement Program for the geographic area.

5.2 Should a Regional Entity seek to withdraw from its delegation agreement, NERC will seek agreement from another Regional Entity to amend its delegation agreement with NERC to extend that Regional Entity's boundaries for compliance monitoring and enforcement. In the event no Regional Entity is willing to accept this responsibility, NERC will administer the Compliance Monitoring and Enforcement Program within the geographical boundaries of the Regional Entity seeking to withdraw from the delegation agreement, in accordance with Section 401.5.1.

6. **Actively Monitored Requirements** — NERC, with input from the Regional entities, stakeholders, and regulators, shall annually select a subset of the NERC Reliability Standards and Requirements to be actively monitored and audited in the annual NERC Compliance Monitoring and Enforcement Program Implementation Plan. Compliance is required, and NERC and the Regional Entities have authority to monitor compliance, with all NERC Reliability Standards whether or not they are included in the subset of Reliability Standards and Requirements designated to be actively monitored and audited in the annual NERC Compliance Monitoring and Enforcement Program Implementation Plan.

7. **Penalties, Sanctions, and Remedial Action Directives** — NERC and Regional Entities will apply Penalties, sanctions, and ~~r~~Remedial ~~a~~Action Directives that bear a reasonable relation to the seriousness of a violation and take into consideration timely remedial efforts as defined in the NERC *Sanction Guidelines*, which is incorporated into these rules as **Appendix 4B**.

8. **Multiple Enforcement Actions** – A Registered Entity shall not be subject to an enforcement action by NERC and a Regional Entity, or by more than one

Regional Entity (unless the Registered Entity is registered in more than one Region in which the violation occurred), for the same violation.

9. **Records** — NERC shall maintain a record of each compliance submission, including Self-Reported, Possible, Alleged, and Confirmed Violations of approved Reliability Standards; associated Penalties, sanctions, ~~r~~Remedial ~~a~~Action Directives and settlements; and the status of mitigation actions.

10. **Confidential Information** — NERC will treat all Possible and Alleged Violations of Reliability Standards and matters related to a Compliance Monitoring and Enforcement Program process, including the status of any Compliance Investigation or other Compliance Monitoring and Enforcement Program process, as confidential in accordance with Section 1500.

    The types of information that will be considered confidential and will not (subject to statutory and regulatory requirements) be disclosed in any public information reported by NERC are identified in Section 1500. Information that would jeopardize Bulk Power System reliability, including information relating to a Cyber Security Incident, will be identified and protected from public disclosure as Critical Energy Infrastructure Information in accordance with Section 1500.

    The Regional Entity and NERC shall give Bulk Power System owners, operators, and users a reasonable opportunity to demonstrate that information concerning a violation is confidential before such report is disclosed to the public.

11. **Public Posting** — When the affected Bulk Power System owner, operator, or user either agrees with a Possible or Alleged Violation(s) of a Reliability Standard(s) or a report of a Compliance Audit or Compliance Investigation, or enters into a settlement agreement concerning a Possible or Alleged Violation(s), or the time for submitting an appeal is passed, or all appeals processes are complete, NERC shall, subject to the confidentiality requirements of these Rules of Procedure, publicly post each Confirmed Violation, Penalty or sanction, settlement agreement, and final Compliance Audit or Compliance Investigation report, on its website.

    11.1 Each Bulk Power System owner, operator, or user may provide NERC with a statement to accompany the Confirmed Violation or report to be posted publicly. The statement must be on company letterhead and include a signature, as well as the name and title of the person submitting the information.

    11.2 In accordance with Section 1500, information deemed by a Bulk Power System owner, operator, or user, Regional Entity, or NERC as Critical Energy Infrastructure Information (*NERC Security Guidelines for the Electricity Sector — Protecting Potentially Sensitive Information* may be used as a guide) or other Confidential Information shall be redacted in accordance with Section 1500 and not be released publicly.

11.3 Subject to redaction of Critical Energy Infrastructure Information or other Confidential Information, for each Confirmed Violation or settlement relating to a Possible Violation or an Alleged Violation, the public posting shall include the name of any relevant entity, the nature, time period, and circumstances of such Possible, Alleged or Confirmed Violation, any Mitigation Plan or other Mitigating Activities to be implemented by the Registered Entity in connection with the Confirmed Violation or settlement, and sufficient facts to assist owners, operators and users of the Bulk Power System to evaluate whether they have engaged in or are engaging in similar activities.

12. **Violation Information Review** — NERC Compliance Staff shall periodically review and analyze all reports of Possible, Alleged and Confirmed Violations to identify trends and other pertinent reliability issues.

## 402. NERC Oversight of the Regional Entity Compliance Monitoring and Enforcement Programs

1. **NERC Monitoring Program** — NERC shall have a program to monitor the Compliance Monitoring and Enforcement Program of each Regional Entity that has been delegated authority. The objective of this monitoring program shall be to ensure that the Regional Entity carries out its Compliance Monitoring and Enforcement Program in accordance with these Rules of Procedure and the terms of the delegation agreement, and to ensure consistency and fairness of the Regional Entity's Compliance Monitoring and Enforcement Program. Oversight and monitoring by NERC shall be accomplished through an annual Compliance Monitoring and Enforcement Program review, program audits, and regular evaluations of Regional Entity Compliance Monitoring and Enforcement Program performance as described below.

1.1 **NERC Review of Annual Regional Entity Compliance Monitoring and Enforcement Program Implementation Plans** — NERC shall require each Regional Entity to submit for review and approval an annual Regional Entity Compliance Monitoring and Enforcement Program Implementation Plan. NERC shall review each annual Regional Entity Compliance Monitoring and Enforcement Program Implementation Plan and shall accept the plan if it meets NERC requirements and the requirements of the delegation agreement.

1.2 **Regional Entity Compliance Monitoring and Enforcement Program Evaluation** — NERC shall annually evaluate the goals, tools, and procedures of each Regional Entity Compliance Monitoring and Enforcement Program to determine the effectiveness of each Regional Entity Compliance Monitoring and Enforcement Program, using criteria developed by the NERC Compliance and Certification Committee.

1.3 **Regional Entity Compliance Monitoring and Enforcement Program Audit** — At least once every five years, NERC shall conduct an audit to evaluate how each Regional Entity Compliance Monitoring and

Enforcement Program implements the NERC Compliance Monitoring and Enforcement Program. The evaluation shall be based on these Rules of Procedure, including Appendix 4C, the delegation agreement, directives in effect pursuant to the delegation agreement, approved annual Regional Entity Compliance Monitoring and Enforcement Program Implementation Plans, required Compliance Monitoring and Enforcement Program attributes, and the NERC Compliance Monitoring and Enforcement Program procedures. These evaluations shall be provided to the Applicable Governmental Authorities to demonstrate the effectiveness of each Regional Entity. In addition, audits of Cross-Border Regional Entities shall cover applicable requirements imposed on the Regional Entity by statute, regulation, or order of, or agreement with, provincial governmental and/or regulatory authorities for which NERC has auditing responsibilities over the Regional Entity's compliance with such requirements within Canada or Mexico. Participation of a representative of an Applicable Governmental Authority shall be subject to the limitations of sections 3.1.6 and 8.0 of Appendix 4C of these Rules of Procedure regarding disclosures of non-public compliance information related to other jurisdictions. NERC shall maintain an audit procedure containing the requirements, steps, and timelines to conduct an audit of each Regional Entity Compliance Monitoring and Enforcement Program. The current procedure is contained in the NERC Audit of Regional Entity Compliance Programs, which is incorporated into these rules as **Appendix 4A**.

1.3.1. NERC shall establish a program to audit bulk power system owners, operators, and users operating within a regional entity to verify the findings of previous compliance audits conducted by the regional entity to evaluate how well the regional entity compliance enforcement program is meeting its delegated authority and responsibility.

1.4 Applicable Governmental Authorities will be allowed to participate as an observer in any audit conducted by NERC of a Regional Entity's Compliance Monitoring and Enforcement Program. A representative of the Regional Entity being audited will be allowed to participate in the audit as an observer.

2. **Consistency Among Regional Compliance Monitoring and Enforcement Programs** — To provide for a consistent Compliance Monitoring and Enforcement Program for all Bulk Power System owners, operators, and users required to comply with approved Reliability Standards, NERC shall maintain a single, uniform Compliance Monitoring and Enforcement Program, which is incorporated into these rules of procedure as **Appendix 4C**. Any differences in Regional Entity Compliance Monitoring and Enforcement Program methods, including determination of violations and Penalty assessment, shall be justified on a case-by-case basis and fully documented in each Regional Entity delegation agreement.

2.1 NERC shall ensure that each of the Regional Entity Compliance Monitoring and Enforcement Programs meets these Rules of Procedure, including **Appendix 4C**, and follows the terms of the delegation agreement and the approved annual Regional Entity Compliance Monitoring and Enforcement Program Implementation Plan.

2.2 NERC shall maintain a single, uniform Compliance Monitoring and Enforcement Program in **Appendix 4C** containing the procedures to ensure the consistency and fairness of the processes used to determine Regional Entity Compliance Monitoring and Enforcement Program findings of compliance and noncompliance, and the application of Penalties and sanctions.

2.3 NERC shall periodically conduct Regional Entity compliance manager forums. These forums shall use the results of Regional Entity Compliance Monitoring and Enforcement Program audits and findings of NERC Compliance Staff to identify and refine Regional Entity Compliance Monitoring and Enforcement Program differences into a set of best practices over time.

3. **Information Collection and Reporting** — NERC and the Regional Entities shall implement data management procedures that address data reporting requirements, data integrity, data retention, data security, and data confidentiality.

4. **Violation Disclosure** — NERC shall disclose all Confirmed Violations and maintain as confidential Possible Violations and Alleged Violations, according to the reporting and disclosure process in **Appendix 4C**.

5. **Authority to Determine Noncompliance, Levy Penalties and Sanctions, and Issue Remedial Action Directives** — NERC and Regional Entity Compliance Staff shall have the authority and responsibility to make initial determinations of compliance or noncompliance, and where authorized by the Applicable Governmental Authorities or where otherwise authorized, to determine Penalties and sanctions for noncompliance with a Reliability Standard, and issue Remedial Action Directives. Regional Entity boards or a compliance panel reporting directly to the Regional Entity board will be vested with the authority for the overall Regional Entity Compliance Monitoring and Enforcement Program and have the authority to impose Penalties and sanctions on behalf of NERC, where authorized by applicable legislation or agreement. Remedial Action Directives may be issued by NERC or a Regional Entity that is aware of a Bulk Power System owner, operator, or user that is, or is about to engage in an act or practice that would result, in noncompliance with a Reliability Standard, where such Remedial Action Directive is immediately necessary to protect the reliability of the Bulk Power System from an imminent or actual threat. If, after receiving such a Remedial Action Directive, the Bulk Power System owner, operator, or user does not take appropriate action to avert a violation of a Reliability Standard,

NERC may petition the Applicable Governmental Authority to issue a compliance order.

6. **Due Process** — NERC shall establish and maintain a fair, independent, and nondiscriminatory appeals process. The appeals process is set forth in Sections 408-410. The process shall allow Bulk Power System owners, operators, and users to appeal the Regional Entity's findings of noncompliance and to appeal Penalties, sanctions, and Remedial Action Directives that are levied by the Regional Entity. Appeals beyond the NERC process will be heard by the Applicable Governmental Authority.

   The appeals process will also allow for appeals to NERC of any findings of noncompliance issued by NERC to a Regional Entity for Reliability Standards and Requirements where the Regional Entity is monitored for compliance to a Reliability Standard. No monetary Penalties will be levied in these matters; however sanctions, remedial actions, and directives to comply may be applied by NERC.

7. **Conflict Disclosure** — NERC shall disclose to the appropriate governmental authorities any potential conflicts between a market rule and the enforcement of a Regional Reliability Standard.

8. **Confidentiality** — To maintain the integrity of the NERC Compliance Monitoring and Enforcement Program, NERC and Regional Entity staff, Compliance Audit team members, and committee members shall maintain the confidentiality of information obtained and shared during compliance monitoring and enforcement processes including Compliance Investigations, Compliance Audits, Spot Checks, drafting of reports, appeals, and closed meetings.

   8.1 NERC and the Regional Entity shall have in place appropriate codes of conduct and confidentiality agreements for staff and other Compliance Monitoring and Enforcement Program participants.

   8.2 Individuals not bound by NERC or Regional Entity codes of conduct who serve on compliance-related committees or Compliance Audit teams shall sign a NERC confidentiality agreement prior to participating on the committee or Compliance Audit team.

   8.3 Information deemed by a Bulk Power System owner, operator, or user, Regional Entity, or NERC as Critical Energy Infrastructure Information shall not be distributed outside of a committee or team, nor released publicly. Other information subject to confidentiality is identified in Section 1500.

   8.4 In the event that a staff, committee, or Compliance Audit team member violates any of the confidentiality rules set forth above, the staff, committee, or Compliance Audit team member and any member organization with which the individual is associated may be subject to

appropriate action by the Regional Entity or NERC, including prohibiting participation in future Compliance Monitoring and Enforcement Program activities.

9. **Auditor Training** — NERC shall develop and provide training in auditing skills to all people who participate in NERC and Regional Entity Compliance Audits. Training for NERC and Regional Entity personnel and others who serve as Compliance Audit team leaders shall be more comprehensive than training given to industry subject matter experts and Regional Entity members. Training for Regional Entity members may be delegated to the Regional Entity.

## 403. Required Attributes of Regional Entity Compliance Monitoring and Enforcement Programs

Each Regional Entity Compliance Monitoring and Enforcement Program shall promote excellence in the enforcement of Reliability Standards. To accomplish this goal, each Regional Entity Compliance Monitoring and Enforcement Program shall (i) conform to and comply with the NERC uniform Compliance Monitoring and Enforcement Program, **Appendix 4C** to these Rules of Procedure, except to the extent of any deviations that are stated in the Regional Entity's delegation agreement, and (ii) meet all of the attributes set forth in this Section 403.

**Program Structure**

1. **Independence** — Each Regional Entity's governance of its Compliance Monitoring and Enforcement Program shall exhibit independence, meaning the Compliance Monitoring and Enforcement Program shall be organized so that its compliance monitoring and enforcement activities are carried out separately from other activities of the Regional Entity. The Compliance Monitoring and Enforcement Program shall not be unduly influenced by the Bulk Power System owners, operators, and users being monitored or other Regional Entity activities that are required to meet the Reliability Standards. Regional Entities must include rules providing that no two industry sectors may control any decision and no single segment may veto any matter related to compliance.

2. **Exercising Authority** — Each Regional Entity Compliance Monitoring and Enforcement Program shall exercise the responsibility and authority in carrying out the delegated functions of the NERC Compliance Monitoring and Enforcement Program in accordance with delegation agreements and **Appendix 4C**. These functions include but are not limited to: data gathering, data reporting, Compliance Investigations, Compliance Audit activities, evaluating compliance and noncompliance, imposing Penalties and sanctions, and approving and tracking mitigation actions.

3. **Delegation of Authority** — To maintain independence, fairness, and consistency in the NERC Compliance Monitoring and Enforcement Program, a Regional Entity shall not sub-delegate its Compliance Monitoring and Enforcement Program duties to entities or persons other than the Regional Entity Compliance Staff, unless (i) required by statute or regulation in the applicable jurisdiction, or

(ii) by agreement with express approval of NERC and of FERC or other Applicable Governmental Authority, to another Regional Entity.

4. **Hearings of Contested Findings or Sanctions —** The Regional Entity board or compliance panel reporting directly to the Regional Entity board (with appropriate recusal procedures) will be vested with the authority for conducting compliance hearings in which any Bulk Power System owner, operator, or user provided a Notice of Alleged Violation may present facts and other information to contest a Notice of Alleged Violation or any proposed Penalty, sanction, any Remedial Action Directive, or any Mitigation Plan component. Compliance hearings shall be conducted in accordance with the Hearing Procedures set forth in Attachment 2 to **Appendix 4C**. If a stakeholder body serves as the Hearing Body, no two industry sectors may control any decision and no single segment may veto any matter related to compliance after recusals.

**Program Resources**

5. **Regional Entity Compliance Staff** — Each Regional Entity shall have sufficient resources to meet delegated compliance monitoring and enforcement responsibilities, including the necessary professional staff to manage and implement the Regional Entity Compliance Monitoring and Enforcement Program.

6. **Regional Entity Compliance Staff Independence** — The Regional Entity Compliance Staff shall be capable of and required to make all determinations of compliance and noncompliance and determine Penalties, sanctions, and ~~r~~Remedial ~~a~~Action Directives and to review and accept Mitigation Plans and other Mitigating Activities.

   6.1 Regional Entity Compliance Staff shall not have a conflict of interest, real or perceived, in the outcome of compliance monitoring and enforcement processes, reports, or sanctions. The Regional Entity shall have in effect a conflict of interest policy.

   6.2 Regional Entity Compliance Staff shall have the authority and responsibility to carry out compliance monitoring and enforcement processes (with the input of industry subject matter experts), make determinations of compliance or noncompliance, and levy Penalties and sanctions without interference or undue influence from Regional Entity members and their representative or other industry entities.

   6.3 Regional Entity Compliance Staff may call upon independent technical subject matter experts who have no conflict of interest in the outcome of the compliance monitoring and enforcement process to provide technical advice or recommendations in the determination of compliance or noncompliance.

   6.4 Regional Entity Compliance Staff shall abide by the confidentiality requirements contained in Section 1500 and **Appendix 4C** of these Rules of Procedure, the NERC delegation agreement and other confidentiality

agreements required by the NERC Compliance Monitoring and Enforcement Program.

6.5 Contracting with independent consultants or others working for the Regional Entity Compliance Monitoring and Enforcement Program shall be permitted provided the individual has not received compensation from a Bulk Power System owner, operator, or user being monitored for a period of at least the preceding six months and owns no financial interest in any Bulk Power System owner, operator, or user being monitored for compliance to the Reliability Standard, regardless of where the Bulk Power System owner, operator, or user operates. Any such individuals for the purpose of these Rules of Procedure shall be considered as augmenting Regional Entity Compliance Staff.

**7. Use of Industry Subject Matter Experts and Regional Entity Members** — Industry experts and Regional Entity members may be called upon to provide their technical expertise in Compliance Monitoring and Enforcement Program activities.

7.1 The Regional Entity shall have procedures defining the allowable involvement of industry subject matter experts and Regional Entity members. The procedures shall address applicable antitrust laws and conflicts of interest.

7.2 Industry subject matter experts and Regional Entity members shall have no conflict of interest or financial interests in the outcome of their activities.

7.3 Regional Entity members and industry subject matter experts, as part of teams or Regional Entity committees, may provide input to the Regional Entity Compliance Staff so long as the authority and responsibility for (i) evaluating and determining compliance or noncompliance and (ii) levying Penalties, sanctions, or ~~r~~Remedial ~~a~~Action Directives shall not be delegated to any person or entity other than the Compliance Staff of the Regional Entity. Industry subject matter experts, Regional Entity members, or Regional Entity committees shall not make determinations of noncompliance or levy Penalties, sanctions, or ~~r~~Remedial ~~a~~Action Directives. Any committee involved shall be organized so that no two industry sectors may control any decision and no single segment may veto any matter related to compliance.

7.4 Industry subject matter experts and Regional Entity members shall sign a confidentiality agreement appropriate for the activity being performed.

7.5 All industry subject matter experts and Regional Entity members participating in Compliance Audits and Compliance Investigations shall successfully complete auditor training provided by NERC or the Regional Entity prior to performing these activities

**Program Design**

8. **Regional Entity Compliance Monitoring and Enforcement Program Content** — All approved Reliability Standards shall be included in the Regional Entity Compliance Monitoring and Enforcement Program for all Bulk Power System owners, operators, and users within the defined boundaries of the Regional Entity. Compliance to approved Regional Reliability Standards is applicable only within the Region of the Regional Entity that submitted those particular Regional Reliability Standards for approval. NERC will identify the minimum set of Reliability Standards and Requirements to be actively monitored by the Regional Entity in a given year.

9. **Antitrust Provisions** — Each Regional Entity's Compliance Monitoring and Enforcement Program shall be structured and administered to abide by U.S. antitrust law and Canadian competition law.

10. **Information Submittal** — All Bulk Power System owners, operators, and users within the Regional Entity responsible for complying with Reliability Standards shall submit timely and accurate information when requested by the Regional Entity or NERC. NERC and the Regional Entities shall preserve any mark of confidentiality on information submitted pursuant to Section 1502.1.

    10.1 Each Regional Entity has the authority to collect the necessary information to determine compliance and shall develop processes for gathering data from the Bulk Power System owners, operators, and users the Regional Entity monitors.

    10.2 The Regional Entity or NERC has the authority to request information from Bulk Power System owners, operators, and users pursuant to Section 401.3 or this Section 403.10 without invoking a specific compliance monitoring and enforcement process in **Appendix 4C**, for purposes of determining whether to pursue one such process in a particular case and/or validating in the enforcement phase of a matter the conclusions reached through the compliance monitoring and enforcement process(es).

    10.3 When required or requested, the Regional Entities shall report information to NERC promptly and in accordance with **Appendix 4C** and other NERC procedures.

    10.4 Regional Entities shall notify NERC of all Possible, Alleged and Confirmed Violations of NERC Reliability Standards by Registered Entities over which the Regional Entity has compliance monitoring and enforcement authority, in accordance with **Appendix 4C**.

    10.5 A Bulk Power System owner, operator, or user found in noncompliance with a Reliability Standard shall submit a Mitigation Plan with a timeline addressing how the noncompliance will be corrected, unless an enforcement process is used that does not require a Mitigation Plan. The

Regional Entity Compliance Staff shall review and ~~approve~~accept the Mitigation Plan in accordance with **Appendix 4C**.

10.6 An officer of a Bulk Power System owner, operator, or user shall certify as accurate all compliance data Self-Reported to the Regional Entity Compliance Monitoring and Enforcement Program.

10.7 Regional Entities shall develop and implement procedures to verify the compliance information submitted by Bulk Power System owners, operators, and users.

11. **Compliance Audits of Bulk Power System Owners, Operators, and Users** — Each Regional Entity will maintain and implement a program of proactive Compliance Audits of Bulk Power System owners, operators, and users responsible for complying with Reliability Standards, in accordance with **Appendix 4C**. A Compliance Audit is a process in which a detailed review of the activities of a Bulk Power System owner, operator, or user is performed to determine if that Bulk Power System owner, operator, or user is complying with approved Reliability Standards.

11.1 For an entity registered as a Balancing Authority, Reliability Coordinator, or Transmission Operator, the Compliance Audit will be performed at least once every three years. For other Bulk Power System owners, operators, and users on the NERC Compliance Registry, Compliance Audits shall be performed on a schedule established by NERC.

11.2 Compliance Audits of Balancing Authorities, Reliability Coordinators, and Transmission Operators will include a component at the audited entity's site. For other Bulk Power System owners, operators, and users on the NERC Compliance Registry, the Compliance Audit may be either an on-site Compliance Audit or based on review of documents, as determined to be necessary and appropriate by NERC or Regional Entity Compliance Staff.

11.3 Compliance Audits must include a detailed review of the activities of the Bulk Power System owner, operator, or user to determine if the Bulk Power System owner, operator, or user is complying with all approved Reliability Standards identified for audit by NERC. The Compliance Audit shall include a review of supporting documentation and evidence used by the Bulk Power System owner, operator or user to demonstrate compliance for an appropriate period prior to the Compliance Audit.

12. **Confidentiality of Compliance Monitoring and Enforcement Processes** — All compliance monitoring and enforcement processes, and information obtained from such processes, are to be non-public and treated as confidential in accordance with Section 1500 and **Appendix 4C** of these Rules of Procedure, unless NERC, the Regional Entity or FERC or another Applicable Governmental

Authority with jurisdiction determines a need to conduct a Compliance Monitoring and Enforcement Program process on a public basis, provided, that NERC and the Regional Entities shall publish (i) schedules of Compliance Audits scheduled in each year, (ii) a public report of each Compliance Audit, and (iii) Notices of Penalty and settlement agreements. Advance authorization from the Applicable Governmental Authority is required to make public any compliance monitoring and enforcement process or any information relating to a compliance monitoring and enforcement process, or to permit interventions when determining whether to impose a Penalty. This prohibition on making public any compliance monitoring and enforcement process does not prohibit NERC or a Regional Entity from publicly disclosing (i) the initiation of or results from an analysis of a significant system event under Section 807 or of off-normal events or system performance under Section 808, or (ii) information of general applicability and usefulness to owners, operators, and users of the Bulk Power System concerning reliability and compliance matters, so long as specific allegations or conclusions regarding Possible or Alleged Violations of Reliability Standards are not included in such disclosures.

13. **Critical Energy Infrastructure Information** — Information that would jeopardize Bulk Power System reliability, including information relating to a Cyber Security Incident will be identified and protected from public disclosure as Critical Energy Infrastructure Information. In accordance with Section 1500, information deemed by a Bulk Power System owner, operator, or user, Regional Entity, or NERC as Critical Energy Infrastructure Information shall be redacted according to NERC procedures and shall not be released publicly.

14. **Penalties, Sanctions, and Remedial Action Directives** — Each Regional Entity will apply all Penalties, sanctions, and Remedial Action Directives in accordance with the approved *Sanction Guidelines*, **Appendix 4B** to these Rules of Procedure. Any changes to the *Sanction Guidelines* to be used by any Regional Entity must be approved by NERC and submitted to the Applicable Governmental Authority for approval. All Confirmed Violations, Penalties, and sanctions, including Confirmed Violations, Penalties and sanctions specified in a Regional Entity Hearing Body decision, will be provided to NERC for review and filing with Applicable Governmental Authorities as a Notice of Penalty, in accordance with **Appendix 4C**.

15. **Regional Entity Hearing Process** — Each Regional Entity Compliance Monitoring and Enforcement Program shall establish and maintain a fair, independent, and nondiscriminatory process for hearing contested violations and any Penalties or sanctions levied, in conformance with Attachment 2 to **Appendix 4C** to these Rules of Procedure and any deviations therefrom that are set forth in the Regional Entity's delegation agreement. The hearing process shall allow Bulk Power System owners, operators, and users to contest findings of compliance violations, any Penalties and sanctions that are proposed to be levied, proposed Remedial Action Directives, and components of proposed Mitigation Plans. The Regional Entity hearing process shall be conducted before the Regional Entity

board or a balanced committee established by and reporting to the Regional Entity board as the final adjudicator at the Regional Entity level, provided, that Canadian provincial regulators may act as the final adjudicator in their respective jurisdictions. The Regional Entity hearing process shall (i) include provisions for recusal of any members of the Hearing Body with a potential conflict of interest, real or perceived, from all compliance matters considered by the Hearing Body for which the potential conflict of interest exists and (ii) provide that no two industry sectors may control any decision and no single segment may veto any matter brought before the Hearing Body after recusals.

Each Regional Entity will notify NERC of all hearings and NERC may observe any of the proceedings. Each Regional Entity will notify NERC of the outcome of all hearings.

If a Bulk Power System owner, operator, or user or a Regional Entity has completed the Regional Entity hearing process and desires to appeal the outcome of the hearing, the Bulk Power System owner, operator, or user or the Regional Entity shall appeal to NERC in accordance with Section 409 of these Rules of Procedure, except that a determination of violation or Penalty that has been directly adjudicated by an Applicable Governmental Authority shall be appealed with that Applicable Governmental Authority.

16. **Annual Regional Entity Compliance Monitoring and Enforcement Program Implementation Plan** — Each Regional Entity shall annually develop and submit to NERC for approval a Regional Entity Compliance Monitoring and Enforcement Implementation Plan in accordance with **Appendix 4C** that identifies the Reliability Standards and Requirements to be actively monitored (both those required by NERC and any additional Reliability Standards the Regional Entity proposes to monitor), and how each NERC and Regional Entity identified Reliability Standard will be monitored, evaluated, reported, sanctioned, and appealed. These Regional Implementation Plans will be submitted to NERC on the schedule established by NERC, generally on or about ~~November~~October 1 of the preceding year. In conjunction with the annual Regional Implementation Plan, each Regional Entity must report to NERC regarding how it carried out its delegated compliance monitoring and enforcement authority in the previous year, the effectiveness of the Compliance Monitoring and Enforcement Program, and changes expected to correct any deficiencies identified. Each Regional Entity will provide its annual report on the schedule established by NERC, generally on or about February 15 of the following year.

**404. NERC Monitoring of Compliance for Regional Entities or Bulk Power Owners, Operator, or Users**

NERC shall monitor Regional Entity compliance with NERC Reliability Standards and, if no there is no delegation agreement in effect with a Regional Entity for the geographic area, shall monitor Bulk Power System owners, operators, and users for compliance with NERC Reliability Standards. Industry subject matter experts may be used as appropriate in Compliance Investigations, Compliance Audits, and other Compliance Monitoring and

Enforcement Program activities, subject to confidentiality, antitrust, and conflict of interest provisions.

1. **NERC Obligations** — NERC Compliance Staff shall monitor the compliance of the Regional Entity with the Reliability Standards for which the Regional Entities are responsible, in accordance with **Appendix 4C**. NERC shall actively monitor in its annual Compliance Enforcement and Monitoring Program selected Reliability Standards that apply to the Regional Entities. NERC shall evaluate compliance and noncompliance with all of the Reliability Standards that apply to the Regional Entities and shall impose sanctions, Penalties, or Remedial Action Directives when there is a finding of noncompliance. NERC shall post all violations of Reliability Standards that apply to the Regional Entities as described in the reporting and disclosure process in **Appendix 4C**.

   In addition, NERC will directly monitor Bulk Power System owners, operators, and users for compliance with NERC Reliability Standards in any geographic area for which there is not a delegation agreement in effect with a Regional Entity, in accordance with **Appendix 4C**. In such cases, NERC will serve as the Compliance Enforcement Authority described in **Appendix 4C**. Compliance matters contested by Bulk Power System owners, operators, and users in such an event will be heard by the NERC Compliance and Certification Committee.

2. **Compliance Audit of the Regional Entity** — NERC shall perform a Compliance Audit of each Regional Entity responsible for complying with Reliability Standards at least once every three years. NERC shall make an evaluation of compliance based on the information obtained through the Compliance Audit. After due process is complete, the final Compliance Audit report shall be made public in accordance with the reporting and disclosure process in **Appendix 4C**.

3. **Appeals Process** —Any Regional Entity or Bulk Power System owner, operator or user found by NERC, as opposed to a Regional Entity, to be in noncompliance with a Reliability Standard may appeal the findings of noncompliance with Reliability Standards and any sanctions or Remedial Action Directives that are issued by, or Mitigation Plan components imposed by, NERC, pursuant to the processes described in Sections 408 through 410.

## 405. Monitoring of Reliability Standards and Other Requirements Applicable to NERC

The NERC Compliance and Certification Committee shall establish and implement a process to monitor NERC's compliance with the Reliability Standards that apply to NERC. The process shall use independent monitors with no conflict of interest, real or perceived, in the outcomes of the process. All violations shall be made public according to the reporting and disclosure process in **Appendix 4C**. The Compliance and Certification Committee will also establish a procedure for monitoring NERC's compliance with its Rules of Procedure for the Standards Development, Compliance Monitoring and Enforcement, and Organization Registration and Certification Programs. Such procedures shall not be used to circumvent the appeals processes established for those programs.

### 406. Independent Audits of the NERC Compliance Monitoring and Enforcement Program

NERC shall provide for an independent audit of its Compliance Monitoring and Enforcement Program at least once every three years, or more frequently as determined by the Board. The audit shall be conducted by independent expert auditors as selected by the Board. The independent audit shall meet the following minimum requirements and any other requirements established by the NERC Board.

1. **Effectiveness** — The audit shall evaluate the success and effectiveness of the NERC Compliance Monitoring and Enforcement Program in achieving its mission.

2. **Relationship** — The audit shall evaluate the relationship between NERC and the Regional Entity Compliance Monitoring and Enforcement Programs and the effectiveness of the programs in ensuring reliability.

3. **Final Report Posting** — The final report shall be posted by NERC for public viewing in accordance with **Appendix 4C**.

4. **Response to Recommendations** — If the audit report includes recommendations to improve the NERC Compliance Monitoring and Enforcement Program, the administrators of the NERC Compliance Monitoring and Enforcement Program shall provide a written response and plan to the Board within 30 days of the release of the final audit report.

### 407. Penalties, Sanctions, and Remedial Action Directives

1. **NERC Review of Regional Entity Penalties and Sanctions —** NERC shall review all Penalties, sanctions, and ~~r~~Remedial ~~a~~Action Directives imposed by each Regional Entity for violations of Reliability Standards, including Penalties, sanctions and Remedial Action Directives that are specified by a Regional Entity Hearing Body final decision issued pursuant to Attachment 2 to **Appendix 4C**, to determine if the Regional Entity's determination is supported by a sufficient record compiled by the Regional Entity, is consistent with the *Sanction Guidelines* incorporated into these Rules of Procedure as **Appendix 4B** and with other directives, guidance and directions issued by NERC pursuant to the delegation agreement, and is consistent with Penalties, sanctions and ~~r~~Remedial ~~a~~Action Directives imposed by the Regional Entity and by other Regional Entities for violations involving the same or similar facts and circumstances.

2. **Developing Penalties and Sanctions** — The Regional Entity Compliance Staff shall use the *Sanction Guidelines*, which are incorporated into these Rules of Procedure as **Appendix 4B**, to develop an appropriate Penalty, sanction, or ~~r~~Remedial ~~a~~Action Directive for a violation, and shall notify NERC of the Penalty, ~~or~~ sanction or Remedial Action Directive.

3. **Effective Date of Penalty** — Where authorized by applicable legislation or agreement, no Penalty imposed for a violation of a Reliability Standard shall take effect until the thirty-first day after NERC files, with the Applicable

Governmental Authority, a "Notice of Penalty" and the record of the proceedings in which the violation and Penalty were determined, or such other date as ordered by the Applicable Governmental Authority.

**408. Review of NERC Decisions**

1. **Scope of Review** — A Registered Entity or a Regional Entity wishing to challenge a finding of noncompliance and the imposition of a Penalty for a compliance measure directly administered by NERC, or a Regional Entity wishing to challenge a Regional Entity Compliance Monitoring and Enforcement Program audit finding, may do so by filing a notice of the challenge with NERC's ~~D~~director of ~~Compliance~~enforcement no later than 21 days after issuance of the notice of finding of violation or audit finding. Appeals by Registered Entities or Regional Entities of decisions of Regional Entity Hearing Bodies shall be pursuant to Section 409 .

2. **Contents of Notice** — The notice of challenge shall include the full text of the decision that is being challenged, a concise statement of the error or errors contained in the decision, a clear statement of the relief being sought, and argument in sufficient detail to justify such relief.

3. **Response by NERC Compliance Monitoring and Enforcement Program** — Within 21 days after receiving a copy of the notice of challenge, the NERC ~~D~~director of ~~Compliance~~enforcement may file with the Hearing Panel a response to the issues raised in the notice, with a copy to the Regional Entity.

4. **Hearing by Compliance and Certification Committee** — The NERC Compliance and Certification Committee shall provide representatives of the Regional Entity or Registered Entity, and the NERC Compliance Monitoring and Enforcement Program an opportunity to be heard and shall decide the matter based upon the filings and presentations made, with a written explanation of its decision.

5. **Appeal** — The Regional Entity~~,~~ or Registered Entity may appeal the decision of the Compliance and Certification Committee by filing a notice of appeal with NERC's ~~D~~director of ~~Compliance~~enforcement no later than 21 days after issuance of the written decision by the Compliance and Certification Committee. The notice of appeal shall include the full text of the written decision of the Compliance and Certification Committee that is being appealed, a concise statement of the error or errors contained in the decision, a clear statement of the relief being sought, and argument in sufficient detail to justify such relief. No factual material shall be presented in the appeal that was not presented to the Compliance and Certification Committee.

6. **Response by NERC Compliance Monitoring and Enforcement Program** — Within 21 days after receiving a copy of the notice of appeal, the NERC Compliance Monitoring and Enforcement Program staff may file its response to the issues raised in the notice of appeal, with a copy to the entity filing the notice.

7. **Reply** — The entity filing the appeal may file a reply within 7 days.

8. **Decision** — The Compliance Committee of the NERC Board of Trustees shall decide the appeal, in writing, based upon the notice of appeal, the record, the response, and any reply. At its discretion, the Compliance Committee may invite representatives of the Regional Entity or Registered Entity, and the NERC Compliance Monitoring and Enforcement Program to appear before the Compliance Committee. Decisions of the Compliance Committee shall be final, except for further appeal to the Applicable Governmental Authority.

9. **Impartiality** — No member of the Compliance and Certification Committee or the Board of Trustees Compliance Committee having an actual or perceived conflict of interest in the matter may participate in any aspect of the challenge or appeal except as a party or witness.

10. **Expenses** — Each party in the challenge and appeals processes shall pay its own expenses for each step in the process.

11. **Non-Public Proceedings —** All challenges and appeals shall be closed to the public to protect Confidential Information.

**409. Appeals from Final Decisions of Regional ~~Entities~~Entity Hearing Bodies**

1. **Time for Appeal** — A Regional Entity acting as the Compliance Enforcement Authority, or an owner, operator or user of the Bulk Power System, ~~wishing~~shall be entitled to appeal from a final decision of a Regional Entity Hearing Body concerning~~that finds~~ an Alleged ~~v~~Violation of a Reliability Standard, ~~or imposes~~ a proposed Penalty or sanction for violation of a Reliability Standard, a proposed Mitigation Plan, or a proposed Remedial Action Directive, ~~shall file its~~ by filing a notice of appeal with NERC's ~~D~~director of ~~Compliance~~enforcement, with ~~a copy~~copies to the Regional Entity and any other Participants in the Regional Entity Hearing Body proceeding, no later than 21 days after issuance of the final decision of the Regional Entity Hearing Body. ~~The same appeal procedures will apply regardless of whether the matter first arose in a Compliance Investigation, Compliance Audit or Self-Report, other compliance monitoring and enforcement process, or in a reliability readiness evaluation.~~

2. **Contents** — The notice of appeal shall include the full text of the final decision of the Regional Entity Hearing Body that is being appealed, a concise statement of the error or errors contained in the final decision, a clear statement of the relief being sought, and argument in sufficient detail to justify such relief. No factual material shall be presented in the appeal that was not first presented during the ~~compliance hearing~~proceeding before the Regional Entity Hearing Body.

3. **Response to Notice of Appeal~~by Regional Entity~~** — Within 21 days after the date~~receiving a copy of~~ the notice of appeal is filed, the Regional Entity shall file the entire record of the ~~matter~~Regional Entity Hearing Body proceeding with NERC's ~~D~~director of ~~Compliance~~enforcement., ~~with a copy to the Registered~~

~~Entity filing the notice, together with~~ Within 35 days after the date of the notice of appeal, all Participants in the proceeding before the Regional Entity Hearing Body, other than the Participant filing the notice of appeal, shall file their~~its~~ responses to the issues raised in the notice of appeal.

4. **Reply** — The Registered Entity filing the appeal may file a reply to the responses~~Regional Entity~~ within 7 days.

5. **Decision** — The Compliance Committee of the NERC Board of Trustees shall decide the appeal, in writing, based upon the notice of appeal, the record of the ~~matter from~~proceeding before the Regional Entity Hearing Body, the responses, and any reply filed with NERC. At its discretion, the Compliance Committee may invite representatives of the ~~Registered E~~entity making the appeal and the other Participants in the proceeding before the Regional Entity Hearing Body to appear before the Committee. Decisions of the Compliance Committee shall be final, except for further appeal to the Applicable Governmental Authority.

6. **Expenses** — Each party in the appeals process shall pay its own expenses for each step in the process.

7. **Non-Public Proceedings** — All appeals shall be closed to the public to protect Confidential Information.

8. **Appeal of Hearing Body Decisions Granting or Denying Motions to Intervene** — This section is not applicable to an appeal of a decision of a Regional Entity Hearing Body granting or denying a motion to intervene in the Regional Entity Hearing Body proceeding. Appeals of decisions of Regional Entity Hearing Bodies granting or denying motions to intervene in Regional Entity Hearing Body proceedings shall be processed and decided pursuant to Section 414.

## 410. Hold Harmless

A condition of invoking the challenge or appeals processes under Section 408 or 409 is that the entity requesting the challenge or appeal agrees that neither NERC (defined to include its Members, Board of Trustees, committees, subcommittees, staff and industry subject matter experts), any person assisting in the challenge or appeals processes, nor any company employing a person assisting in the challenge or appeals processes, shall be liable, and they shall be held harmless against the consequences of or any action or inaction or of any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the challenge or appeals proceeding. This "hold harmless" clause does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.

## 411. Requests for Technical Feasibility Exceptions to NERC Critical Infrastructure Protection Reliability Standards

A Registered Entity that is subject to an Applicable Requirement of a NERC Critical Infrastructure Protection Standard for which Technical Feasibility Exceptions are

permitted, may request a Technical Feasibility Exception to the Requirement, and the request will be reviewed, approved or disapproved, and if approved, implemented, in accordance with the NERC *Procedure for Requesting and Receiving Technical Feasibility Exceptions to NERC Critical Infrastructure Protection Standard,* Appendix 4D to these Rules of Procedure.

## 412. Certification of Questions from Regional Entity Hearing Bodies for Decision by the NERC Board of Trustees Compliance Committee

1. A Regional Entity Hearing Body that is conducting a hearing concerning a disputed compliance matter pursuant to Attachment 2, Hearing Procedures, of Appendix 4C, may certify to the Board of Trustees, for decision, a significant question of law, policy or procedure the resolution of which may be determinative of the issues in the hearing in whole or in part, and as to which there are other extraordinary circumstances that make prompt consideration of the question by the Compliance Committee appropriate, in accordance with Section 1.5.12 of the Hearing Procedures. All questions certified by a Regional Entity Hearing Body to the Board of Trustees shall be considered and disposed of by the Compliance Committee.

2. The Compliance Committee may accept or reject a certification of a question for decision. If the Compliance Committee rejects the certified question, it shall issue a written statement that the certification is rejected.

3. If the Compliance Committee accepts the certification of a question for decision, it shall establish a schedule by which the Participants in the hearing before the Regional Entity Hearing Body may file memoranda and reply memoranda stating their positions as to how the question certified for decision should be decided by the Compliance Committee. The Compliance Committee may also request, or provide an opportunity for, the NERC compliance operations department, the NERC compliance enforcement department, and/or the NERC general counsel to file memoranda stating their positions as to how the question certified for decision should be decided. After receiving such memoranda and reply memoranda as are filed in accordance with the schedule, the Compliance Committee shall issue a written decision on the certified question.

4. Upon receiving the Compliance Committee's written decision on the certified question, the Regional Entity Hearing Body shall proceed to complete the hearing in accordance with the Compliance Committee's decision.

5. The Compliance Committee's decision, if any, on the certified question shall only be applicable to the hearing from which the question was certified and to the Participants in that hearing.

## 413. Review and Processing of Regional Entity Hearing Body Final Decisions that Are Not Appealed

NERC shall review and process all final decisions of Regional Entity Hearing Bodies issued pursuant to Attachment 2 to Appendix 4C concerning an Alleged Violation, proposed Penalty or sanction, or proposed Mitigation Plan that are not appealed pursuant to Section 409, as though the determination had been made by the Regional Entity Compliance Monitoring and Enforcement Program. NERC shall review and process such final decisions, and may require that they be modified by the Regional Entity, in accordance with, as applicable to the particular decision, Sections 5.8, 5.9 and 6.5 of Appendix 4C.

## 414. Appeals of Decisions of Regional Entity Hearing Bodies Granting or Denying Motions to Intervene in Regional Entity Hearing Body Proceedings

1. **Time to Appeal** — An entity may appeal a decision of a Regional Entity Hearing Body under Section 1.4.4 of Attachment 2 of **Appendix C** denying the entity's motion to intervene in a Regional Entity Hearing Body proceeding, and the Regional Entity Compliance Staff or any other Participant in the Regional Entity Hearing Body proceeding may appeal a decision of the Regional Entity Hearing Body under Section 1.4.4 of Attachment 2 of **Appendix C** granting or denying a motion to intervene in the Regional Entity Hearing Body proceeding, in either case by filing a notice of appeal with the NERC director of enforcement, with copies to the Regional Entity Clerk, the Regional Entity Hearing body, the Hearing Officer, the Regional Entity Compliance Staff, and all other Participants in the Regional Entity Hearing Body proceeding, no later than seven (7) days following the date of the Regional Entity Hearing Body decision granting or denying the motion to intervene.

2. **Contents of Notice of Appeal** — The notice of appeal shall set forth information and argument to demonstrate that the decision of the Regional Entity Hearing Body granting or denying the motion to intervene was erroneous under the grounds for intervention specified in Section 1.4.4 of Attachment 2 of **Appendix 4C** and that the entity requesting intervention should be granted or denied intervention, as applicable. Facts alleged in, and any offers of proof made in, the notice of appeal shall be supported by affidavit or verification. The notice of appeal shall include a copy of the original motion to intervene and a copy of the decision of the Regional Entity Hearing Body granting or denying the motion to intervene.

3. **Responses to Notice of Appeal** — Within ten (10) days following the date the notice of appeal is filed, the Regional Entity Clerk shall transmit to the NERC director of enforcement copies of all pleadings filed in the Regional Entity Hearing Body proceeding on the motion to intervene. Within fourteen (14) days following the date the notice of appeal is filed, the Regional Entity Hearing Body, the Regional Entity Compliance Staff, and any other Participants in the Regional Entity Hearing Body proceeding, may each file a response to the notice of appeal with the NERC director of enforcement. Within seven (7) days following the last day for filing responses, the entity filing the notice of appeal, and any Participant

in the Regional Entity Hearing Body proceeding that supports the appeal, may file replies to the responses with the NERC director of enforcement.

4. **Disposition of Appeal** — The appeal shall be considered and decided by the Compliance Committee. The NERC director of enforcement shall provide copies of the notice of appeal and any responses and replies to the Compliance Committee. The Compliance Committee shall issue a written decision on the appeal; provided, that if the Compliance Committee does not issue a written decision on the appeal within forty-five (45) days following the date of filing the notice of appeal, the appeal shall be deemed denied and the decision of the Regional Entity Hearing Body granting or denying the motion to intervene shall stand. The NERC director of enforcement shall transmit copies of the Compliance Committee's decision, or shall provide notice that the forty-five (45) day period has expired with no decision by the Compliance Committee, to the Regional Entity Clerk, the Regional Entity Hearing Body, the entity filing the notice of appeal, the Regional Entity Compliance Staff, and any other Participants in the Regional Entity Hearing Body proceeding that filed responses to the notice of appeal or replies to responses.

5. **Appeal of Compliance Committee Decision to FERC or Other Applicable Governmental Authority** — Any entity aggrieved by the decision of the Compliance Committee on an appeal of a Regional Entity Hearing Body decision granting or denying a motion to intervene in a Regional Entity Hearing Body proceeding (including a denial of such appeal by the expiration of the forty-five (45) period as provided in Section 414.4) may appeal or petition for review of the decision of the Compliance Committee to FERC or to another Applicable Governmental Authority having jurisdiction over the matter, in accordance with the authorities, rules and procedures of FERC or such other Applicable Governmental Authority. Any such appeal or petition for review shall be filed within the time period, if any, and in the form and manner, specified by the applicable statutes, rules or regulations governing proceedings before FERC or the other Applicable Governmental Authority.

# SECTION 500 — ORGANIZATION REGISTRATION AND CERTIFICATION

## 501. Scope of the Organization Registration and Organization Certification Programs

The purpose of the Organization Registration Program is to clearly identify those entities that are responsible for compliance with the FERC approved Reliability Standards. Organizations that are registered are included on the NERC Compliance Registry (NCR) and are responsible for knowing the content of and for complying with all applicable Reliability Standards. Registered Entities are not and do not become Members of NERC or a Regional Entity, by virtue of being listed on the NCR. Membership in NERC is governed by Article II of NERC's Bylaws; membership in a Regional Entity or regional reliability organization is governed by that entity's bylaws or rules.

The purpose of the Organization Certification Program is to ensure that ~~the new entity (i.e., applicant to be an RC, BA, or TOP that is not already performing the function for which it is applying to be certified as) has~~ Registered Entities performing certain functions have the tools, processes, training, and procedures to demonstrate their ability to meet the Requirements/sub-Requirements of all of the Reliability Standards applicable to the function(s) they perform~~for which it is applying~~ thereby demonstrating the ability to become certified and then operational.

Organization Registration and Organization Certification may be delegated to Regional Entities in accordance with the procedures in this Section 500; the NERC *Organization Registration and Organization Certification Manual*, which is incorporated into these Rules of Procedure as **Appendix 5A**; and, approved Regional Entity delegation agreements or other applicable agreements.

1. **NERC Compliance Registry** — NERC shall establish and maintain the NCR of the Bulk Power System owners, operators, and users that are subject to approved Reliability Standards.

   1.1 (a) The NCR shall set forth the identity and functions performed for each organization responsible for meeting Requirements/sub-Requirements of the Reliability Standards. Bulk Power System owners, operators, and users (i) shall provide to NERC and the applicable Regional Entity information necessary to complete the Registration, and (ii) shall provide NERC and the applicable Regional Entity with timely updates to information concerning the Registered Entity's ownership, operations, contact information, and other information that may affect the Registered Entity's Registration status or other information recorded in the Compliance Registry.

   (b) A generation or transmission cooperative, a joint-action agency or another organization may register as a Joint Registration Organization (JRO), in lieu of each of the JRO's members or related entities being

registered individually for one or more functions. Refer to Section 507.

(c) Multiple entities may each register using a Coordinated Functional Registration (CFR) for one or more Reliability Standard(s) and/or for one or more Requirements/sub-Requirements within particular Reliability Standard(s) applicable to a specific function pursuant to a written agreement for the division of compliance responsibility. Refer to Section 508.

1.2 In the development of the NCR, NERC and the Regional Entities shall determine which organizations should be placed on the NCR based on the criteria provided in the NERC *Statement of Compliance Registry Criteria* which is incorporated into these Rules of Procedure as **Appendix 5B**.

1.3 NERC and the Regional Entities shall use the following rules for establishing and maintaining the NCR based on the Registration criteria as set forth in **Appendix 5B** *Statement of Compliance Registry Criteria*:

1.3.1 NERC shall notify each organization that it is on the NCR. NERC's notification shall state the effective date of the organization's Registration for each reliability function for which it is being registered. Where the organization is being registered for the first time and its Bulk Power System Facilities were not previously owned by another Registered Entity, the effective date of the Registration will be the date agreed to by the entity to be registered and the Regional Entity. Where the organization is being registered because it has acquired Bulk Power System Facilities from a Registered Entity, or based on an internal restructuring or name change where the organization has been registered under a different entity name, the effective date of the Registration will be the effective date of the transaction that results in the organization performing reliability functions that require it to be registered.

In the event the Regional Entity and the organization to be registered cannot agree on the effective Registration date, NERC shall set an effective Registration date that it determines to be appropriate for the reliability of the Bulk Power System, provided, that the effective date of Registration shall be no earlier than the date of NERC's notification of the Registration date.

The organization~~Registered Entity~~ is responsible for compliance with all the Reliability Standards applicable to the functions for which it is registered from the effective date of~~time it receives~~ the Registration for each function in the notification from NERC.

1.3.2 Any organization receiving such a notice may challenge its placement on the NCR according to the process in **Appendix 5A** *Organization Registration and Organization Certification Manual*, Section V.

1.3.3 The Compliance Committee of the Board of Trustees shall promptly issue a written decision on the challenge, including the reasons for the decision.

1.3.4 The decision of the Compliance Committee of the Board of Trustees shall be final unless, within 21 days of the date of the Compliance Committee of the Board of Trustees decision, the organization appeals the decision to the Applicable Governmental Authority.

1.3.5 Each Registered Entity identified on the NCR shall notify its corresponding Regional Entity(s) of any corrections, revisions, deletions, changes in ownership, corporate structure, or similar matters that affect the Registered Entity's responsibilities with respect to the Reliability Standards. Failure to notify will not relieve the Registered Entity from any responsibility to comply with the Reliability Standards or shield it from any Penalties or sanctions associated with failing to comply with the Reliability Standards applicable to its associated Registration.

1.4 For all geographical or electrical areas of the Bulk Power System, the Registration process shall ensure that (1) no areas are lacking any entities to perform the duties and tasks identified in and required by the Reliability Standards to the fullest extent practical, and (2) there is no unnecessary duplication of such coverage or of required oversight of such coverage. In particular the process shall:

1.4.1 Ensure that all areas are under the oversight of one and only one Reliability Coordinator.

1.4.2 Ensure that all Balancing Authorities and Transmission Operator entities[2] are under the responsibility of one and only one Reliability Coordinator.

1.4.3 Ensure that all transmission Facilities of the Bulk Power System are the responsibility and under the control of one and only one

[2] Some organizations perform the listed functions (e.g., Balancing Authority, Transmission Operator) over areas that transcend the Footprints of more than one Reliability Coordinator. Such organizations will have multiple Registrations, with each such Registration corresponding to that portion of the organization's overall area that is within the Footprint of a particular Reliability Coordinator.

Transmission Planner, Planning Authority, and Transmission Operator.

1.4.4 Ensure that all Loads and generators are under the responsibility and control of one and only one Balancing Authority.

1.5 NERC shall maintain the NCR of organizations responsible for meeting the Requirements/sub-Requirements of the Reliability Standards currently in effect on its website and shall update the NCR at least monthly.

2. **Entity Certification** — NERC shall provide for Certification of all entities with primary reliability responsibilities requiring Certification, including, but not limited to, Reliability Coordinators, Transmission Operators, and Balancing Authorities. Certification of such entities shall include evaluation of the competency of those entities to which performance of some or all of the reliability functions of a Reliability Coordinator, Transmission Operator or Balancing Authority have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions. ~~This includes those entities that satisfy the criteria established in the NERC provisional Certification process. The NERC programs~~ Certification of entities shall include, but is not limited to, the following:

2.1 Evaluate and certify the competency of entities performing or entities intending to perform the reliability functions of~~. The entities presently expected to be certified include~~ Reliability Coordinators, Transmission Operators, and Balancing Authorities.

2.2 Evaluate and certify each applicant's ability to meet the requirements for Certification.

2.3 Maintain process documentation.

2.4 Maintain records of currently certified entities.

2.5 Issue a Certification document to the applicant that successfully demonstrates its competency to perform the evaluated functions.

3. **Delegation and Oversight**

3.1 NERC may delegate responsibilities for Organization Registration and Organization Certification to Regional Entities in accordance with requirements established by NERC. Delegation will be via the delegation agreement between NERC and the Regional Entity or other applicable agreement. The Regional Entity shall administer Organization Registration and Organization Certification Programs in accordance with such delegations to meet NERC's programs goals and requirements subject to NERC oversight.

3.2 NERC shall develop and maintain a plan to ensure the continuity of Organization Registration and Organization Certification within the geographic or electrical boundaries of a Regional Entity in the event that no entity is functioning as a Regional Entity for that Region, or the Regional Entity withdraws as a Regional Entity, or does not operate its Organization Registration and Organization Certification Programs in accordance with delegation agreements.

3.3 NERC shall develop and maintain a program to monitor and oversee the NERC Organization Registration and Organization Certification Programs activities that are delegated to each Regional Entity through a delegation agreement or other applicable agreement.

3.3.1 This program shall monitor whether the Regional Entity carries out those delegated activities in accordance with NERC requirements, and whether there is consistency, fairness of administration, and comparability.

3.3.2 Monitoring and oversight shall be accomplished through direct participation in the Organization Registration and Organization Certification Programs with periodic reviews of documents and records of both programs.

## 502. Organization Registration and Organization Certification Program Requirements

1. NERC shall maintain the Organization Registration and Organization Certification Programs.

1.1 The roles and authority of Regional Entities in the programs are delegated from NERC pursuant to the Rules of Procedure through regional delegation agreements or other applicable agreements.

1.2 Processes for the programs shall be administered by NERC and the Regional Entities. Materials that each Regional Entity uses are subject to review and approval by NERC.

1.3 The appeals process for the Organization Registration and Organization Certification Programs are identified in **Appendix 5A** *Organization Registration and Organization Certification Manual,* Sections V and VI, respectively.

1.4 The Certification Team membership is identified in **Appendix 5A** *Organization Registration and Organization Certification Manual*, Section IV.8.d.

2. To ensure consistency and fairness of the Organization Registration and Organization Certification Programs, NERC shall develop procedures to be used by all Regional Entities and NERC in accordance with the following criteria:

2.1 NERC and the Regional Entities shall have data management processes and procedures that provide for confidentiality, integrity, and retention of data and information collected.

2.2 Documentation used to substantiate the conclusions of the Regional Entity/ NERC related to Registration and/or Certification must be retained by the Regional Entity for ~~(6)~~ six (6) years, unless a different retention period is otherwise identified, for the purposes of future audits of these programs.

2.3 To maintain the integrity of the NERC Organization Registration and Organization Certification Programs, NERC, Regional Entities, Certification Team members, program audit team members (Section 506), and committee members shall maintain the confidentiality of information provided by an applicant or entities.

2.2.1 NERC and the Regional Entities shall have appropriate codes of conduct and confidentiality agreements for staff, Certification Team, Certification related committees, and Certification program audit team members.

2.2.2 NERC, Regional Entities, Certification Team members, program audit team members and committee members shall maintain the confidentiality of any Registration or Certification-related discussions or documents designated as confidential (see Section 1500 for types of Confidential Information).

2.2.3 NERC, Regional Entities, Certification Team members, program audit team members and committee members shall treat as confidential the individual comments expressed during evaluations, program audits and report-drafting sessions.

2.2.4 Copies of notes, draft reports, and other interim documents developed or used during an entity Certification evaluation or program audit shall be destroyed after the public posting of a final, uncontested report.

2.2.5 Information deemed by an applicant, entity, a Regional Entity, or NERC as confidential, including Critical Energy Infrastructure Information, shall not be released publicly or distributed outside of a committee or team.

2.2.6 In the event that an individual violates any of the confidentiality rules set forth above, that individual and any member organization with which the individual is associated will be subject to immediate dismissal from the audit team and may be prohibited from future participation in Compliance Monitoring and Enforcement Program activities by the Regional Entity or NERC.

2.2.7 NERC shall develop and provide training in auditing skills to all individuals prior to their participation in Certification evaluations. The Certification Team leader shall confirm that all Certification Team members have completed all required training. Training for Certification Team leaders shall be more comprehensive than the training given to industry subject matter experts and Regional Entity members. Training for Regional Entity members may be delegated to the Regional Entity.

2.4 An applicant that is determined to be competent to perform a function after completing all Certification requirements shall be deemed certified by NERC to perform that function for which it has demonstrated full competency.

2.4.1 All NERC certified entities shall be included on the NCR.

**503. Regional Entity Implementation of Organization Registration and Organization Certification Program Requirements**

1. **Delegation** — Recognizing the Regional Entity's knowledge of and experience with their members, NERC may delegate responsibility for Organization Registration and Organization Certification to the Regional Entity through a delegation agreement.

2. **Registration** — The following Organization Registration activities shall be managed by the Regional Entity per the NERC *Organization Registration and Organization Certification Manual*, which is incorporated into the Rules of Procedure as Appendix 5A *Organization Registration and Organization Certification Manual*:

2.1 Regional Entities shall verify that all Reliability Coordinators, Balancing Authorities, and Transmission Operators meet the Registration requirements of Section 501(1.4).

3. **Certification —** The following Organization Certification activities shall be managed by the Regional Entity in accordance with an approved delegation agreement or another applicable agreement:

3.1 An entity seeking Certification to perform one of the functions requiring Certification shall contact the Regional Entity for the Region(s) in which it plans to operate to apply for Certification.

3.2 An entity seeking Certification and other affected entities shall provide all information and data requested by NERC or the Regional Entity to conduct the Certification process.

3.3 Regional Entities shall notify NERC of all Certification applicants.

3.4 NERC and/or the Regional Entity shall evaluate the competency of entities requiring Certification to meet the NERC Certification requirements. The evaluation shall include evaluation of the competency of any entities to which performance of some or all of the reliability functions of a Reliability Coordinator, Transmission Operator or Balancing Authority have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions.

3.5 NERC or the Regional Entity shall establish Certification procedures to include evaluation processes, schedules and deadlines, expectations of the applicants and all entities participating in the evaluation and Certification processes, and requirements for Certification Team members.

3.5.1 The ~~NERC / Regional Entity~~ Certification procedures will include provisions for on-site visit(s) to the applicant's facilities (as further described in **Appendix 5A**) to review the data collected through questionnaires, interviewing the operations and management personnel, inspecting the facilities and equipment (including requesting a demonstration of all tools identified in the Certification process), reviewing all necessary documents and data (including all agreements, processes, and procedures identified in the Certification process), reviewing Certification documents and projected system operator work schedules, and reviewing any additional documentation needed to support the completed questionnaire or inquiries arising during the site visit.

3.5.2 The ~~NERC/ Regional Entity~~ Certification procedures will provide for preparation of a written report by the Certification Team, detailing any deficiencies that must be resolved prior to granting Certification, along with any other recommendations for consideration by the applicant, the Regional Entity, or NERC.

## 504. Appeals

1. NERC shall maintain an appeals process to resolve any disputes related to Registration or Certification activities per the *Organization Registration and Organization Certification Manual,* which is incorporated in these Rules of Procedure as Appendix 5A.

2. The Regional Entity Certification appeals process shall culminate with the Regional Entity board or a committee established by and reporting to the Regional Entity board as the final adjudicator, provided that where applicable, Canadian provincial governmental authorities may act as the final adjudicator in their jurisdictions. NERC shall be notified of all appeals and may observe any proceedings **(Appendix 5A** *Organization Registration and Organization Certification Manual*).

## 505. Program Maintenance

NERC shall maintain its program materials, including such manuals or other documents as it deems necessary, of the governing policies and procedures of the Organization Registration and Organization Certification Programs.

## 506. Independent Audit of NERC Organization Registration and Organization Certification Program

1. NERC, through the Compliance and Certification Committee, shall provide for an independent audit of its Organization Registration and Organization Certification Programs at least once every three years, or more frequently, as determined by the Board. The audit shall be conducted by independent expert auditors as selected by the Board.

2. The audit shall evaluate the success, effectiveness and consistency of the NERC Organization Registration and Organization Certification Programs.

3. The final report shall be posted by NERC for public viewing.

4. If the audit report includes recommendations to improve the Organization Registration and Organization Certification ~~p~~Programs, the administrators of the program shall provide a written response to the Board within 30 days of the posting of the final report, detailing the disposition of each and every recommendation, including an explanation of the reasons for rejecting a recommendation and an implementation plan for the recommendations accepted.

## 507. Provisions Relating to Joint Registration Organizations (JRO)

1. In addition to registering as the entity responsible for all functions that it performs itself, an entity may register as a JRO on behalf of one or more of its members or related entities for one or more functions for which such members or related entities would otherwise be required to register and, thereby, accept on behalf of such members or related entities all compliance responsibility for that function or those functions including all reporting requirements. Any entity seeking to register as a JRO must submit a written agreement with its members or related entities for all Requirements/sub-Requirements for the function(s) for which the entity is registering for and takes responsibility for, which would otherwise be the responsibility of one or more of its members or related entities. Neither NERC nor the Regional Entity shall be parties to any such agreement, nor shall NERC or the Regional Entity have responsibility for reviewing or approving any such agreement, other than to verify that the agreement provides for an allocation or assignment of responsibilities consistent with the JRO Registration.

2. The JRO Registration data must include the same Registration information as a normal compliance Registration entry. The JRO is responsible for providing all of

the information and data, including submitting reports, as needed by the Regional Entity for performing assessments of compliance.

3. The Regional Entity shall notify NERC of each JRO that the Regional Entity accepts. The notification will identify the point of contact and the functions(s) being registered for on behalf of its members or related entities.

4. For purposes of Compliance Audits, the Regional Entity shall keep a list of all JROs. This document shall contain a list of each JRO's members or related entities and the function(s) for which the JRO is registered for that member(s) or related entity(s). It is the responsibility of the JRO to provide the Regional Entity with this information as well as the applicable JRO agreement(s).

5. The Regional Entity may request clarification of any list submitted to it that identifies the members of the JRO and may request such additional information as the Regional Entity deems appropriate.

6. The Regional Entity's acceptance of a JRO shall be a representation by the Regional Entity to NERC that the Regional Entity has concluded the JRO will meet the Registration requirements of Section 501(1.4).

7. NERC shall maintain, and post on its website, a JRO registry listing all JRO Registrations that have been reviewed and accepted by the Regional Entity. The posting shall identify the JRO entity taking compliance responsibilities for itself and its members.

8. The JRO shall inform the Regional Entity of any changes to an existing JRO. The Regional Entity shall promptly notify NERC of each such revision.

9. Nothing in Section 507 shall preclude a member of a JRO, a related entity, or any other entity from registering on its own behalf and undertaking full compliance responsibility including reporting Requirements for the Reliability Standards applicable to the function(s) for which the member or other entity is registering. A JRO member or related entity that registers as responsible for any Reliability Standard or Requirement/sub-Requirement of a Reliability Standard shall inform the JRO of its Registration.

## 508. Provisions Relating to Coordinated Functional Registration (CFR) Entities

1. In addition to registering as an entity responsible for all functions that it performs itself, multiple entities may each register using a CFR for one or more Reliability Standard(s) and/or for one or more Requirements/sub-Requirements within particular Reliability Standard(s) applicable to a specific function. The CFR submission must include a written agreement that governs itself and clearly specifies the entities' respective compliance responsibilities. The Registration of the CFR is the complete Registration for each entity. Additionally, each entity shall take full compliance responsibility for those Reliability Standards and/or

Requirements/sub-Requirements it has registered for in the CFR. Neither NERC nor the Regional Entity shall be parties to any such agreement, nor shall NERC or the Regional Entity have responsibility for reviewing or approving any such agreement, other than to verify that the agreement provides for an allocation or assignment of responsibilities consistent with the CFR.

2. Each CFR or each individual entity within a CFR must identify a point of contact that is responsible for providing information and data, including submitting reports as needed by the Regional Entity related to the CFR Registration.

3. The Regional Entity shall notify NERC of each CFR that the Regional Entity accepts.

4. NERC or the Regional Entity may request clarification of any list submitted to it that identifies the compliance responsibilities of the CFR and may request such additional information as NERC or the Regional Entity deems appropriate.

5. The Regional Entity's acceptance of that CFR shall be a representation by the Regional Entity to NERC that the Regional Entity has concluded the CFR will meet the Registration requirements of Section 501(1.4).

6. NERC shall maintain, and post on its website, a CFR registry listing all CFR Registrations that have been accepted by NERC or by a Regional Entity. The posting shall clearly list all the Reliability Standards or Requirements/sub-Requirements thereof for which each entity of the CFR is responsible for under the CFR.

7. The point of contact shall inform the Regional Entity of any changes to an existing CFR. The Regional Entity shall promptly notify NERC of each such revision.

8. In the event of a violation of a Reliability Standard or of a Requirement/sub-Requirement of a Reliability Standard for which an entity of a CFR is registered, that entity shall be identified in the Notice of Alleged Violation and shall be assessed the sanction or Penalty in accordance with the NERC Sanctions Guidelines. In the event a Regional Entity is not able to determine which entity(ies) is responsible for a particular Reliability Standard, or Requirements/sub-Requirements thereof that has been violated, the Regional Entity shall investigate the noncompliance in accordance with the NERC Rules of Procedure Section 400, *Compliance Enforcement*, to determine the entity(ies) to which the Regional Entity shall ~~to~~ issue the sanction or Penalty for the violation.

9. Nothing in Section 508 shall preclude an entity registered in a CFR, or any other entity from registering on its own behalf and undertaking full compliance responsibility including reporting Requirements for the Reliability Standards applicable to the function(s) for which the entity is registering. An entity registered in a CFR that registers as responsible for any Reliability Standard or

Requirement/sub-Requirement of a Reliability Standard shall inform the point of contact of its Registration.

## 509. Exceptions to the Definition of the Bulk Electric System

An Element is considered to be (or not be) part of the Bulk Electric System by applying the BES Definition to the Element (including the inclusions and exclusions set forth therein). Appendix 5C sets forth the procedures by which (i) an entity may request a determination that an Element that falls within the definition of the Bulk Electric System should be exempted from being considered a part of the Bulk Electric System, or (ii) an entity may request that an Element that falls outside of the definition of the Bulk Electric System should be considered part of the Bulk Electric System.

# SECTION 600 — PERSONNEL CERTIFICATION

## 601. Scope of Personnel Certification

Maintaining the reliability of the Bulk Electric System through implementation of the Reliability Standards requires skilled, trained and qualified system operators. The PersonnelSystem Operator Certification Program provides the mechanism to ensure system operators are provided the education and training necessary to obtain the essential knowledge and skills and are therefore qualified to operate the Bulk Electric System. The Personnel Certification awards system operator Certification Credentials to individuals who demonstrate that have attained essential knowledge relating to NERC Reliability Standards as well as principles of Bulk Power System operations. NERC, as the ERO, will ensure skilled, trained, and qualified system operators through the System Operator Personnel Certification Program.

Except as necessary to obtain approval of the Rules of Procedure, the NERC Personnel Certification Governance Committee (PCGC) is the governing body that establishes the policies, sets fees, and monitors the performance of the Personnel Certification Program for system operators.

NERC shall develop and maintain a personnel Certification program to evaluate individuals and to issue Credentials to individuals who demonstrate the required level of competence. A current version of such a program is the *System Operator Certification Program Manual*, which is incorporated into these Rules of Procedure as **Appendix 6**.

## 602. Structure of ERO Personnel Certification Program

1. The NERC Ppersonnel Certification pProgram shall be international in scope.

2. The PCGCpersonnel Certification program shall have a governing body that (1) isbe able to independently exercise decision-making for all matters pertaining to Certification, (2) includes individuals from the discipline being certified and whose composition addresses the needs of the users of the program (e.g., employers, regulators, etc.), and (3) hashave representation for each specialty or level within a discipline.

3. NERC shall maintain a nominating process for membership in the governing body. Nominations shall be open to all interested parties and self-nominations shall be accepted. The NERC Board of Trustees shall appoint members to the governing body from among those nominated. The members of the governing body shall serve at the pleasure of the Board.

4. The PCGCpersonnel Certification program governing body shall have control over the matters related to the Ppersonnel Certification and re-Certification pPrograms listed below, without being subject to approval by any other body.

   4.1 Policies and procedures, including eligibility requirements and application processing.

4.2 Requirements for personnel Certification, maintaining Certification, and re-Certification.

4.3 Examination content, development, and administration.

4.4 Examination cut score.

4.5 Grievance and disciplinary processes.

4.6 Governing body and subgroup(s)' meeting rules including agenda, frequency, and related procedures.

4.7 Subgroup(s) appointments and work assignments.

4.8 Publications about personnel Certification and re-Certification.

4.9 Setting fees for application, and all other services provided as a part of the personnel Certification and re-Certification activities.

4.10 Program funding, spending, and budget authority. Financial matters related to the operation of the program shall be segregated from other NERC activities.

5. The Ppersonnel Certification Pprogram shall utilize written procedures for the selection of members of the governing body that prohibit the governing body from selecting a majority of its successors.

6. The ~~p~~Personnel Certification Pprogram shall be separate from the accreditation and education functions of NERC in related disciplines.

7. No member of the PCGC ~~personnel Certification program governing body~~ or staff member working with the Ppersonnel Certification Pprogram governing body shall have or exercise any authority or responsibility for compliance matters related to Reliability Standards concerning personnel Certification.

## 603. Examination and Maintenance of NERC System Operator Certification Credentials

1. System operators seeking to obtain a Credential must pass an examination to earn the Credential.

2. A certificate will be issued to successful candidates which is valid for three years.

3. A system operator must earn Continuing Education Hours (CE Hours) in NERC-Approved Learning Activities within the three-year period preceding the expiration date of his/her certificate as determined by the PCGC and posted in the NERC System Operator Program Manual. A system operator must request a renewal and submit the appropriate fee for Certification renewal evaluation.

4. The Credential of a certified system operator who does not accumulate the required number and balance of CE Hours within the three-year period will be Suspended. A system operator with a Suspended certificate cannot perform any task that requires an operator to be NERC-certified. The system operator with a Suspended Credential will have up to twelve months to acquire the necessary CE Hours.

    4.1 During the time of suspension, the original anniversary date will be maintained. Therefore, should the system operator accumulate the required number of CE Hours within the twelve month suspension period, he/she will be issued a certificate that will be valid for three years from the previous expiration date.

    4.2 At the end of the twelve-month suspension period, if the system operator has not accumulated the required number of CE Hours, the Credential will be Revoked and all CE Hours earned will be forfeited. After a Credential is Revoked, the system operator will be required to pass an examination to become certified.

5. Hardship: Due to unforeseen events and extenuating circumstances, a certified system operator may be unable to accumulate the necessary CE Hours in the time frame required by the Personnel Certification Program to maintain the Credential. In such an event, the individual must submit a written request containing a thorough explanation of the circumstances and supporting information to the NERC Personnel Certification Manager. The PCGC retains the right to invoke this hardship clause as it deems appropriate to address such events or circumstances.

## 604. Dispute Resolution Process

1. Any dispute arising under the NERC agreement establishing the *NERC Personnel Certification Program* or from the establishment of any NERC rules, policies, or procedures dealing with any segment of the Certification process shall be subject to the NERC System Operator Certification Dispute Resolution Process. The Dispute Resolution Process is for the use of persons who hold an operator Certification or persons wishing to be certified to dispute the validity of the examination, the content of the test, the content outlines, or the Registration process.

2. Dispute Resolution Process consists of three steps.

    2.1. Notify NERC Personnel Certification Program Staff: This first step can usually resolve the issues without further actions. It is expected that most disputes will be resolved at this step. If the issue(s) is not resolved to the satisfaction of the parties involved in the first step, the issue can be brought to the PCGC Dispute Resolution Task Force.

2.2. PCGC Dispute Resolution Task Force: If the NERC staff did not resolve the issue(s) to the satisfaction of the parties involved, a written request must be submitted to the chairman of the PCGC through NERC staff explaining the issue(s) and requesting further action. Upon receipt of the letter, the PCGC chairman will present the request to the PCGC Dispute Resolution Task Force for action. This task force consists of three current members of the PCGC. The PCGC Dispute Resolution Task Force will investigate and consider the issue(s) presented and make a decision. This decision will then be communicated to the submitting party, the PCGC chairman, and the NERC staff within 45 calendar days of receipt of the request.

3. Personnel Certification Governance Committee: If the PCGC Dispute Resolution Task Force's decision did not resolve the issue(s) to the satisfaction of the parties involved, the final step in the process is for the issue(s) to be brought before the PCGC. Within 45 days of the date of the Task Force's decision, the disputing party shall submit a written request to the PCGC chairman through NERC staff requesting that the issue(s) be brought before the PCGC for resolution. The chairman shall see that the necessary documents and related data are provided to the PCGC members as soon as practicable. The PCGC will then meet or conference to discuss the issue(s) and make their decision within 60 calendar days of the chairman's receipt of the request. The decision will be provided to the person bringing the issue(s) and the NERC staff. The PCGC is the governing body of the Certification program and its decision is final.

4. Dispute Resolution Process Expenses: All individual expenses associated with the Dispute Resolution Process, including salaries, meetings, or consultant fees, shall be the responsibility of the individual parties incurring the expense.

5. Decision Process: Robert's Rules of Order shall be used as a standard of conduct for the Dispute Resolution Process. A majority vote of the members present will decide all issues. The vote will be taken in a closed session. No member of the PCGC may participate in the Dispute Resolution Process, other than as a party or witness, if he or she has an interest in the particular matter.

5.1 A stipulation of invoking the Dispute Resolution Process is that the entity invoking the Dispute Resolution Process agrees that neither NERC (its members, Board of Trustees, committees, subcommittees, and staff), any person assisting in the Dispute Resolution Process, nor any company employing a person assisting in the Dispute Resolution Process, shall be liable, and they shall be held harmless against the consequences of or any action or inaction or of any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the Dispute Resolution Process. This "hold harmless" clause does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.

## 605. Disciplinary Action

1. Disciplinary action may be necessary to protect the integrity of the system operator Credential. The PCGC may initiate disciplinary action should an individual act in a manner that is inconsistent with expectations, including but not limited to:

    1.1. Willful, gross, and/or repeated violation of the NERC Reliability Standards as determined by a NERC investigation.

    1.2. Willful, gross, and/or repeated negligence in performing the duties of a certified system operator as determined by a NERC investigation.

    1.3. Intentional misrepresentation of information provided on a NERC application for a system operator Certification exam or to maintain a system operator Credential using CE Hours.

    1.4. Intentional misrepresentation of identification in the exam process, including a person identifying himself or herself as another person to obtain Certification for the other person.

    1.5. Any form of cheating during a Certification exam, including, but not limited to, bringing unauthorized reference material in the form of notes, crib sheets, or other methods of cheating into the testing center.

    1.6. A certified system operator's admission to or conviction of any felony or misdemeanor directly related to his/her duties as a system operator.

2. Hearing Process: Upon report to NERC of a candidate's or certified system operator's alleged misconduct, the NERC PCGC Credential Review Task Force will convene for the determination of facts. An individual, government agency, or other investigating authority can file a report. Unless the Task Force initially determines that the report of alleged misconduct is without merit, the candidate or certified system operator will be given the right to notice of the allegation. A hearing will be held and the charged candidate or certified system operator will be given an opportunity to be heard and present further relevant information. The Task Force may seek out information from other involved parties. The hearing will not be open to the public, but it will be open to the charged candidate or certified system operator and his or her representative. The Task Force will deliberate in a closed session, but the Task Force cannot receive any evidence during the closed session that was not developed during the course of the hearing.

3. Task Force's decision: The Task Force's decision will be unanimous and will be in writing with inclusion of the facts and reasons for the decision. The Task Force's written decision will be delivered to the PCGC and by certified post to the charged candidate or certified system operator. In the event that the Task Force is

unable to reach a unanimous decision, the matter shall be brought to the full committee for a decision.

3.1. No Action: Allegation of misconduct was determined to be unsubstantiated or inconsequential to the Credential.

3.2. Probation: A letter will be sent from NERC to the offender specifying:

3.2.1. The length of time of the probationary period (to be determined by the PCGC).

3.2.2. Credential will remain valid during the probationary period.

3.2.3. The probationary period does not affect the expiration date of the current certificate.

3.2.4. During the probationary period, a subsequent offense of misconduct, as determined through the same process as described above, may be cause for more serious consequences.

3.3. Revoke for Cause: A letter will be sent from NERC to the offender specifying:

3.3.1. The length of time of the probationary period (to be determined by the PCGC).

3.3.2. Credential is no longer valid.

3.3.3. Successfully passing an exam will be required to become recertified.

3.3.4. An exam will not be authorized until the revocation period expires

3.4. Termination of Credential: A letter will be sent from NERC to the offender specifying permanent removal of Credential.

4. Credential Review Task Force: The Credential Review Task Force shall be comprised of three active members of the PCGC assigned by the Chairman of the PCGC on an ad hoc basis. No one on the Credential Review Task Force may have an interest in the particular matter. The Task Force will meet in a venue determined by the Task Force chairman.

5. Appeal Process: The decision of the Task Force may be appealed using the NERC System Operator Certification Dispute Resolution Process.

**~~603.~~606. Candidate Testing Mechanisms**

1. The ~~p~~Personnel Certification ~~p~~Program shall utilize reliable testing mechanisms to evaluate individual competence in a manner that is objective, fair to all candidates, job-related, and based on the knowledge and skill needed to function in the discipline.

2. The ~~p~~Personnel Certification ~~p~~Program shall implement a formal policy of periodic review of the testing mechanisms to ensure ongoing relevance of the mechanisms to knowledge and skill needed in the discipline.

3. The ~~p~~Personnel Certification ~~p~~Program shall utilize policies and procedures to ensure that all test administration and development materials are secure and demonstrate that these policies and procedures are consistently implemented.

4. The ~~p~~Personnel Certification ~~p~~Program shall establish pass/fail levels that protect the public with a method that is based on competence and generally accepted in the psychometric community as being fair and reasonable.

5. The ~~p~~Personnel Certification ~~p~~Program shall conduct ongoing studies to substantiate the reliability and validity of the testing mechanisms.

6. The ~~p~~Personnel Certification ~~p~~Program shall utilize policies and procedures that govern how long examination records are kept in their original format.

7. The ~~p~~Personnel Certification ~~p~~Program shall demonstrate that different forms of the testing mechanisms assess equivalent content and that candidates are not penalized for taking forms of varying difficulty.

**~~604.~~607. Public Information About the Personnel Certification Program**

1. The ~~p~~Personnel Certification ~~p~~Program shall ~~provide for publishing and availability of general descriptive material on~~maintain and publish publicly a System Operator Certification Program Manual describing the procedures used in examination construction and validation; all eligibility requirements and determination; fees; and examination administration documents, including: reporting of results, re-Certification requirements, and disciplinary and dispute resolution~~grievance procedures~~.

2. The ~~p~~Personnel Certification ~~p~~Program shall maintain and publish publicly~~and make available~~ a comprehensive summary or outline of the information, knowledge, or functions covered by each~~the~~ examination.

3. The ~~p~~Personnel Certification ~~p~~Program shall publish publicly and make available at least annually a summary of Certification activities for the program, including at least the following information: number of examinations delivered, the number passed, the number failed, and the number certified.

**~~605.~~608. Responsibilities to Applicants for Certification or Re-Certification**

The Ppersonnel Certification Pprogram:

1. Shall not discriminate among applicants as to age, gender, race, religion, national origin, disability, or marital status and shall include a statement of non-discrimination in announcements of the program.

2. Shall comply with all requirements of applicable federal and state/provincial laws with respect to all Certification and re-Certification activities, and shall require compliance of all contractors and/or providers of services.

3. Shall make available to all applicants copies of formalized procedures for application for, and attainment of, personnel Certification and re-Certification and shall uniformly follow and enforce such procedures for all applicants.

4. Shall implement a formal policy for the periodic review of eligibility criteria and application procedures to ensure that they are fair and equitable.

5. Shall provide competently proctored examination sites.

6. Shall uniformly report examination results to applicants in a timely manner.

7. Shall give applicants failing the examination information on general content areas of deficiency.

8.Shall implement policies and procedures providing due process for applicants questioning eligibility determination, examination results, and Certification status, and shall publish this information. A current version of such a procedure is the NERC *System Operator Certification Dispute Resolution Process*, which is incorporated into these Rules of Procedure as part of **Appendix 6**.

9.8. Shall develop and maintain a program manual containing the processes and procedures for applicants for Certification and re-Certification.

**606.609. Responsibilities to the Public and to Employers of Certified Practitioners**

The Ppersonnel Certification Pprogram:

1. Shall demonstrate that the testing mechanisms adequately measure the knowledge and skill required for entry, maintenance, and/or advancement in the profession for each position to be certified.

2. Shall award Certification and re-Certification only after the skill and knowledge of the individual have been evaluated and determined to be acceptable.

3. Shall periodically publish or maintain, in an electronic format, a current list of those persons certified in the programs and have polices and procedures that delineate what information about a Credential holder may be made public and under what circumstances.

4. Shall have formal policies and procedures for discipline of a Credential holder, including the revocation of the certificate, for conduct deemed harmful to the public or inappropriate to the discipline (e.g., incompetence, unethical behavior, physical or mental impairment affecting performance). These procedures shall incorporate due process. ~~The current procedure is the *NERC Certified System Operator Credential Disciplinary Action Procedure*, which is incorporated into these Rules of Procedure as part of **Appendix 6**.~~

5. Shall demonstrate that any title or Credential awarded accurately reflects or applies to the practitioner's daily occupational or professional duties and is not confusing to employers, consumers, regulators, related professions, and/or other interested parties.

# SECTION 700 — RELIABILITY READINESS EVALUATION AND IMPROVEMENT AND FORMATION OF SECTOR FORUMS

## 701. Confidentiality Requirements for Readiness Evaluations and Evaluation Team Members

1. All information made available or created during the course of any reliability readiness evaluation including, but not limited to, data, Documents, observations and notes, shall be maintained as confidential by all evaluation team members, in accordance with the requirements of Section 1500.

2. Evaluation team members are obligated to destroy all confidential evaluation notes following the posting of the final report of the reliability readiness evaluation.

3. NERC will retain reliability readiness evaluation-related documentation, notes, and materials for a period of time as defined by NERC.

4. These confidentiality requirements shall survive the termination of the NERC Reliability Readiness Evaluation and Improvement Program.

## 702. Formation of Sector Forum

1. NERC will form a sector forum at the request of any five members of NERC that share a common interest in the safety and reliability of the Bulk Power System. The members of sector forum may invite such others of the members of NERC to join the sector forum as the sector forum deems appropriate.

2. The request to form a sector forum must include a proposed charter for the sector forum. The Board must approve the charter.

3. NERC will provide notification of the formation of a sector forum to its membership roster. Notices and agendas of meetings shall be posted on NERC's website.

4. A sector forum may make recommendations to any of the NERC committees and may submit a Standards Authorization Request to the NERC *Reliability Standards Development Procedure*.

# SECTION 800 — RELIABILITY ASSESSMENT AND PERFORMANCE ANALYSIS

## 801. Objectives of the Reliability Assessment and Performance Analysis Program

The objectives of the NERC Reliability Assessment and Performance Analysis Program are to: (1) conduct, and report the results of, an independent assessment of the overall reliability and adequacy of the interconnected North American Bulk Power Systems, both as existing and as planned; (2) analyze off-normal events on the Bulk Power System; (3) identify the root causes of events that may be precursors of potentially more serious events; (4) assess past reliability performance for lessons learned; (5) disseminate findings and lessons learned to the electric industry to improve reliability performance; and (6) develop reliability performance benchmarks. The final reliability assessment reports shall be approved by the Board for publication to the electric industry and the general public.

## 802. Scope of the Reliability Assessment Program

1. The scope of the Reliability Assessment Program shall include:

   1.1 Review, assess, and report on the overall electric generation and transmission reliability (adequacy and operating reliability) of the interconnected Bulk Power Systems, both existing and as planned.

   1.2 Assess and report on the key issues, risks, and uncertainties that affect or have the potential to affect the reliability of existing and future electric supply and transmission.

   1.3 Review, analyze, and report on Regional Entity self-assessments of electric supply and bulk power transmission reliability, including reliability issues of specific regional concern.

   1.4 Identify, analyze, and project trends in electric customer demand, supply, and transmission and their impacts on Bulk Power System reliability.

   1.5 Investigate, assess, and report on the potential impacts of new and evolving electricity market practices, new or proposed regulatory procedures, and new or proposed legislation (e.g. environmental requirements) on the adequacy and operating reliability of the Bulk Power Systems.

2. The Reliability Assessment Program shall be performed in a manner consistent with the Reliability Standards of NERC including but not limited to those that specify reliability assessment Requirements.

## 803. Reliability Assessment Reports

The number and type of periodic assessments that are to be conducted shall be at the discretion of NERC. The results of the reliability assessments shall be documented in three reports: the long-term and the annual seasonal (summer) and the annual seasonal (winter) assessment reports. NERC shall also conduct special reliability assessments from time to time as circumstances warrant. The reliability assessment reports shall be reviewed and approved for publication by the Board. The three regular reports are described below.

1. **Long-Term Reliability Assessment Report** — The annual long-term report shall cover a ten-year planning horizon. The planning horizon of the long-term reliability assessment report shall be subject to change at the discretion of NERC. Detailed generation and transmission adequacy assessments shall be conducted for the first five years of the review period. For the second five years of the review period, the assessment shall focus on the identification, analysis, and projection of trends in peak demand, electric supply, and transmission adequacy, as well as other industry trends and developments that may impact future electric system reliability. Reliability issues of concern and their potential impacts shall be presented along with any mitigation plans or alternatives. The long-term reliability assessment reports will generally be published in the fall (September) of each year. NERC will also publish electricity supply and demand data associated with the long-term reliability assessment report.

2. **Summer Assessment Report** — The annual summer seasonal assessment report typically shall cover the four-month (June–September) summer period. It shall provide an overall perspective on the adequacy of the generation resources and the transmission systems necessary to meet projected summer peak demands. It shall also identify reliability issues of interest and regional and subregional areas of concern in meeting projected customer demands and may include possible mitigation alternatives. The report will generally be published in mid-May for the upcoming summer period.

3. **Winter Assessment Report** — The annual winter seasonal assessment report shall cover the three-month (December–February) winter period. The report shall provide an overall perspective on the adequacy of the generation resources and the transmission systems necessary to meet projected winter peak demands. Similar to the summer assessment, the winter assessment shall identify reliability issues of interest and regional and subregional areas of concern in meeting projected customer demands and may also include possible mitigation alternatives. The winter assessment report will generally be published in mid-November for the upcoming winter period.

4. **Special Reliability Assessment Reports** — In addition to the long-term and seasonal reliability assessment reports, NERC shall also conduct special reliability assessments on a regional, interregional, and Interconnection basis as conditions warrant, or as requested by the Board or governmental authorities. The teams of reliability and technical experts also may initiate special assessments of key

reliability issues and their impacts on the reliability of a regions, subregions, or Interconnection (or a portion thereof). Such special reliability assessments may include, among other things, operational reliability assessments, evaluations of emergency response preparedness, adequacy of fuel supply, hydro conditions, reliability impacts of new or proposed environmental rules and regulations, and reliability impacts of new or proposed legislation that affects or has the potential to affect the reliability of the interconnected Bulk Power Systems in North America.

**804. Reliability Assessment Data and Information Requirements**

To carry out the reviews and assessments of the overall reliability of the interconnected Bulk Power Systems, the Regional Entities and other entities shall provide sufficient data and other information requested by NERC in support of the annual long-term and seasonal assessments and any special reliability assessments.

Some of the data provided for these reviews and assessment may be considered confidential from a competitive marketing perspective, a Critical Energy Infrastructure Information perspective, or for other purposes. Such data shall be treated in accordance with the provisions of Section 1500 – Confidential Information.

While the major sources of data and information for this program are the Regional Entities, a team of reliability and technical experts is responsible for developing and formulating its own independent conclusions about the near-term and long-term reliability of the Bulk Power Systems.

In connection with the reliability assessment reports, requests shall be submitted to each of the Regional Entities for required reliability assessment data and other information, and for each Regional Entity's self-assessment report. The timing of the requests will be governed by the schedule for the preparation of the assessment reports.

The Regional Entity self-assessments are to be conducted in compliance with NERC Reliability Standards and the respective regional planning criteria. The team(s) of reliability and technical experts shall also conduct interviews with the Regional Entities as needed. The summary of the Regional Entity self-assessments that are to be included in the assessment reports shall follow the general outline identified in NERC's request. This outline may change from time to time as key reliability issues change.

In general, the Regional Entity reliability self-assessments shall address, among other areas, the following topics: demand and Net Energy for Load; assessment of projected resource adequacy; any transmission constraints that may impact bulk transmission adequacy and plans to alleviate those constraints; any unusual operating conditions that could impact reliability for the assessment period; fuel supply adequacy; the deliverability of generation (both internal and external) to Load; and any other reliability issues in the Region and their potential impacts on the reliability of the Bulk Power Systems.

## 805. Reliability Assessment Process

Based on their expertise, the review of the collected data, the review of the Regional Entity self-assessment reports, and interviews with the Regional Entities, as appropriate, the teams of reliability and technical experts shall perform an independent review and assessment of the generation and transmission adequacy of each Region's existing and planned Bulk Power System. The results of the review teams shall form the basis of NERC's long-term and seasonal reliability assessment reports. The review and assessment process is briefly summarized below.

1. **Resource Adequacy Assessment** — The teams shall evaluate the regional demand and resource capacity data for completeness in the context of the overall resource capacity needs of the Region. The team shall independently evaluate the ability of the Regional Entity members to serve their obligations given the demand growth projections, the amount of existing and planned capacity, including committed and uncommitted capacity, contracted capacity, or capacity outside of the Region. If the Region relies on capacity from outside of the Region to meet its resource objectives, the ability to deliver that capacity shall be factored into the assessment. The demand and resource capacity information shall be compared to the resource adequacy requirements of the Regional Entity for the year(s) or season(s) being assessed. The assessment shall determine if the resource information submitted represents a reasonable and attainable plan for the Regional Entity and its members. For cases of inadequate capacity or reserve margin, the Regional Entity will be requested to analyze and explain any resource capacity inadequacies and its plans to mitigate the reliability impact of the potential inadequacies. The analysis may be expanded to include surrounding areas. If the expanded analysis indicates further inadequacies, then an interregional problem may exist and will be explored with the applicable Regions. The results of these analyses shall be described in the assessment report.

2. **Transmission Adequacy and Operating Reliability Assessment** — The teams shall evaluate transmission system information that relates to the adequacy and operating reliability of the regional transmission system. That information shall include: regional planning study reports, interregional planning study reports, and/or regional operational study reports. If additional information is required, another data request shall be sent to the Regional Entity. The assessment shall provide a judgment on the ability of the regional transmission system to operate reliably under the expected range of operating conditions over the assessment period as required by NERC Reliability Standards. If sub-areas of the regional system are especially critical to the Reliable Operation of the regional bulk transmission system, these Facilities or sub-areas shall be reviewed and addressed in the assessment. Any areas of concern related to the adequacy or operating reliability of the system shall be identified and reported in the assessment.

3. **Seasonal Operating Reliability Assessment** — The team(s) shall evaluate the overall operating reliability of the regional bulk transmission systems. In areas with potential resource adequacy or system operating reliability problems, operational readiness of the affected Regional Entities for the upcoming season

shall be reviewed and analyzed. The assessment may consider unusual but possible operating scenarios and how the system is expected to perform. Operating reliability shall take into account a wide range of activities, all of which should reinforce the Regional Entity's ability to deal with the situations that might occur during the upcoming season. Typical activities in the assessment may include: facility modifications and additions, new or modified operating procedures, emergency procedures enhancement, and planning and operating studies. The teams shall report the overall seasonal operating reliability of the regional transmission systems in the annual summer and winter assessment reports.

4. **Reporting of Reliability Assessment Results** — The teams of reliability and technical experts shall provide an independent assessment of the reliability of the Regional Entities and the North American interconnected Bulk Power System for the period of the assessment. While the Regional Entities are relied upon to provide the information to perform such assessments, the review team is not required to accept the conclusions provided by the Regional Entities. Instead, the review team is expected, based on their expertise, to reach their own independent conclusions about the status of the adequacy of the generation and bulk power transmission systems of North America.

   The review team also shall strive to achieve consensus in their assessments. The assessments that are made are based on the best information available at the time. However, since judgment is applied to this information, legitimate differences of opinion can develop. Despite these differences, the review team shall work to achieve consensus on their findings.

   In addition to providing long-term and seasonal assessments in connection with the Reliability Assessment Program, the review team of experts shall also be responsible for recommending new and revised Reliability Standards related to the reliability assessments and the reliability of the Bulk Power Systems. These proposals for new or revised Reliability Standards shall be entered into NERC's Reliability Standards development process.

   Upon completion of the assessment, the team shall share the results with the Regional Entities. The Regional Entities shall be given the opportunity to review and comment on the conclusions in the assessment and to provide additional information as appropriate. The reliability assessments and their conclusions are the responsibility of NERC's technical review team and NERC.

   The preparation and approval of NERC's reliability assessment reports shall follow a prescribed schedule including review, comment, and possible approval by appropriate NERC committees. The long-term and seasonal (summer and winter) reliability assessment reports shall be further reviewed for approval by the Board for publication to the electric industry.

## 806. Scope of the Reliability Performance and Analysis Program

The components of the program will include analysis of large-scale outages, disturbances, and near misses to determine root causes and lessons learned; identification and continuous monitoring of performance indices to detect emerging trends and signs of a decline in reliability performance; and communications of performance results, trends, recommendations, and initiatives to those responsible to take actions; followed with confirmation of actions to correct any deficiencies identified. Within NERC, the reliability performance program will provide performance results to the Reliability Standards Development and Compliance Monitoring and Enforcement Programs to make the necessary adjustments to preserve reliability based on a risk-based approach.

## 807. Analysis of Major Events

Responding to major events affecting the Bulk Power System such as significant losses of Load or generation, ~~blackouts and other~~significant Bulk Power ~~s~~System disturbances, or other emergencies on the Bulk Power System, can be divided into four phases: situational assessment and communications; situation tracking and communications; data collection, investigation, analysis, and reporting; and follow-up on recommendations.

a. NERC's role following a major event~~blackout or other major Bulk Power System disturbance or emergency~~ is to provide leadership, coordination, technical expertise, and assistance to the industry in responding to the major event. Working closely with the Regional Entities and Reliability Coordinators, and other appropriate Registered Entities, NERC will coordinate and facilitate efforts among industry participants, and with state, federal, and provincial governments in the United States and Canada to support the industry's response.

b. When responding to any major event where physical or cyber security is suspected as a cause or contributing factor to ~~an~~the major event, NERC will immediately notify appropriate government agencies and coordinate its activities with them.

c. To the extent that a Reliability Standard sets forth specific criteria and procedures for reporting the Bulk Power System disturbances and events described in that Reliability Standard, all Registered Entities that are subject to the Requirements of that Reliability Standard must report the information required by that Reliability Standard within the time periods specified. In addition to reporting information as required by applicable Reliability Standards, ~~E~~each user, owner, and operator of the Bulk Power System shall also provide NERC and the applicable Regional Entities with such additional information requested by NERC or the applicable Regional Entity as is necessary to enable NERC and the applicable Regional Entities to carry out their responsibilities under this section.

d. During the conduct of ~~some~~ NERC analyses, assistance may be needed from government agencies. This assistance could include: authority to require data reporting from affected or involved parties; communications with other agencies of government; investigations related to possible criminal or terrorist involvement in the major event; resources for initial data gathering immediately after the major

event; authority to call meetings of affected or involved parties; and technical and analytical resources for studies.

e. NERC shall work with all other participants to establish a clear delineation of roles, responsibilities, and coordination requirements among industry and government for the investigation and reporting of findings, conclusions, and recommendations related to major eventsblackouts, disturbances, or other emergencies affecting the Bulk Power System with the objective of avoiding, to the extent possible, multiple investigations of the same major event. If the major event is confined to a single Regional Entity, NERC representatives will participate as members of the Regional Entity analysis team. NERC will establish, maintain, and revise from time to time as appropriate based on experience, a manual setting forth procedures and protocols for communications and sharing and exchange of information between and among NERC, the affected Regional Entity or Entities, and relevant governmental authorities, industry organizations and Bulk Power System user, owners, and operators concerning the investigation and analysis of major events.

f. NERC and applicable entity(s) shallwill apply, as appropriate to the circumstances of the major event, the NERC *Blackout and Disturbance Response Procedures*, which are incorporated into these Rules of Procedure as **Appendix 8**. These procedures provide a framework to guide NERC's response to major events that may have multiregional, national, or international implications. Experienced industry leadership shall be applied to tailor the response to the specific circumstances of the major event. In accordance with thatthose procedures, the NERC president will determine whether the major event warrants analysis at the NERC levelNERC level. A Regional Entity may request that NERC elevate any analysis of a major event to athe NERC level.

g. NERC will screen and analyze the findings and recommendations from the analysis, and those with generic applicability will be disseminated to the industry through various means appropriate to the circumstances, including in accordance with Section 810.

**808. Analysis of Off-Normal OccurrencesEvents, PotentialBulk Power System PerformanceVulnerabilities, and Bulk Power System PerformanceVulnerabilities**

1. NERC and Regional Entities willshall analyze Bulk Power sSystem and equipment performance occurrencesevents that do not rise to the level of a major eventblackout, disturbance, or system emergency, as described in Section 807. NERC and Regional Entities willshall also analyze potential vulnerabilities in the Bulk Power System that they discover or that are brought to their attention by other sources including government agencies. The purpose of these analyses is to identify the root causes of eventsoccurrences or conditions that may be precursors of major events or other potentially more serious occurrencesevents, or that have the potential to cause major events or other more serious occurrencesevents, to assess past reliability performance for lessons learned, and to develop reliability performance benchmarks and trends.

2. NERC and Regional Entities will screen and analyze off-normal occurrences, Bulk Power System performance~~events,~~ and potential Bulk Power System vulnerabilities for significance, and information from those indicated as having~~with~~ generic applicability will be disseminated to the industry through various means appropriate to the circumstances, including in accordance with Section 810.

3. To the extent that a Reliability Standard sets forth specific criteria and procedures for reporting the Bulk Power System disturbances and events described in that Reliability Standard, all Registered Entities that are subject to the Requirements of that Reliability Standard must report the information required by that Reliability Standard within the time periods specified. In addition to reporting information as required by applicable Reliability Standards, ~~E~~each user, owner, and operator, of the Bulk Power System shall provide NERC and the applicable Regional Entities with such additional information requested by NERC or the applicable Regional Entities as is necessary to enable NERC and the applicable Regional Entities to carry out their responsibilities under this section.

## 809. Reliability Benchmarking

NERC shall identify and track key reliability indicators as a means of benchmarking reliability performance and measuring reliability improvements. This program will include assessing available metrics, developing guidelines for acceptable metrics, maintaining a performance metrics "dashboard" on the NERC website, and developing appropriate reliability performance benchmarks.

## 810. Information Exchange and Issuance of NERC Advisories, Recommendations and Essential Actions

**1.** Members of NERC and Bulk Power System owners, operators, and users shall provide NERC with detailed and timely operating experience information and data.

**2.** In the normal course of operations, NERC disseminates the results of its events analysis findings, lessons learned and other analysis and information gathering to the industry. These findings, lessons learned and other information will be used to guide the Reliability Assessment Program.

**3.** When NERC determines it is necessary to place the industry or segments of the industry on formal notice of its findings, analyses, and recommendations, NERC will provide such notification in the form of specific operations or equipment Advisories, Recommendations or Essential Actions:

3.1 Level 1 (Advisories) – purely informational, intended to advise certain segments of the owners, operators and users of the Bulk Power System of findings and lessons learned;

3.2 Level 2 (Recommendations) – specific actions that NERC is recommending be considered on a particular topic by certain segments of

owners, operators, and users of the Bulk Power System according to each entity's facts and circumstances;

3.3 Level 3 (Essential Actions) – specific actions that NERC has determined are essential for certain segments of owners, operators, or users of the Bulk Power System to take to ensure the reliability of the Bulk Power System. Such Essential Actions require NERC Board approval before issuance.

**4.** The Bulk Power System owners, operators, and users to which Level 2 (Recommendations) and Level 3 (Essential Actions) notifications apply are to evaluate and take appropriate action on such issuances by NERC. Such Bulk Power System owners, operators, and users shall also provide reports of actions taken and timely updates on progress towards resolving the issues raised in the Recommendations and Essential Actions in accordance with the reporting date(s) specified by NERC.

**5.** NERC will advise the Commission and other Applicable Governmental Authorities of its intent to issue all Level 1 (Advisories), Level 2 (Recommendations), and Level 3 (Essential Actions) at least five (5) business days prior to issuance, unless extraordinary circumstances exist that warrant issuance less than five (5) business days after such advice. NERC will file a report with the Commission and other Applicable Governmental Authorities no later than thirty (30) days following the date by which NERC has requested the Bulk Power System owners, operators, and users to which a Level 2 (Recommendation) or Level 3 (Essential Action) issuance applies to provide reports of actions taken in response to the notification. NERC's report to the Commission and other Applicable Governmental Authorities will describe the actions taken by the relevant owners, operators, and users of the Bulk Power System and the success of such actions taken in correcting any vulnerability or deficiency that was the subject of the notification, with appropriate protection for Confidential Information or Critical Energy Infrastructure Information.

## 811. Equipment Performance Data

Through its Generating Availability Data System (GADS), NERC shall collect operating information about the performance of electric generating equipment; provide assistance to those researching information on power plant outages stored in its database; and support equipment reliability as well as availability analyses and other decision-making processes developed by GADS subscribers. GADS data is also used in conducting assessments of generation resource adequacy.

# SECTION 900 — TRAINING AND EDUCATION

## 901. Scope of the Training and Education Program

Maintaining the reliability of the Bulk Electric System through implementation of the Reliability Standards requires informed and trained personnel. The training and education program will provide the education and training necessary for Bulk Power System personnel and regulators to obtain the essential knowledge necessary to understand and operate the Bulk Electric System.

NERC shall develop and maintain training and education programs for the purpose of establishing training requirements, developing materials, and developing training activities. The target audience of the training and education programs shall be Bulk Power System operating personnel including system operations personnel, operations support personnel (engineering and information technology), supervisors and managers, training personnel, and other personnel directly responsible for complying with NERC Reliability Standards who, through their actions or inactions, may impact the real-time, or day-ahead reliability of the Bulk Power System.

NERC shall also develop and provide appropriate training and education for industry participants and regulators affected by new or changed Reliability Standards or compliance Requirements.

To accomplish those objectives:

1. NERC shall periodically conduct job task analyses for targeted Bulk Power System personnel to ensure that the training program content is properly aligned to the job tasks performed by those personnel.

2. NERC shall develop and maintain personnel training program curriculum requirements based on valid job-task analysis.

3. NERC shall periodically conduct performance surveys to determine the effectiveness of the training program and identify areas for further training development and improvement.

4. NERC shall develop training and education materials and activities to assist Bulk Power System entities implementing new or revised Reliability Standard Requirements or other NERC-related changes.

5. NERC shall develop and provide training to people who participate in NERC and Regional Entity evaluations, audits, and investigations for the Compliance Monitoring and Enforcement Program, Organization Certification Program, and the continuing education program.

## 902. Continuing Education Program

NERC shall develop and maintain a continuing education program to foster the improvement of training and to promote quality in the training programs used by and

implemented by Bulk Power System entities. The program shall approve or accredit those activities and entities meeting NERC continuing education requirements.

1. NERC shall develop and implement continuing education program requirements that promote excellence in training programs and advance improved performance for Bulk Power System personnel identified in Section 901.

2. NERC shall develop and maintain a process to approve or accredit continuing education Providers and activities seeking approval or accreditation and meeting NERC-approved continuing education requirements.

3. NERC shall perform periodic audits on continuing education Providers and training activities to ensure that the approved or accredited Providers and training activities satisfy NERC continuing education requirements.

4. NERC shall develop and maintain an appeals process for disputed application reviews, interpretations of guidelines and standards, probation or suspension of NERC-approved Provider status, or Continuing Education Hour disputes.

# SECTION 1000 — SITUATION AWARENESS AND INFRASTRUCTURE SECURITY

## 1001. Situation Awareness

NERC shall through the use of Reliability Coordinators and available tools, monitor present conditions on the Bulk Power System and provide leadership coordination, technical expertise, and assistance to the industry in responding to events as necessary. To accomplish these goals, NERC will:

1. Maintain real-time situation awareness of conditions on the Bulk Power System;

2. Notify the industry of significant Bulk Power System events that have occurred in one area, and which have the potential to impact reliability in other areas;

3. Maintain and strengthen high-level communication, coordination, and cooperation with governments and government agencies regarding real-time conditions; and

4. Enable the Reliable Operation of interconnected Bulk Power Systems by facilitating information exchange and coordination among reliability service organizations.

## 1002. Reliability Support Services

NERC ~~will provide~~may assist in the development of tools and other support services for the benefit of Reliability Coordinators and other system operators to enhance reliability, operations and planning. NERC will work with the industry to identify new tools, collaboratively develop requirements, support development, provide an incubation period, and at the end of that period, transition the tool or service to another group or owner for long term operation of the tool or provision of the service~~including the Area Control Error (ACE) and Frequency Monitoring System, NERC Hotline, Real-time Flows, System Data Exchange (SDX), Reliability Coordinator Information System (RCIS), Transmission Services Information Network (TSIN), Interchange Distribution Calculator (IDC), Interregional Security Network (ISN), and Central Repository for Security Events (CRC)~~. To accomplish this goal, NERC will:

1. ~~Maintain~~Collaborate with industry to determine the ~~reliability and effectiveness~~necessity of ~~all mission-critical operating reliability support systems and~~new tools or services to enhance reliability;

2. For those tools that the collaborative process determines should proceed to a development phase, provide a start-up mechanism and development system~~Continue to support maintenance of a transmission provider curtailment report on the CRC site in response to Federal Energy Regulatory Commission Order 605~~;

3. Implement the tool either on its own or through an appropriate group or organization~~Investigate and analyze the use of high-speed real-time system~~

~~measurements, including phasors, in predicting the behavior and performance of the Eastern Interconnection~~; and

4. Where NERC conducts the implementation phase of a new tool or service, develop a transition plan to turn maintenance and provision of the tool or service over to an organization identified in the development stage~~Facilitate real-time voice and data exchange services among Reliability Coordinators (e.g., Hotline, Interregional Security Network, NERCnet, System Data Exchange, etc.)~~.

In addition to tools developed as a result of a collaborative process with industry, NERC may develop reliability tools on its own, but will consult with industry concerning the need for the tool prior to proceeding to development.

Tools and services being maintained by NERC as of January 1, 2012, will be reviewed and, as warranted, transitioned to an appropriate industry group or organization. NERC will develop and maintain a strategic reliability tools plan that will list the tools and services being maintained by NERC, and, where applicable, the plans for transition to an appropriate industry group or organization.

**1003. Infrastructure Security Program**

NERC shall coordinate electric industry activities to promote Critical Infrastructure protection of the Bulk Power System in North America by taking a leadership role in Critical Infrastructure protection of the electricity sector so as to reduce vulnerability and improve mitigation and protection of the electricity sector's Critical Infrastructure. To accomplish these goals, NERC shall perform the following functions.

1. Electric Sector Information Sharing and Analysis Center (ESISAC)

   1.1 NERC shall serve as the electricity sector's sector coordinator and operate its Information Sharing and Analysis Center to gather information and communicate security-related threats and incidents within the sector, with United States and Canadian government agencies, and with other Critical Infrastructure sectors.

   1.2 NERC shall improve the capability of the ESISAC to analyze security threats and incident information and provide situational assessments for the electricity sector and governments.

   1.3 NERC shall work closely with the United States Department of Homeland Security, Department of Energy, Natural Resources Canada, and Public Safety and Emergency Preparedness Canada.

   1.4 NERC shall strengthen and expand these functions and working relationships with the electricity sector, other Critical Infrastructure industries, governments, and government agencies throughout North America to ensure the protection of the infrastructure of the Bulk Power System.

1.5 NERC shall fill the role of the Electricity Sector Coordinating Council and coordinate with the Government Coordinating Council.

1.6 NERC shall coordinate with other Critical Infrastructure sectors through active participation with the other Sector Coordinating Councils, the other ISACs, and the National Infrastructure Advisory Committee.

1.7 NERC shall encourage and participate in coordinated Critical Infrastructure protection exercises, including interdependencies with other Critical Infrastructure sectors.

2. Security Planning

2.1 NERC shall take a risk management approach to Critical Infrastructure protection, considering probability and severity, and recognizing that mitigation and recovery can be practical alternatives to prevention.

2.2 NERC shall keep abreast of the changing threat environment through collaboration with government agencies.

2.3 NERC shall develop criteria to identify critical physical assets and Critical Cyber Assets, assess security threats, identify risk assessment methodologies, and assess effectiveness of physical and cyber protection measures.

2.4 NERC shall enhance and maintain the Bulk Power System critical spare transformer program, encourage increased participation by asset owners, and continue to assess the need to expand this program to include other critical Bulk Power System equipment.

2.5 NERC shall support implementation of the Critical Infrastructure Protection Standards through education and outreach.

2.6 NERC shall review and improve existing security guidelines, develop new security guidelines to meet the needs of the electricity sector, and consider whether any guidelines should be developed into Reliability Standards.

2.7 NERC shall conduct education and outreach initiatives to increase awareness and respond to the needs of the electricity sector.

2.8 NERC shall strengthen relationships with federal, state, and provincial government agencies on Critical Infrastructure protection matters.

2.9 NERC shall maintain and improve mechanisms for the sharing of sensitive or classified information with federal, state, and provincial government agencies on Critical Infrastructure protection matters; work with DOE and DHS to implement the National Infrastructure Protection Plan, as applicable to the electricity sector; and coordinate this work with PSEPC.

2.10 NERC shall improve methods to better assess the impact of a possible physical attack on the Bulk Power System and means to deter, mitigate, and respond following an attack.

2.11 NERC shall assess the results of vulnerability assessments and enhance the security of system control and data acquisition (SCADA) and process control systems by developing methods to detect an emerging cyber attack and the means to mitigate impacts on the Bulk Power Systems.

2.12 NERC shall work with the National SCADA Test Bed and the Process Control Systems Forum to accelerate the development of technology that will enhance the security, safety, and reliability of process control and SCADA systems.

# SECTION 1100 — ANNUAL NERC BUSINESS PLANS AND BUDGETS

## 1101. Scope of Business Plans and Budgets

The Board shall determine the content of the budgets to be submitted to the Applicable Governmental Authorities with consultation from the members of the Member Representatives Committee, Regional Entities, and others in accordance with the Bylaws. The Board shall identify any activities outside the scope of NERC's statutory reliability functions, if any, and the appropriate funding mechanisms for those activities.

## 1102. NERC Funding and Cost Allocation

1. In order that NERC's costs shall be fairly allocated among Interconnections and among Regional Entities, the NERC funding mechanism for all statutory functions shall be based on Net Energy for Load (NEL).

2. NERC's costs shall be allocated so that all Load (or, in the case of costs for an Interconnection or Regional Entity, all Load within that Interconnection or Regional Entity) bears an equitable share of such costs based on NEL.

3. Costs shall be equitably allocated between countries or Regional Entities thereof for which NERC has been designated or recognized as the Electric Reliability Organization.

4. Costs incurred to accomplish the statutory functions for one Interconnection, Regional Entity, or group of entities will be directly assigned to that Interconnection, Regional Entity, or group of entities provided that such costs are allocated equitably to end-users based on Net Energy for Load.

## 1103. NERC Budget Development

1. The NERC annual budget process shall be scheduled and conducted for each calendar year so as to allow a sufficient amount of time for NERC to receive Member inputs, develop the budget, and receive Board and, where authorized by applicable legislation or agreement, Applicable Governmental Authority approval of the NERC budget for the following fiscal year, including timely submission of the proposed budget to FERC for approval in accordance with FERC regulations.

2. The NERC budget submittal to Applicable Governmental Authorities shall include provisions for all ERO functions, all Regional Entity delegated functions as specified in delegation agreements and reasonable reserves and contingencies.

3. The NERC annual budget submittal to Applicable Governmental Authorities shall include description and explanation of NERC's proposed ERO program activities for the year; budget component justification based on statutory or other authorities; explanation of how each budgeted activity lends itself to the accomplishment of the statutory or other authorities; sufficiency of resources

provided for in the budget to carry out the ERO program responsibilities; explanation of the calculations and budget estimates; identification and explanation of changes in budget components from the previous year's budget; information on staffing and organization charts; and such other information as is required by FERC and other Applicable Governmental Authorities having authority to approve the proposed budget.

4. NERC shall develop, in consultation with the Regional Entities, a reasonable and consistent system of accounts, to allow a meaningful comparison of actual results at the NERC and Regional Entity level by the Applicable Governmental Authorities.

**1104. Submittal of Regional Entity Budgets to NERC**

1. Each Regional Entity shall submit its proposed annual budget for carrying out its delegated authority functions as well as all other activities and funding to NERC in accordance with a schedule developed by NERC and the Regional Entities, which shall provide for the Regional Entity to submit its final budget that has been approved by its board of directors or other governing body no later than July 1 of the prior year, in order to provide sufficient time for NERC's review and comment on the proposed budget and approval of the Regional Entity budget by the NERC Board of Trustees in time for the NERC and Regional Entity budgets to be submitted to FERC and other Applicable Governmental Authorities for approval in accordance with their regulations. The Regional Entity's budget shall include supporting materials in accordance with the budget and reporting format developed by NERC and the Regional Entities, including the Regional Entity's complete business plan and organization chart, explaining the proposed collection of all dues, fees, and charges and the proposed expenditure of funds collected in sufficient detail to justify the requested funding collection and budget expenditures.

2. NERC shall review and approve each Regional Entity's budget for meeting the requirements of its delegated authority. Concurrent with approving the NERC budget, NERC shall review and approve, or reject, each Regional Entity budget for filing.

3. NERC shall also have the right to review from time to time, in reasonable intervals but no less frequently than every three years, the financial books and records of each Regional Entity having delegated authority in order to ensure that the documentation fairly represents in all material aspects appropriate funding of delegated functions.

**1105. Submittal of NERC and Regional Entity Budgets to Governmental Authorities for Approval**

1. NERC shall file for approval by the Applicable Governmental Authorities at least 130 days in advance of the start of each fiscal year. The filing shall include: (1) the complete NERC and Regional Entity budgets including the business plans and organizational charts approved by the Board, (2) NERC's annual funding requirement (including Regional Entity costs for delegated functions), and (3) the

mechanism for assessing charges to recover that annual funding requirement, together with supporting materials in sufficient detail to support the requested funding requirement.

2. NERC shall seek approval from each Applicable Governmental Authority requiring such approval for the funding requirements necessary to perform ERO activities within their jurisdictions.

**1106. NERC and Regional Entity Billing and Collections**

1. NERC shall request the Regional Entities to identify all Load-Serving Entities[3] within each Regional Entity and the NEL assigned to each Load-Serving Entity, and the Regional Entities shall supply the requested information. The assignment of a funding requirement to an entity shall not be the basis for determining that the entity must be registered in the Compliance Registry.

2. NERC shall accumulate the NEL by Load-Serving Entities for each Applicable Governmental Authority and submit the proportional share of NERC funding requirements to each Applicable Governmental Authority for approval together with supporting materials in sufficient detail to support the requested funding requirement.

3. NEL reported by Balancing Authorities within a Region shall be used to rationalize and validate amounts allocated for collection through Regional Entity processes.

4. The billing and collection processes shall provide:

   4.1 A clear validation of billing and application of payments.

   4.2 A minimum of data requests to those being billed.

   4.3 Adequate controls to ensure integrity in the billing determinants including identification of entities responsible for funding NERC's activities.

   4.4 Consistent billing and collection terms.

5. NERC will bill and collect all budget requirements approved by Applicable Governmental Authorities (including the funds required to support those functions assigned to the Regional Entities through the delegation agreements) directly from the Load-Serving Entities or their designees or as directed by particular Applicable Governmental Authorities, except where the Regional Entity is required to collect the budget requirements for NERC, in which case the Regional Entity will collect directly from the Load-Serving Entities or as otherwise

[3] A Regional Entity may allocate funding obligations using an alternative method approved by NERC and by FERC and other Applicable Governmental Authorities, as provided for in the regional delegation agreement.

provided by agreement and submit funds to NERC. Alternatively, a load-serving entity may pay its allocated ERO costs through a Regional Entity managed collection mechanism.

6. NERC shall set a minimum threshold limit on the billing of small LSEs to minimize the administrative burden of collection.

7. NERC shall pursue any non-payments and shall request assistance from Applicable Governmental Authorities as necessary to secure collection.

8. In the case where a Regional Entity performs the collection for ERO, the Regional Entity will not be responsible for non-payment in the event that a user, owner or operator of the Bulk Power System does not pay its share of dues, fees and charges in a timely manner, provided that such a Regional Entity shall use reasonably diligent efforts to collect dues, fees, and other charges from all entities obligated to pay them. However, any revenues not paid shall be recovered from others within the same Region to avoid cross-subsidization between Regions.

9. Both NERC and the Regional Entities also may bill members or others for functions and services not within statutory requirements or otherwise authorized by the Applicable Governmental Authorities. Costs and revenues associated with these functions and services shall be separately identified and not commingled with billings associated with the funding of NERC or of the Regional Entities for delegated activities.

## 1107. Penalty Applications

1. Where NERC or a Regional Entity initiates a compliance monitoring and enforcement process that leads to imposition of a Penalty, the entity that initiated the process shall receive any Penalty monies imposed and collected as a result of that process, unless a different disposition of the Penalty monies is provided for in the delegation agreement, or in a contract or a disposition of the violation that is approved by NERC and FERC.

2. All funds from financial Penalties assessed in the United States received by the entity initiating the compliance monitoring and enforcement process shall be applied as a general offset to the entity's budget requirements for the subsequent fiscal year, if received by July 1, or for the second subsequent fiscal year, if received on or after July 1. Funds from financial Penalties shall not be directly applied to any program maintained by the entity conducting the compliance monitoring and enforcement process. Funds from financial Penalties assessed against a Canadian entity shall be applied as specified by legislation or agreement.

3. In the event that a compliance monitoring and enforcement process is conducted jointly by NERC and a Regional Entity, the Regional Entity shall receive the Penalty monies and offset the Regional Entity's budget requirements for the subsequent fiscal year.

4. Exceptions or alternatives to the foregoing provisions will be allowed if approved by NERC and by FERC or any other Applicable Governmental Authority.

## 1108. Special Assessments

On a demonstration of unforeseen and extraordinary circumstances requiring additional funds prior to the next funding cycle, NERC shall file with the Applicable Governmental Authorities, where authorized by applicable legislation or agreement, for authorization for an amended or supplemental budget for NERC or a Regional Entity and, if necessary under the amended or supplemental budget, to collect a special or additional assessment for statutory functions of NERC or the Regional Entity. Such filing shall include supporting materials to justify the requested funding, including any departure from the approved funding formula or method.

# SECTION 1200 — REGIONAL DELEGATION AGREEMENTS

### 1201. Pro Forma Regional Delegation Agreement

NERC shall develop and maintain a pro forma Regional Entity delegation agreement, which shall serve as the basis for negotiation of consistent agreements for the delegation of ERO functions to Regional Entities.

### 1202. Regional Entity Essential Requirements

NERC shall establish the essential requirements for an entity to become qualified and maintain good standing as a Regional Entity.

### 1203. Negotiation of Regional Delegation Agreements

NERC shall, for all areas of North America that have provided NERC with the appropriate authority, negotiate regional delegation agreements for the purpose of ensuring all areas of the North American Bulk Power Systems are within a Regional Entity Region. In the event NERC is unable to reach agreement with Regional Entities for all areas, NERC shall provide alternative means and resources for implementing NERC functions within those areas. No delegation agreement shall take effect until it has been approved by the Applicable Governmental Authority.

### 1204. Conformance to Rules and Terms of Regional Delegation Agreements

NERC and each Regional Entity shall comply with all applicable ERO Rules of Procedure and the obligations stated in the regional delegation agreement.

### 1205. Sub-delegation

The Regional Entity shall not sub-delegate any responsibilities and authorities delegated to it by its regional delegation agreement with NERC except with the approval of NERC and FERC and other Applicable Governmental Authorities. Responsibilities and authorities may only be sub-delegated to another Regional Entity. Regional Entities may share resources with one another so long as such arrangements do not result in cross-subsidization or in any sub-delegation of authorities.

### 1206. Nonconformance to Rules or Terms of Regional Delegation Agreement

If a Regional Entity is unable to comply or is not in compliance with an ERO Rule of Procedure or the terms of the regional delegation agreement, the Regional Entity shall immediately notify NERC in writing, describing the area of nonconformance and the reason for not being able to conform to the Rule of Procedure. NERC shall evaluate each case and inform the affected Regional Entity of the results of the evaluation. If NERC determines that a Rule of Procedure or term of the regional delegation agreement has been violated by a Regional Entity or cannot practically be implemented by a Regional Entity, NERC shall notify the Applicable Governmental Authorities and take any actions necessary to address the situation.

## 1207. Regional Entity Audits

Approximately every five years and more frequently if necessary for cause, NERC shall audit each Regional Entity to verify that the Regional Entity continues to comply with NERC Rules of Procedure and the obligations of NERC delegation agreement. Audits of Regional Entities shall be conducted, to the extent practical, based on professional auditing standards recognized in the U.S., including Generally Accepted Auditing Standards, Generally Accepted Government Auditing Standards, and standards sanctioned by the Institute of Internal Auditors, and if applicable to the coverage of the audit, may be based on Canadian or other international standards. The audits required by this Section 1207 shall not duplicate the audits of Regional Entity Compliance Monitoring and Enforcement Programs provided for in **Appendix 4A**, Audit of Regional Compliance Programs, to these Rules of Procedure.

## 1208. Process for Considering Registered Entity Requests to Transfer to Another Regional Entity

1. A Registered Entity that is registered in the Region of one Regional Entity and believes its registration should be transferred to a different Regional Entity may submit a written request to both Regional Entities requesting that they process the proposed transfer in accordance with this section. The Registered Entity's written request shall set forth the reasons the Registered Entity believes justify the proposed transfer and shall describe any impacts of the proposed transfer on other Bulk Power System owners, operators, and users.

2. After receiving the Registered Entity's written request, the two Regional Entities shall consult with each other as to whether they agree or disagree that the requested transfer is appropriate. The Regional Entities may also consult with affected Reliability Coordinators, Balancing Authorities and Transmission Operators as appropriate. Each Regional Entity shall post the request on its website for public comment period of 21 days. In evaluating the proposed transfer, the Regional Entities shall consider the location of the Registered Entity's Bulk Power System facilities in relation to the geographic and electrical boundaries of the respective Regions; the impacts of the proposed transfer on other Bulk Power System owners, operators; and users, the impacts of the proposed transfer on the current and future staffing, resources, budgets and assessments to other Load-Serving Entities of each Regional Entity, including the sufficiency of the proposed transferee Regional Entity's staffing and resources to perform compliance monitoring and enforcement activities with respect to the Registered Entity; the Registered Entity's compliance history with its current Regional Entity; and the manner in which pending compliance monitoring and enforcement matters concerning the Registered Entity would be transitioned from the current Regional Entity to the transferee Regional Entity; along with any other reasons for the proposed transfer stated by the Registered Entity and any other reasons either Regional Entity considers relevant. The Regional Entities may

request that the Registered Entity provide additional data and information concerning the proposed transfer for the Regional Entities' use in their evaluation. The Registered Entity's current Regional Entity shall notify the Registered Entity in writing as to whether (i) the two Regional Entities agree that the requested transfer is appropriate, (ii) the two Regional Entities agree that the requested transfer is not appropriate and should not be processed further, or (iii) the two Regional Entities disagree as to whether the proposed transfer is appropriate.

3. If the two Regional Entities agree that the requested transfer is appropriate, they shall submit a joint written request to NERC requesting that the proposed transfer be approved and that the delegation agreement between NERC and each of the Regional Entities be amended accordingly. The Regional Entities' joint written submission to NERC shall describe the reasons for the proposed transfer; the location of the Registered Entity's Bulk Power System Facilities in relation to the geographic and electrical boundaries of the respective Regions; the impacts of the proposed transfer on other Bulk Power System owners, operators, and users; the impacts of the proposed transfer on the current and future staffing, resources, budgets and assessments of each Regional Entity, including the sufficiency of the proposed transferee Regional Entity's staffing and resources to perform compliance monitoring and enforcement activities with respect to the Registered Entity; the Registered Entity's compliance history with its current Regional Entity; and the manner in which pending compliance monitoring and enforcement matters concerning the Registered Entity will be transitioned from the current Regional Entity to the transferee Regional Entity. The NERC Board of Trustees shall consider the proposed transfer based on the submissions of the Regional Entities and any other information the Board considers relevant, and shall approve or disapprove the proposed transfer and the related delegation agreement amendments. The NERC Board may request that the Regional Entities provide additional information, or obtain additional information from the Registered Entity, for the use of the NERC Board in making its decision. If the NERC Board approves the proposed transfer, NERC shall file the related delegation agreements with FERC for approval.

4. If the two Regional Entities do not agree with each other that the proposed transfer is appropriate, the Regional Entity supporting the proposed transfer shall, if requested by the Registered Entity, submit a written request to NERC to approve the transfer and the related delegation agreement amendments. The Regional Entity's written request shall include the information specified in Section 1208.3. The Regional Entity that does not believe the proposed transfer is appropriate will be allowed to submit a written statement to NERC explaining why the Regional Entity believes the transfer is not appropriate and should not be approved. The NERC Board of Trustees shall consider the proposed transfer based on the submissions of the Regional Entities and any other information the Board considers relevant, and shall approve or disapprove the proposed transfer and the related delegation agreement amendments. The NERC Board may request that the Regional Entities provide additional information, or obtain additional

information from the Registered Entity, for the use of the NERC Board in making its decision. If the NERC Board approves the proposed transfer, NERC shall file the related delegation agreements with FERC for approval.

5. Prior to action by the NERC Board of Trustees on a proposed transfer of registration under Section 1208.3 or 1208.4, NERC shall post information concerning the proposed transfer, including the submissions from the Regional Entities, on its website for at least twenty-one (21) days for the purpose of receiving public comment.

6. If the NERC Board of Trustees disapproves a proposed transfer presented to it pursuant to either Section 1208.3 or 1208.4, the Regional Entity or Regional Entities that believe the transfer is appropriate may, if requested to do so by the Registered Entity, file a petition with FERC pursuant to 18 C.F.R. section 39.8(f) and (g) requesting that FERC order amendments to the delegation agreements of the two Regional Entities to effectuate the proposed transfer.

7. No transfer of a Registered Entity from one Regional Entity to another Regional Entity shall be effective (i) unless approved by FERC, and (ii) any earlier than the first day of January of the second calendar year following approval by FERC, unless an earlier effective date is agreed to by both Regional Entities and NERC and approved by FERC.

# SECTION 1300 — COMMITTEES

## 1301. Establishing Standing Committees

The Board may from time to time create standing committees. In doing so, the Board shall approve the charter of each committee and assign specific authority to each committee necessary to conduct business within that charter. Each standing committee shall work within its Board-approved charter and shall be accountable to the Board for performance of its Board-assigned responsibilities. A NERC standing committee may not delegate its assigned work to a member forum, but, in its deliberations, may request the opinions of and consider the recommendations of a member forum.

## 1302. Committee Membership

Each committee shall have a defined membership composition that is explained in its charter. Committee membership may be unique to each committee, and can provide for balanced decision-making by providing for representatives from each Sector or, where Sector representation will not bring together the necessary diversity of opinions, technical knowledge and experience in a particular subject area, by bringing together a wide diversity of opinions from industry experts with outstanding technical knowledge and experience in a particular subject area. Committee membership shall also provide the opportunity for an equitable number of members from the United States and Canada, based approximately on proportionate Net Energy for Load. All committees and other subgroups (except for those organized on other than a Sector basis because Sector representation will not bring together the necessary diversity of opinions, technical knowledge and experience in a particular subject area) must ensure that no two stakeholder Sectors are able to control the vote on any matter, and no single Sector is able to defeat a matter. With regard to committees and subgroups pertaining to development of, interpretation of, or compliance with Reliability Standards, NERC shall provide a reasonable opportunity for membership from Sectors desiring to participate. Committees and subgroups organized on other than a Sector basis shall be reported to the NERC Board and the Member Representatives Committee, along with the reasons for constituting the committee or subgroup in the manner chosen. In such cases and subject to reasonable restrictions necessary to accomplish the mission of such committee or subgroup, NERC shall provide a reasonable opportunity for additional participation, as members or official observers, for Sectors not represented on the committee or subgroup.

## 1303. Procedures for Appointing Committee Members

Committee members shall be nominated and selected in a manner that is open, inclusive, and fair. Unless otherwise stated in these Rules of Procedure or approved by the Board, all committee member appointments shall be approved by the board, and committee officers shall be appointed by the Chairman of the Board.

## 1304. Procedures for Conduct of Committee Business

1. Notice to the public of the dates, places, and times of meetings of all committees, and all nonconfidential material provided to committee members, shall be posted

on NERC's website at approximately the same time that notice is given to committee members. Meetings of all standing committees shall be open to the public, subject to reasonable limitations due to the availability and size of meeting facilities; provided that the meeting may be held in or adjourn to closed session to discuss matters of a confidential nature, including but not limited to personnel matters, compliance enforcement matters, litigation, or commercially sensitive or Critical Energy Infrastructure Information of any entity.

2. NERC shall maintain a set of procedures, approved by the Board, to guide the conduct of business by standing committees.

**1305. Committee Subgroups**

Standing committees may appoint subgroups using the same principles as in Section 1302.

# SECTION 1400 — AMENDMENTS TO THE NERC RULES OF PROCEDURE

## 1401. Proposals for Amendment or Repeal of Rules of Procedure

In accordance with the Bylaws of NERC, requests to amend or repeal the Rules of Procedure may be submitted by (1) any ~~ten~~fifty Members of NERC, which number shall include Members from at least three membership Sectors, (2) the Member Representatives Committee, (3) a ~~standing~~ committee of NERC to whose function and purpose the Rule of Procedure pertains, or (4) an officer of NERC~~the ERO~~.

## 1402. Approval of Amendment or Repeal of Rules of Procedure

Amendment to or repeal of Rules of Procedure shall be approved by the Board after public notice and opportunity for comment in accordance with the Bylaws of NERC. In approving changes to the Rules of Procedure, the Board shall consider the inputs of the Member Representatives Committee, other ERO committees affected by the particular changes to the Rules of Procedure, and other stakeholders as appropriate. After Board approval, the amendment or repeal shall be submitted to the Applicable Governmental Authorities for approval, where authorized by legislation or agreement. No amendment to or repeal of the Rules of Procedure shall be effective until it has been approved by the Applicable Governmental Authorities.

## ~~1403.Alternative Procedure for Violation Risk Factors~~

~~In the event the Reliability Standards development process fails to produce Violation Risk Factors for a particular Reliability Standard in a timely manner, the Board of Trustees may adopt Violation Risk Factors for that standard after notice and opportunity for comment. In adopting Violation Risk Factors, the Board shall consider the inputs of the Member Representatives Committee and affected stakeholders.~~

# SECTION 1500 — CONFIDENTIAL INFORMATION

## 1501. Definitions

1. **Confidential Information** means (i) Confidential Business and Market Information; (ii) Critical Energy Infrastructure Information; (iii) personnel information that identifies or could be used to identify a specific individual, or reveals personnel, financial, medical, or other personal information; (iv) work papers, including any records produced for or created in the course of an evaluation or audit; (v) investigative files, including any records produced for or created in the course of an investigation; or (vi) Cyber Security Incident Information; provided, that public information developed or acquired by an entity shall be excluded from this definition.

2. **Confidential Business and Market Information** means any information that pertains to the interests of any entity, that was developed or acquired by that entity, and that is proprietary or competitively sensitive.

3. **Critical Energy Infrastructure Information** means specific engineering, vulnerability, or detailed design information about proposed or existing Critical Infrastructure that (i) relates details about the production, generation, transportation, transmission, or distribution of energy; (ii) could be useful to a person in planning an attack on Critical Infrastructure; and (iii) does not simply give the location of the Critical Infrastructure.

4. **Critical Infrastructure** means existing and proposed systems and assets, whether physical or virtual, the incapacity or destruction of which would negatively affect security, economic security, public health or safety, or any combination of those matters.

5. **Cyber Security Incident Information** means any information related to, describing, or which could be used to plan or cause a Cyber Security Incident.

## 1502. Protection of Confidential Information

1. **Identification of Confidential Information** — An owner, operator, or user of the Bulk Power System and any other party (the "Submitting Entity") shall mark as confidential any information that it submits to NERC or a Regional Entity (the "Receiving Entity") that it reasonably believes contains Confidential Information as defined by these Rules of Procedure, indicating the category or categories defined in Section 1501 in which the information falls. If the information is subject to a prohibition on public disclosure in the Commission-approved rules of a regional transmission organization or independent system operator or a similar prohibition in applicable federal, state, or provincial laws, the Submitting Entity shall so indicate and provide supporting references and details.

2. **Confidentiality** — Except as provided herein, a Receiving Entity shall keep in confidence and not copy, disclose, or distribute any Confidential Information or

any part thereof without the permission of the Submitting Entity, except as otherwise legally required.

3. **Information no longer Confidential –** If a Submitting Entity concludes that information for which it had sought confidential treatment no longer qualifies for that treatment, the Submitting Entity shall promptly so notify NERC or the relevant Regional Entity.

**1503. Requests for Information**

1. **Limitation** — A Receiving Entity shall make information available only to one with a demonstrated need for access to the information from the Receiving Entity.

2. **Form of Request** — A person with such a need may request access to information by using the following procedure:

   2.1 The request must be in writing and clearly marked "Request for Information."

   2.2 The request must identify the individual or entity that will use the information, explain the requester's need for access to the information, explain how the requester will use the information in furtherance of that need, and state whether the information is publicly available or available from another source or through another means. If the requester seeks access to information that is subject to a prohibition on public disclosure in the Commission-approved rules of a regional transmission organization or independent system operator or a similar prohibition in applicable federal, state, or provincial laws, the requester shall describe how it qualifies to receive such information.

   2.3 The request must stipulate that, if the requester does not seek public disclosure, the requester will maintain as confidential any information received for which a Submitting Party has made a claim of confidentiality in accordance with NERC's rules. As a condition to gaining access to such information, a requester shall execute a non-disclosure agreement in a form approved by NERC's Board of Trustees.

3. **Notice and Opportunity for Comment** — Prior to any decision to disclose information marked as confidential, the Receiving Entity shall provide written notice to the Submitting Entity and an opportunity for the Submitting Entity to either waive objection to disclosure or provide comments as to why the Confidential Information should not be disclosed. Failure to provide such comments or otherwise respond is not deemed waiver of the claim of confidentiality.

4. **Determination by ERO or Regional Entity** — Based on the information provided by the requester under Rule 1503.2, any comments provided by the Submitting Entity, and any other relevant available information, the chief

executive officer or his or her designee of the Receiving Entity shall determine whether to disclose such information.

5. **Appeal** — A person whose request for information is denied in whole or part may appeal that determination to the President of NERC (or the President's designee) within 30 days of the determination. Appeals filed pursuant to this Section must be in writing, addressed to the President of NERC (or the President's designee), and clearly marked "Appeal of Information Request Denial."

   NERC will provide written notice of such appeal to the Submitting Entity and an opportunity for the Submitting Entity to either waive objection to disclosure or provide comments as to why the Confidential Information should not be disclosed; provided that any such comments must be received within 30 days of the notice and any failure to provide such comments or otherwise respond is not deemed a waiver of the claim of confidentiality.

   The President of NERC (or the President's designee) will make a determination with respect to any appeal within 30 days. In unusual circumstances, this time limit may be extended by the President of NERC (or the President's designee), who will send written notice to the requester setting forth the reasons for the extension and the date on which a determination on the appeal is expected.

6. **Disclosure of Information** — In the event the Receiving Entity, after following the procedures herein, determines to disclose information designated as Confidential Information, it shall provide the Submitting Entity no fewer than 21 days' written notice prior to releasing the Confidential Information in order to enable such Submitting Entity to (a) seek an appropriate protective order or other remedy, (b) consult with the Receiving Entity with respect to taking steps to resist or narrow the scope of such request or legal process, or (c) waive compliance, in whole or in part, with the terms of this Section. Should a Receiving Entity be required to disclose Confidential Information, or should the Submitting Entity waive objection to disclosure, the Receiving Entity shall furnish only that portion of the Confidential Information which the Receiving Entity's counsel advises is legally required.

**7. Posting of Determinations on Requests for Disclosure of Confidential Information** — Upon making its determination on a request for disclosure of Confidential Information, NERC or the Regional Entity, as applicable, shall (i) notify the requester that the request for disclosure is granted or denied, (ii) publicly post any determination to deny the request to disclose Confidential Information, including in such posting an explanation of the reasons for the denial (but without in such explanation disclosing the Confidential Information), and (iii) publicly post any determination that information claimed by the Submitting Entity to be Confidential Information is not Confidential Information (but without in such posting disclosing any information that has been determined to be Confidential Information).

### 1504. Employees, Contractors and Agents

A Receiving Entity shall ensure that its officers, trustees, directors, employees, subcontractors and subcontractors' employees, and agents to whom Confidential Information is exposed are under obligations of confidentiality that are at least as restrictive as those contained herein.

### 1505. Provision of Information to FERC and Other Governmental Authorities

1. **Request** — A request from FERC for reliability information with respect to owners, operators, and users of the Bulk Power System within the United States is authorized by Section 215 of the Federal Power Act. Other Applicable Governmental Authorities may have similar authorizing legislation that grants a right of access to such information. Unless otherwise directed by FERC or its staff or the other Applicable Governmental Authority requesting the information, upon receiving such a request, a Receiving Entity shall provide contemporaneous notice to the applicable Submitting Entity. In its response to such a request, a Receiving Entity shall preserve any mark of confidentiality and shall notify FERC or other Applicable Governmental Authorities that the Submitting Entity has marked the information as confidential.

2. **Continued Confidentiality** — Each Receiving Entity shall continue to treat as confidential all Confidential Information that it has submitted to NERC or to FERC or another Applicable Governmental Authority, until such time as FERC or the other Applicable Governmental Authority authorizes disclosure of such information.

### 1506. Permitted Disclosures

1. **Confirmed Violations** — Nothing in this Section 1500 shall prohibit the disclosure of a violation at the point when the matter is filed with an Applicable Governmental Authority as a Notice of Penalty, the "violator" admits to the violation, or the alleged violator and NERC or the Regional Entity reach a settlement regarding the violation.

2. **Compliance Information** — NERC and the Regional Entities are authorized to exchange Confidential Information related to evaluations, Compliance Audits, and Compliance Investigations in furtherance of the Compliance Monitoring and Enforcement Program, on condition they continue to maintain the confidentiality of such information.

### 1507. Remedies for Improper Disclosure

Any person engaged in NERC or Regional Entity activity under Section 215 of the Federal Power Act or the equivalent laws of other Applicable Governmental Authorities who improperly discloses information determined to be confidential may lose access to Confidential Information on a temporary or permanent basis and may be subject to adverse personnel action, including suspension or termination. Nothing in Section 1500

precludes an entity whose information was improperly disclosed from seeking a remedy in an appropriate court.

# SECTION 1600 — REQUESTS FOR DATA OR INFORMATION

## 1601. Scope of a NERC or Regional Entity Request for Data or Information

Within the United States, NERC and Regional Entities may request data or information that is necessary to meet their obligations under Section 215 of the Federal Power Act, as authorized by Section 39.2(d) of the Commission's regulations, 18 C.F.R. § 39.2(d). In other jurisdictions NERC and Regional Entities may request comparable data or information, using such authority as may exist pursuant to these Rules of Procedure and as may be granted by Applicable Governmental Authorities in those other jurisdictions. The provisions of Section 1600 shall not apply to Requirements contained in any Reliability Standard to provide data or information; the Requirements in the Reliability Standards govern. The provisions of Section 1600 shall also not apply to data or information requested in connection with a compliance or enforcement action under Section 215 of the Federal Power Act, Section 400 of these Rules of Procedure, or any procedures adopted pursuant to those authorities, in which case the Rules of Procedure applicable to the production of data or information for compliance and enforcement actions shall apply.

## 1602. Procedure for Authorizing a NERC Request for Data or Information

1. NERC shall provide a proposed request for data or information or a proposed modification to a previously-authorized request, including the information specified in Section 1602.2.1 or 1602.2.2 as applicable, to the Commission's Office of Electric Reliability at least twenty-one (21) days prior to initially posting the request or modification for public comment. Submission of the proposed request or modification to the Office of Electric Reliability is for the information of the Commission. NERC is not required to receive any approval from the Commission prior to posting the proposed request or modification for public comment in accordance with Section 1602.2 or issuing the request or modification to Reporting Entities following approval by the Board of Trustees.

2. NERC shall post a proposed request for data or information or a proposed modification to a previously authorized request for data or information for a forty-five (45) day public comment period.

    2.1. A proposed request for data or information shall contain, at a minimum, the following information: (i) a description of the data or information to be requested, how the data or information will be used, and how the availability of the data or information is necessary for NERC to meet its obligations under applicable laws and agreements; (ii) a description of how the data or information will be collected and validated; (iii) a description of the entities (by functional class and jurisdiction) that will be required to provide the data or information ("Reporting Entities"); (iv) the schedule or due date for the data or information; (v) a description of any restrictions on disseminating the data or information (e.g., "Confidential Information," "Critical Energy Infrastructure Information,"

"aggregating" or "identity masking"); and (vi) an estimate of the relative burden imposed on the Reporting Entities to accommodate the data or information request.

2.2. A proposed modification to a previously authorized request for data or information shall explain (i) the nature of the modifications; (ii) an estimate of the burden imposed on the Reporting Entities to accommodate the modified data or information request, and (iii) any other items from Section 1602.2.1 that require updating as a result of the modifications.

3. After the close of the comment period, NERC shall make such revisions to the proposed request for data or information as are appropriate in light of the comments. NERC shall submit the proposed request for data or information, as revised, along with the comments received, NERC's evaluation of the comments and recommendations, to the Board of Trustees.

4. In acting on the proposed request for data or information, the Board of Trustees may authorize NERC to issue it, modify it, or remand it for further consideration.

5. NERC may make minor changes to an authorized request for data or information without Board approval. However, if a Reporting Entity objects to NERC in writing to such changes within 21 days of issuance of the modified request, such changes shall require Board approval before they are implemented.

6. Authorization of a request for data or information shall be final unless, within thirty (30) days of the decision by the Board of Trustees, an affected party appeals the authorization under this Section 1600 to the Applicable Governmental Authority.

**1603. Owners, Operators, and Users to Comply**

Owners, operators, and users of the Bulk Power System registered on the NERC Compliance Registry shall comply with authorized requests for data and information. In the event a Reporting Entity within the United States fails to comply with an authorized request for data or information under Section 1600, NERC may request the Commission to exercise its enforcement authority to require the Reporting Entity to comply with the request for data or information and for other appropriate enforcement action by the Commission. NERC will make any request for the Commission to enforce a request for data or information through a non-public submission to the Commission's enforcement staff.

**1604. Requests by Regional Entity for Data or Information**

1. A Regional Entity may request that NERC seek authorization for a request for data or information to be applicable within the Region of the Regional Entity, either as a freestanding request or as part of a proposed NERC request for data or information. Any such request must be consistent with this Section 1600.

2. A Regional Entity may also develop its own procedures for requesting data or information, but any such procedures must include at least the same procedural elements as are included in this Section 1600. Any such Regional Entity procedures or changes to such procedures shall be submitted to NERC for approval. Upon approving such procedures or changes thereto, NERC shall file the proposed procedures or proposed changes for approval by the Commission and any other Applicable Governmental Authorities applicable to the Regional Entity. The Regional Entity procedures or changes to such procedures shall not be effective in a jurisdiction until approved by, and in accordance with any revisions directed by, the Commission or other Applicable Governmental Authority.

**1605. Confidentiality**

If the approved data or information request includes a statement under Section 1602.1.1(v) that the requested data or information will be held confidential or treated as Critical Energy Infrastructure Information, then the applicable provisions of Section 1500 will apply without further action by a Submitting Entity. A Submitting Entity may designate any other data or information as Confidential Information pursuant to the provisions of Section 1500, and NERC or the Regional Entity shall treat that data or information in accordance with Section 1500. NERC or a Regional Entity may utilize additional protective procedures for handling particular requests for data or information as may be necessary under the circumstances.

**1606. Expedited Procedures for Requesting Time-Sensitive Data or Information**

1. In the event NERC or a Regional Entity must obtain data or information by a date or within a time period that does not permit adherence to the time periods specified in Section 1602, the procedures specified in Section 1606 may be used to obtain the data or information. Without limiting the circumstances in which the procedures in Section 1606 may be used, such circumstances include situations in which it is necessary to obtain the data or information (in order to evaluate a threat to the reliability or security of the Bulk Power System, or to comply with a directive in an order issued by the Commission or by another Applicable Governmental Authority) within a shorter time period than possible under Section 1602. The procedures specified in Section 1606 may only be used if authorized by the NERC Board of Trustees prior to activation of such procedures.

2. Prior to posting a proposed request for data or information, or a modification to a previously-authorized request, for public comment under Section 1606, NERC shall provide the proposed request or modification, including the information specified in paragraph 1602.2.1 or 1602.2.2 as applicable, to the Commission's Office of Electric Reliability. The submission to the Commission's Office of Electric Reliability shall also include an explanation of why it is necessary to use the expedited procedures of Section 1606 to obtain the data or information. The submission shall be made to the Commission's Office of Electric Reliability as far in advance, up to twenty-one (21) days, of the posting of the proposed request or modification for public comments as is

reasonably possible under the circumstances, but in no event less than two (2) days in advance of the public posting of the proposed request or modification.

3. NERC shall post the proposed request for data or information or proposed modification to a previously-authorized request for data or information for a public comment period that is reasonable in duration given the circumstances, but in no event shorter than five (5) days. The proposed request for data or information or proposed modification to a previously-authorized request for data or information shall include the information specified in Section 1602.2.1 or 1602.2.2, as applicable, and shall also include an explanation of why it is necessary to use the expedited procedures of Section 1606 to obtain the data or information.

4. The provisions of Sections 1602.3, 1602.4, 1602.5 and 1602.6 shall be applicable to a request for data or information or modification to a previously-authorized request for data or information developed and issued pursuant to Section 1606, except that (a) if NERC makes minor changes to an authorized request for data or information without Board approval, such changes shall require Board approval if a Reporting Entity objects to NERC in writing to such changes within five (5) days of issuance of the modified request; and (b) authorization of the request for data or information shall be final unless an affected party appeals the authorization of the request by the Board of Trustees to the Applicable Governmental Authority within five (5) days following the decision of the Board of Trustees authorizing the request, which decision shall be promptly posted on NERC's website.

# SECTION 1700 — CHALLENGES TO DETERMINATIONS

## 1701. Scope of Authority

Section 1702 sets forth the procedures to be followed for Registered Entities to challenge determinations made by Planning Coordinators under Reliability Standard PRC-023. Section 1703 sets forth the procedures to be followed when a Submitting Entity or Owner wishes to challenge a determination by NERC to approve or to disapprove an Exception Request or to terminate an Exception under Section 509.

## 1702. Challenges to Determinations by Planning Coordinators Under Reliability Standard PRC-023

1. This Section 1702 establishes the procedures to be followed when a Registered Entity wishes to challenge a determination by a Planning Coordinator of the sub-200 kV circuits in its Planning Coordinator area for which Transmission Owners, Generator Owners, and Distribution Providers (defined as "Registered Entities" for purposes of this Section 1702) must comply with the requirements of Reliability Standard PRC-023.

2. Planning Coordinator Procedures

    2.1 Each Planning Coordinator shall establish a procedure for a Registered Entity to submit a written request for an explanation of a determination made by the Planning Coordinator under PRC-023.

    2.2 A Registered Entity shall follow the procedure established by the Planning Coordinator for submitting the request for explanation and must submit any such request within 60 days of receiving the determination under PRC-023 from the Planning Coordinator.

    2.3 Within 30 days of receiving a written request from a Registered Entity, the Planning Coordinator shall provide the Registered Entity with a written explanation of the basis for its determination under PRC-023, unless the Planning Coordinator provided a written explanation of the basis for its determination when it initially informed the Registered Entity of its determination.

3. A Registered Entity may challenge the determination of the Planning Coordinator by filing with the appropriate Regional Entity, with a copy to the Planning Coordinator, within 60 days of receiving the written explanation from the Planning Coordinator. The challenge shall include the following: (a) an explanation of the technical reasons for its disagreement with the Planning Coordinator's determination, along with any supporting documentation, and (b) a copy of the Planning Coordinator's written explanation. Within 30 days of receipt of a challenge, the Planning Coordinator may file a response to the Regional Entity, with a copy to the Registered Entity.

4. The filing of a challenge in good faith shall toll the time period for compliance with PRC-023 with respect to the subject facility until such time as the challenge is withdrawn, settled or resolved.

5. The Regional Entity shall issue its written decision setting forth the basis of its determination within 90 days after it receives the challenge and send copies of the decision to the Registered Entity and the Planning Coordinator. The Regional Entity may convene a meeting of the involved entities and may request additional information. The Regional Entity shall affirm the determination of the Planning Coordinator if it is supported by substantial evidence.

6. A Planning Coordinator or Registered Entity affected by the decision of the Regional Entity may, within 30 days of the decision, file an appeal with NERC, with copies to the Regional Entity and the Planning Coordinator or Registered Entity. The appeal shall state the basis of the objection to the decision of the Regional Entity and shall include the Regional Entity decision, the written explanation of the Planning Coordinator's determination under PRC-023, and the documents and reasoning filed by the Registered Entity with the Regional Entity in support of its objection. The Regional Entity, Planning Coordinator or Registered Entity may file a response to the appeal within 30 days of the appeal.

7. The ~~NERC~~ Board of Trustees shall appoint a panel to decide appeals from ~~Region~~Regional Entity decisions under Section 1702.5. The panel, which may contain alternates, shall consist of at least three appointees, one of whom must be a member of the NERC staff, who are knowledgeable about PRC-023 and transmission planning and do not have a direct financial or business interest in the outcome of the appeal. The panel shall decide the appeal within 90 days of receiving the appeal from the decision of the Regional Entity and shall affirm the determination of the Planning Coordinator if it is supported by substantial evidence.

8. The Planning Coordinator or Registered Entity affected by the decision of the panel may request that the ~~NERC~~ Board of Trustees review the decision by filing its request for review and a statement of reasons with NERC's Chief Reliability Officer within 30 days of the panel decision. The Board of Trustees may, in its discretion, decline to review the decision of the panel, in which case the decision of the panel shall be the final NERC decision. Within 90 days of the request for review under this Section 1702.8, the ~~NERC~~ Board of Trustees may either (a) issue a decision on the merits, which shall be the final NERC decision, or (b) issue a notice declining to review the decision of the panel, in which case the decision of the panel shall be the final NERC decision. If no written decision or notice declining review is issued within 90 calendar days, the appeal shall be deemed to have been denied by the ~~NERC~~ Board of Trustees and this will have the same effect as a notice declining review.

9. The Registered Entity or Planning Coordinator may appeal the final NERC decision to the ~~a~~Applicable ~~g~~Governmental ~~a~~Authority within 30 days of receipt

of the Board of Trustees' final decision or notice declining review, or expiration of the 90-day review period without any action by NERC.

10. The Planning Coordinator and Registered Entity are encouraged, but not required, to meet to resolve any dispute, including use of mutually agreed to alternative dispute resolution procedures, at any time during the course of the matter. In the event resolution occurs after the filing of a challenge, the Registered Entity and Planning Coordinator shall jointly provide to the applicable Regional Entity a written acknowledgement of withdrawal of the challenge or appeal, including a statement that all outstanding issues have been resolved.

**1703. Challenges to NERC Determinations of BES Exception Requests Under Section 509**

1. This Section 1703 establishes the procedures to be followed when a Submitting Entity or Owner wishes to challenge a determination by NERC to approve or to disapprove an Exception Request or to terminate an Exception under Section 509.

2. A Submitting Entity (or Owner if different) aggrieved by the decision of NERC to approve or disapprove an Exception Request or to terminate an Exception with respect to any Element may, within 30 days following the date of the decision, file a written challenge to the decision with the NERC ~~D~~director of ~~C~~compliance ~~O~~operations, with copies to the Regional Entity and the Submitting Entity or Owner if different. The challenge shall state the basis of the objection to the decision of NERC. The Regional Entity, and the Submitting Entity or Owner if different, may file a response to the challenge within 30 days following the date the challenge is filed with NERC.

3. The challenge shall be decided by the Board of Trustees Compliance Committee. Within 90 days of the date of submission of the challenge, the Board of Trustees Compliance Committee shall issue its decision on the challenge. The decision of the Board of Trustees Compliance Committee shall be the final NERC decision; provided, that the Board of Trustees Compliance Committee may extend the deadline date for its decision to a date more than 90 days following submission of the challenge, by issuing a notice to the Submitting Entity, the Owner (if different) and the Regional Entity stating the revised deadline date and the reason for the extension.

4. The Submitting Entity, or Owner if different, may appeal the final NERC decision to, or seek review of the final NERC decision by, the Applicable Governmental Authority(ies), in accordance with the legal authority and rules and procedures of the Applicable Governmental Authority(ies). Any such appeal shall be filed within thirty (30) days following the date of the decision of the Board of Trustees Compliance Committee, or within such other time period as is provided for in the legal authority, rules or procedures of the Applicable Governmental Authority.

**Proposed revisions 3-05-2012**
**[Incorporates revisions filed with FERC on January 25, 2012]**

# NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

## DEFINITIONS USED IN THE RULES OF PROCEDURE

## APPENDIX 2 TO THE RULES OF PROCEDURE

**Effective: January 31, 2012**

## General

For purposes of the NERC Rules of Procedure, including all Appendices, the terms defined in this Appendix shall have the meanings set forth herein. For convenience of reference to the user, definitions of terms that are used in a particular Appendix may be repeated in that Appendix.

Where used in the Rules of Procedure, a defined term will be capitalized. Where a term defined in this Appendix appears in the Rules of Procedure but is not capitalized, the term is there being used in its ordinary and commonly understood meaning and not as defined in this Appendix (if different). Other terms that are not defined terms, such as the names of entities, organizations, committees, or programs; position titles; titles of documents or forms; section headings; geographic locations; and other terms commonly presented as proper nouns, may also be capitalized in the Rules of Procedure without being defined in this Appendix.

Definitions of terms in this Appendix that are marked with asterisks (**) are taken from the NERC *Glossary of Terms Used in Reliability Standards*. Definitions of terms in this Appendix that are marked with "pluses" (++) are taken from Section 215 of the Federal Power Act or the Commission's regulations at 18 C.F.R. Part 39 or Part 388.

Other terms used in the Rules of Procedure but not defined in this Appendix that have commonly understood and used technical meanings in the electric power industry, including applicable codes and standards, shall be construed in accordance with such commonly understood and used technical meanings.

## Specific Definitions

"Acceptance of the Exception Request" or "Acceptance" means the determination that an eligible Exception Request (i.e., a Request permitted by section 4.1 of Appendix 5C) contains all the Required Information so that it can undergo substantive review.

"Adjacent Balancing Authority" means a Balancing Authority Area that is interconnected to another Balancing Authority Area either directly or via a multi-party agreement or transmission tariff.**

"Adjusted Penalty Amount" means the proposed Penalty for a violation of a Reliability Standard as determined based on application of the adjustment factors identified in Section 4.3 of the *Sanction Guidelines* to the Base Penalty Amount.

"Advisories" or "Level 1 (Advisories)" is a notification issued by NERC in accordance with Section 810.3.1 of the Rules of Procedure.

"Alleged Violation" means a Possible Violation for which the Compliance Enforcement Authority has determined, based on an assessment of the facts and circumstances surrounding the Possible Violation, that evidence exists to indicate a Registered Entity has violated a Reliability Standard.

"Annual Audit Plan" means a plan developed annually by the Compliance Enforcement Authority that includes the Reliability Standards and Registered Entities to be audited~~,~~ and the schedule of Compliance Audits~~, and Compliance Audit Participant requirements~~ for the calendar year.

"Annual Report" means the annual report to be filed by NERC with FERC and other Applicable Governmental Authorities in accordance with Section 13.0 of Appendix 4D.

"Applicable Governmental Authority" means the FERC within the United States and the appropriate governmental authority with subject matter jurisdiction over reliability in Canada and Mexico.

"Applicable Requirement" means a Requirement of a CIP Standard that (i) expressly provides either (A) that compliance with the terms of the Requirement is required where or as technically feasible, or (B) that technical limitations may preclude compliance with the terms of the Requirement; or (ii) is subject to Appendix 4D by FERC directive.

"Approval of the Exception Request" or "Approval" means the determination by NERC that an Exception Request meets the criteria to receive the requested Exception.

"Balancing Authority" means the responsible entity that integrates resource plans ahead of time, maintains Load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real time.**

"Balancing Authority Area" means the collection of generation, transmission, and Loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains Load-resource balance within this area.**

"Base Penalty Amount" means the proposed Penalty for a violation of a Reliability Standard as initially determined pursuant to Sections 4.1 and 4.2 of the NERC *Sanction Guidelines*, before application of any adjustment factors.

"BES Definition" means the NERC definition of the Bulk Electric System as set forth in the NERC *Glossary of Terms Used in Reliability Standards.*

"Blackstart Resource" means a generating unit(s) and its associated set of equipment which has the ability to be started without support from the System or is designed to remain energized without connection to the remainder of the System, with the ability to energize a bus, meeting the Transmission Operator's restoration plan needs for Real and Reactive Power capability, frequency and voltage control, and that has been included in the Transmission Operator's restoration plan.**

"Board" or "Board of Trustees" means the Board of Trustees of NERC.

"Board of Trustees Compliance Committee," "BOTCC" or "Compliance Committee" means the Compliance Committee of the NERC Board of Trustees.

"Bulk Electric System" or "BES" means unless modified by the lists shown below, all Transmission Elements operated at 100 kV or higher and Real Power and Reactive Power resources connected at 100 kV or higher. This does not include facilities used in the local distribution of electric energy.

**Inclusions:**

- **I1** - Transformers with the primary terminal and at least one secondary terminal operated at 100 kV or higher unless excluded under Exclusion E1 or E3.

- **I2** - Generating resource(s) with gross individual nameplate rating greater than 20 MVA or gross plant/facility aggregate nameplate rating greater than 75 MVA including the generator terminals through the high-side of the step-up transformer(s) connected at a voltage of 100 kV or above.

- **I3** - Blackstart Resources identified in the Transmission Operator's restoration plan.

- **I4** - Dispersed power producing resources with aggregate capacity greater than 75 MVA (gross aggregate nameplate rating) utilizing a system designed primarily for aggregating capacity, connected at a common point at a voltage of 100 kV or above.

- **I5** –Static or dynamic devices (excluding generators) dedicated to supplying or absorbing Reactive Power that are connected at 100 kV or higher, or through a dedicated transformer with a high-side voltage of 100 kV or higher, or through a transformer that is designated in Inclusion I1.

**Exclusions:**

- **E1** - Radial systems: A group of contiguous transmission Elements that emanates from a single point of connection of 100 kV or higher and:

    a) Only serves Load. Or,

    b) Only includes generation resources, not identified in Inclusion I3, with an aggregate capacity less than or equal to 75 MVA (gross nameplate rating). Or,

    c) Where the radial system serves Load and includes generation resources, not identified in Inclusion I3, with an aggregate capacity of non-retail generation less than or equal to 75 MVA (gross nameplate rating).

    Note – A normally open switching device between radial systems, as depicted on prints or one-line diagrams for example, does not affect this exclusion.

- **E2** - A generating unit or multiple generating units on the customer's side of the retail meter that serve all or part of the retail Load with electric energy if: (i) the net capacity

provided to the BES does not exceed 75 MVA, and (ii) standby, back-up, and maintenance power services are provided to the generating unit or multiple generating units or to the retail Load by a Balancing Authority, or provided pursuant to a binding obligation with a Generator Owner or Generator Operator, or under terms approved by the applicable regulatory authority.

- **E3** - Local networks (LN): A group of contiguous transmission Elements operated at or above 100 kV but less than 300 kV that distribute power to Load rather than transfer bulk power across the interconnected system. LN's emanate from multiple points of connection at 100 kV or higher to improve the level of service to retail customer Load and not to accommodate bulk power transfer across the interconnected system. The LN is characterized by all of the following:

    a) Limits on connected generation: The LN and its underlying Elements do not include generation resources identified in Inclusion I3 and do not have an aggregate capacity of non-retail generation greater than 75 MVA (gross nameplate rating);

    b) Power flows only into the LN and the LN does not transfer energy originating outside the LN for delivery through the LN; and

    c) Not part of a Flowgate or transfer path: The LN does not contain a monitored Facility of a permanent Flowgate in the Eastern Interconnection, a major transfer path within the Western Interconnection, or a comparable monitored Facility in the ERCOT or Quebec Interconnections, and is not a monitored Facility included in an Interconnection Reliability Operating Limit (IROL).

- **E4** – Reactive Power devices owned and operated by the retail customer solely for its own use.

Note - Elements may be included or excluded on a case-by-case basis through the Rules of Procedure exception process.**

"Bulk Power System" means, depending on the context: (i) Facilities and control systems necessary for operating an interconnected electric energy supply and transmission network (or any portion thereof), and electric energy from generating facilities needed to maintain transmission system reliability. The term does not include facilities used in the local distribution of electric energy [++]. (ii) Solely for purposes of Appendix 4E, Bulk Electric System.

"Canadian" means one of the following: (a) a company or association incorporated or organized under the laws of Canada, or its designated representative(s) irrespective of nationality; (b) an agency of a federal, provincial, or local government in Canada, or its designated representative(s) irrespective of nationality; or (c) a self-representing individual who is a Canadian citizen residing in Canada.

"Canadian Entity" means a Registered Entity (or, solely for purposes of Appendix 4D, a Responsible Entity) that is organized under Canadian federal or provincial law.

"Cascading" means the uncontrolled successive loss of System Elements triggered by an incident at any location. Cascading results in widespread electric service interruption that cannot be restrained from sequentially spreading beyond an area predetermined by studies.**

"CCC" means the NERC Compliance and Certification Committee.

"Certification" means, depending on the context, (i) the process undertaken by NERC and a Regional Entity to verify that an entity is capable of responsibilities for tasks associated with a particular function such as a Balancing Authority, Transmission Operator and/or Reliability Coordinator; such Certification activities are further described in Section 500 and Appendix 5A of the NERC Rules of Procedure; or (ii) for purposes of ~~Appendix 6~~Section 600 of the Rules of Procedure, an official recognition that indicates the recipient has passed a NERC exam or completed a specified number of Continuing Education Hours.

"Certification Staff" means individuals employed or contracted by NERC who have the authority to make initial determinations of Certification of entities performing reliability functions.

"Certification Team" means a team assembled by a Regional Entity that will be responsible for performing the activities included in the Certification process for an entity pursuant to Appendix 5A.

"Classified National Security Information" means Required Information that has been determined to be protected from unauthorized disclosure pursuant to Executive Order No. 12958, as amended, and/or the regulations of the NRC at 10 C.F.R. §95.35; or pursuant to any comparable provision of Canadian federal or provincial law.

"Clerk" means an individual ~~as~~ assigned by the Compliance Enforcement Authority to perform ~~duties~~administrative tasks relating to the conduct of hearings as described in Attachment 2, Hearing Procedures, to Appendix 4C.

"Commission" means the Federal Energy Regulatory Commission or FERC.

"Complaint" means an allegation that a Registered Entity violated a Reliability Standard.

"Compliance and Certification Manager" means individual/individuals within the Regional Entity that is/are responsible for monitoring compliance of entities with applicable NERC Reliability Standards.

"Compliance Audit" means a systematic, objective review and examination of records and activities to determine whether a Registered Entity meets the Requirements of applicable Reliability Standards.

"Compliance Audit Participants" means Registered Entities scheduled to be audited and the audit team members.

"Compliance Enforcement Authority" means NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

"Compliance Enforcement Authority's Area of Responsibility" means the Compliance Enforcement Authority's Region. If a Regional Entity is the Compliance Enforcement Authority, the Compliance Enforcement Authority's Area of Responsibility is shown in Exhibit A to the delegation agreement between the Regional Entity and NERC.

"Compliance Investigation" means a comprehensive investigation, which may include an on-site visit with interviews of the appropriate personnel, to determine if a violation of a Reliability Standard has occurred.

"Compliance Monitoring and Enforcement Program" or "CMEP" means, depending on the context (1) the NERC *Uniform Compliance Monitoring and Enforcement Program* (Appendix 4C to the NERC Rules of Procedure) or the Commission-approved program of a Regional Entity, as applicable, or (2) the program, department or organization within NERC or a Regional Entity that is responsible for performing compliance monitoring and enforcement activities with respect to Registered Entities' compliance with Reliability Standards.

"Compliant Date" means the date by which a Responsible Entity is required to be in compliance with an Applicable Requirement of a CIP Standard.

"Confidential Business and Market Information" means any information that pertains to the interests of any entity, that was developed or acquired by that entity, and that is proprietary or competitively sensitive.

"Confidential Information" means (i) Confidential Business and Market Information; (ii) Critical Energy Infrastructure Information; (iii) personnel information that identifies or could be used to identify a specific individual, or reveals personnel, financial, medical, or other personal information; (iv) work papers, including any records produced for or created in the course of an evaluation or audit; (v) investigative files, including any records produced for or created in the course of an investigation; or (vi) Cyber Security Incident Information; provided, that public information developed or acquired by an entity shall be excluded from this definition; or (vii) for purposes of Appendix 4D, any other information that is designated as Confidential Information in Section 11.0 of Appendix 4D.

"Confirmed Violation" means an Alleged Violation for which (1) ~~an~~the Registered ~~e~~Entity has~~:~~ ~~(1)~~ accepted or not contested the Notice of Alleged Violation and Penalty or Sanction or other notification of the Alleged Violation~~finding of the violation by a Regional Entity or NERC and will not seek an appeal~~, or (2) there has been the issuance of a final order from NERC or a Regional Entity Hearing Body finding a violation, Penalty or sanction~~completed the hearing and appeals process within NERC~~, or (3) ~~allowed~~ the period~~time~~ for requesting a hearing or

~~submitting~~ an appeal ~~to~~has expired, or (4) the Registered Entity has executed a settlement agreement pursuant to Section 5.6~~admitted to the violation in a settlement agreement~~.

"Continuing Education Hour" or "CE Hour" means based on sixty clock minutes, and includes at least fifty minutes of participation in a group~~, independent study,~~ or self-study learning activity that meets the criteria of~~as approved by~~ the NERC Continuing Education Program.

"Continuing Education Program Provider" or "Provider" means the individual or organization offering a learning activity to participants and maintaining documentation required by Section 600 of the Rules of Procedure~~Appendix 6~~.

"Coordinated Functional Registration" means where two or more entities (parties) agree in writing upon a division of compliance responsibility among the parties for one or more Reliability Standard(s) applicable to a particular function, and/or for one or more Requirement(s)/sub-Requirement(s) within particular Reliability Standard(s).

"Covered Asset" means a Cyber Asset or Critical Cyber Asset that is subject to an Applicable Requirement.

"Credential" means a NERC designation that indicates the level of qualification achieved (i.e., reliability operator; balancing, interchange, and transmission operator; balancing and interchange operator; and transmission operator).

~~"Credential Maintenance" means to meet NERC CE Hours' requirements to maintain a valid NERC-issued system operator Credential.~~

"Critical Assets" means Facilities, systems, and equipment which, if destroyed, degraded, or otherwise rendered unavailable, would affect the reliability or operability of the Bulk Electric System.**

"Critical Cyber Assets" means Cyber Assets critical to the reliable operation of Critical Assets.**

"Critical Energy Infrastructure Information" means specific engineering, vulnerability, or detailed design information about proposed or existing Critical Infrastructure that (i) relates details about the production, generation, transportation, transmission, or distribution of energy; (ii) could be useful to a person in planning an attack on Critical Infrastructure; and (iii) does not simply give the location of the Critical Infrastructure.++

"Critical Infrastructure" means existing and proposed systems and assets, whether physical or virtual, the incapacity or destruction of which would negatively affect security, economic security, public health or safety, or any combination of those matters.++

"Critical Infrastructure Protection Standard" or "CIP Standard" means any of NERC Reliability Standards CIP-002 through CIP-009.

"Cross-Border Regional Entity" means a Regional Entity that encompasses a part of the United States and a part of Canada or Mexico.++

"Cyber Assets" means programmable electronic devices and communication networks including hardware, software, and data.**

"Cyber Security Incident" means any malicious or suspicious event that disrupts, or was an attempt to disrupt, the operation of those programmable electronic devices and communications networks including hardware, software and data that are essential to the Reliable Operation of the Bulk Power System.++

"Cyber Security Incident Information" means any information related to, describing, or which could be used to plan or cause a Cyber Security Incident.

"Days", as used in Appendix 5A with respect to the Registration and Certification processes, means calendar days.

"Delegate" means a person to whom the Senior Manager of a Responsible Entity has delegated authority pursuant to Requirement R2.3 of CIP Standard CIP-003-1 (or any successor provision).

"Director of Compliance" means the Director of Compliance of NERC or of the Compliance Enforcement Authority, as applicable, or other individual designated by the Compliance Enforcement Authority who is responsible for the management and supervision of Compliance Staff, or his or her designee.

"Disapproval of the Exception Request" or "Disapproval" means the determination by NERC that an Exception Request does not meet the criteria to receive the requested Exception.

"Distribution Factor" means the portion of an Interchange Transaction, typically expressed in per unit that flows across a transmission facility (Flowgate).**

"Distribution Provider" means the entity that provides and operates the "wires" between the transmission system and the end-use customer. For those end-use customers who are served at transmission voltages, the Transmission Owner also serves as the Distribution Provider. Thus, the Distribution Provider is not defined by a specific voltage, but rather as performing the distribution function at any voltage.**

"Document" means, in addition to the commonly understood meaning of the term as information written or printed on paper, any electronically stored information, including writings, drawings, graphs, charts, photographs, sound recordings, images and other data or data compilations stored in any medium from which information can be obtained, and shall be translated by the producing party into reasonably usable form.

"Effective Date" means the date, as specified in a notice rejecting or disapproving a TFE Request or terminating an approved TFE, on which the rejection, disapproval or termination becomes effective.

"Electric Reliability Organization" or "ERO" means the organization that is certified by the Commission under Section 39.3 of its regulations, the purpose of which is to establish and enforce Reliability Standards for the Bulk Power System in the United States, subject to Commission review. The organization may also have received recognition by Applicable Governmental Authorities in Canada and Mexico to establish and enforce Reliability Standards for the Bulk Power Systems of the respective countries.

"Element" means any electrical device with terminals that may be connected to other electrical devices such as a generator, transformer, circuit breaker, bus section, or transmission line. An Element may be comprised of one or more components.**

"Eligible Reviewer" means a person who has the required security clearances or other qualifications, or who otherwise meets the applicable criteria, to have access to Confidential Information, Classified National Security Information, NRC Safeguards Information or Protected FOIA Information, as applicable to the particular information to be reviewed.

"End Date" means the last date of the period to be covered in a Compliance Audit.

"Essential Actions" or "Level 3 (Essential Actions)" is a notification issued by NERC in accordance with Section 810.3.3 of the Rules of Procedure.

"Evidentiary Hearing" means a hearing at which one or more Participants submits evidence for the record. A Testimonial Hearing is an Evidentiary Hearing, but an Evidentiary Hearing does not necessarily include the presentation of testimony by witnesses in person.

"Exception" means either an Inclusion Exception or an Exclusion Exception.

"Exception Procedure" means the procedure set forth in Appendix 5C.

"Exception Report~~ing~~" means information provided to the Compliance Enforcement Authority by a Registered Entity indicating that a violation of a Reliability Standard has occurred (e.g., a System Operating Limit has been exceeded) or enabling the Compliance Enforcement Authority to ascertain the Registered Entity's compliance.

"Exception Request" means a request made by a Submitting Entity in accordance with Appendix 5C for an Exception.

"Exception Request Form" means the form adopted by each Regional Entity, in accordance with a template provided by NERC, for use by Submitting Entities in submitting Exception Requests; provided, that the Exception Request Form must include Section III.B as adopted by NERC.

"Exclusion Exception" means a determination that an Element that falls within the BES Definition should be excluded from the BES.

"Expiration Date" means the date on which an approved TFE expires.

"Facility" means a set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generator, a shunt compensator, transformer, etc.)**

"FERC" means the United States Federal Energy Regulatory Commission.

"Final Penalty Amount" means the final, proposed Penalty for violation of a Reliability Standard, determined in accordance with the *Sanction Guidelines*.

"Flowgate" means 1.) A portion of the transmission system through which the Interchange Distribution Calculator calculates the power flow from Interchange Transactions. 2.) A mathematical construct, comprised of one or more monitored transmission Facilities and optionally one or more contingency Facilities, used to analyze the impact of power flows upon the Bulk Electric System.**

"FOIA" means the U.S. Freedom of Information Act, 5 U.S.C. §552.

"Footprint" means the geographical or electric area served by an entity.
"Functional Entity" means an entity responsible for a function that is required to ensure the Reliable Operation of the electric grid as identified in the NERC Reliability Standards.

"Generator Operator" means the entity that operates generating unit(s) and performs the functions of supplying energy and Interconnected Operations Services.**

"Generator Owner" means an entity that owns and maintains generating units.**

"Hearing Body" or "Regional Entity Hearing Body" means the body established or designated by the Compliance Enforcement Authority~~a Regional Entity~~ to conduct hearings and issue decisions concerning disputed compliance matters in accordance with~~pursuant to the~~ Attachment 2, Hearing Procedures, of Appendix 4C.

"Hearing Officer" means, depending on the context, (i) an individual employed or contracted by the Compliance Enforcement Authority and designated by the Compliance Enforcement Authority to preside over hearings conducted pursuant to Attachment 2, Hearing Procedures, of Appendix 4C, or (ii) solely for hearings conducted pursuant to Appendix 4E, (A) a CCC member or (B) an individual employed or contracted by NERC, as designated and approved by the CCC to preside over hearings conducted pursuant to the Hearing Procedures in Appendix E; the Hearing Officer shall not be a member of the Hearing Panel.

"Hearing Panel" means the five person hearing body established as set forth in the CCC Charter on a case by case basis and that is responsible for adjudicating a matter as set forth in Appendix 4E.

"Hearing Procedures" means, depending on the context, (i) Attachment 2 to the NERC or a Regional Entity CMEP, as applicable, or (ii) the hearing procedures of the NERC Compliance and Certification Committee in Appendix 4E.

"Inclusion Exception" means a determination that an Element that falls outside the BES Definition should be included in the BES.

"Interchange" means energy transfers that cross Balancing Authority boundaries.**

"Interchange Authority" means the responsible entity that authorizes the implementation of valid and balanced Interchange Schedules between Balancing Authority Areas, and ensures communications of Interchange information for reliability assessment purposes.**

"Interchange Distribution Calculator" means the mechanism used by Reliability Coordinators in the Eastern Interconnection to calculate the distribution of Interchange Transactions over specific Flowgates. It includes a database of all Interchange Transactions and a matrix of the Distribution Factors for the Eastern Interconnection.**

"Interchange Schedule" means an agreed-upon Interchange Transaction size (megawatts), start and end time, beginning and ending ramp times and rate, and type required for delivery and receipt of power and energy between the Source and Sink Balancing Authorities involved in the transaction.**

"Interchange Transaction" means an agreement to transfer energy from a seller to a buyer that crosses one or more Balancing Authority Area boundaries.**

"Interconnected Operations Service" means a service (exclusive of basic energy and Transmission Services) that is required to support the Reliable Operation of interconnected Bulk Electric Systems.**

"Interconnection" means a geographic area in which the operation of Bulk Power System components is synchronized such that the failure of one or more of such components may adversely affect the ability of the operators of other components within the system to maintain Reliable Operation of the Facilities within their control.++

"Interconnection Reliability Operating Limit" means a System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System.**

"Interpretation" means an addendum to a Reliability Standard, developed in accordance with the NERC *Standard Processes Manual* and approved by the Applicable Governmental Authority(ies), that provides additional clarity about one or more Requirements in the Reliability Standard.

"ISO/RTO" means an independent transmission system operator or regional transmission organization approved by the FERC or the Public Utility Commission of Texas.

"Joint Registration Organization" means an entity that registers in the Compliance Registry to perform reliability functions for itself and on behalf of one or more of its members or related entities for which such members or related entities would otherwise be required to register.

"Lead Entity" means the entity that submits Exception Request information that is common to a group of Submitting Entities that are submitting Exception Requests jointly.

"Lead Mediator" means a member of a mediation team formed pursuant to Appendix 4E who is selected by the members to coordinate the mediation process and serve as the mediation team's primary contact with the Parties.

"Load" means an end-user device or customer that receives power from the electric system.**

"Load-Serving Entity" means an entity that secures energy and Transmission Service (and related Interconnected Operations Services) to serve the electrical demand and energy requirements of its end-use customers.**

"Mapping" means the process of determining whether a Regional Entity's Footprint is being served by Registered Entities.

"Mediation Settlement Agreement" means a written agreement entered into by the Parties to a mediation pursuant to Appendix 4E that resolves the dispute.

"Member" means a member of NERC pursuant to Article II of its Bylaws.

"Member Representatives Committee" or "MRC" means the body established pursuant to Article VIII of the NERC Bylaws.

"Mexican Entity" means a Registered Entity that is organized under Mexican law.

"Mitigating Activities" means actions taken by a Registered Entity to correct and prevent recurrence of a noncompliance, whether or not the actions are embodied in a Mitigation Plan.

"Mitigation Plan" means an action plan~~, required when a Registered Entity violates a Reliability Standard as determined by any means including Compliance Enforcement Authority decision, settlement agreement, or otherwise, that is~~ developed by the Registered Entity to (1) correct a violation of a Reliability Standard and (2) prevent re-occurrence of the violation.

"NERC-Approved Learning Activity" means training that maintains or improves professional competence and has been approved by NERC for use in its Continuing Education Program.

"NERC Compliance Monitoring and Enforcement Program Implementation Plan" or "NERC Implementation Plan" means the annual NERC Compliance Monitoring and Enforcement Program Implementation Plan that specifies the Reliability Standards that are subject to reporting by Registered Entities to the Compliance Enforcement Authority in order to verify compliance and identifies the appropriate monitoring procedures and reporting schedules for each such Reliability Standard.

"NERC Compliance Registry," "Compliance Registry" or "NCR" means a list, maintained by NERC pursuant to Section 500 of the NERC Rules of Procedure and Appendix 5B, the NERC

*Statement of Compliance Registry Criteria*, of the owners, operators and users of the Bulk Power System, and the entities registered as their designees, that perform one or more functions in support of reliability of the Bulk Power System and are required to comply with one or more Requirements of Reliability Standards.

"NERC Identification Number" or "NERC ID" means a number given to NERC Registered Entities that will be used to identify the entity for certain NERC activities. Corporate entities may have multiple NERC IDs to show different corporate involvement in NERC activities.

"NERC Organization Certification" or "Organization Certification" means the process undertaken by NERC and a Regional Entity to verify that a new entity is capable of responsibilities for tasks associated with a particular function such as a Balancing Authority, Transmission Operator, and/or Reliability Coordinator; such certification activities are further described in Section 500 and Appendix 5A of the NERC Rules of Procedure.

"Net Energy for Load" or "NEL" means net generation of an electric system plus energy received from others less energy delivered to others through interchange. It includes system losses but excludes energy required for the storage of energy at energy storage facilities.

"Notice of Alleged Violation and Proposed Penalty or Sanction" means a notice issued by the Compliance Enforcement Authority to a Registered Entity pursuant to Section 5.3 of Appendix 4C.

"Notice of Completion of Enforcement Action" means a notice issued by the Compliance Enforcement Authority to a Registered Entity, pursuant to Section 5.10 of Appendix 4C, stating than an enforcement action is closed.

"Notice of Confirmed Violation" means a notice issued by the Compliance Enforcement Authority to a Registered Entity confirming the violation of one or more Reliability Standards~~, as a result of (1) the Registered Entity accepting a Notice of Alleged Violation and the proposed Penalty or sanction, or (2) the finding of a violation through a hearing and appeal, or (3) the expiration of the period for requesting a hearing or an appeal, or (4) the Registered Entity admitting the violation as part of an executed settlement agreement~~.

"Notice of Penalty" means a notice prepared by NERC and filed with FERC, following approval by NERC of a Notice or other notification of Confirmed Violation or a settlement agreement, stating the Penalty or sanction imposed or agreed to for the Confirmed Violation or as part of the settlement.

"Notice of Possible Violation" means a notice issued by the Compliance Enforcement Authority to a Registered Entity that (1) states a Possible Violation has been identified, (2) provides a brief description of the Possible Violation, including the Reliability Standard Requirement(s) and the date(s) involved, and (3) instructs the Registered Entity to retain and preserve all data and records relating to the Possible Violation.

"NRC" means the United States Nuclear Regulatory Commission.

"NRC Safeguards Information" means Required Information that is subject to restrictions on disclosure pursuant to 42 U.S.C. §2167 and the regulations of the NRC at 10 C.F.R. §73.21-73.23; or pursuant to comparable provisions of Canadian federal or provincial law.

"Open Access Transmission Tariff" means an electronic transmission tariff accepted by the U.S. Federal Energy Regulatory Commission requiring the Transmission Service Provider to furnish to all shippers with non-discriminating service comparable to that provided by Transmission Owners to themselves.**

"Owner" means the owner(s) of an Element or Elements that is or may be determined to be part of the BES as a result of either the application of the BES Definition or an Exception, or another entity, such as an operator, authorized to act on behalf of the owner of the Element or Elements in the context of an Exception Request.

"Part A Required Information" means Required Information that is to be provided in Part A of a Responsible Entity's TFE Request.

"Part B Required Information" means Required Information that is to be provided in Part B of a Responsible Entity's TFE Request.

"Participant" means a Respondent and any other Person who is allowed or required by the Hearing Body or by FERC to participate as an intervenor in a proceeding conducted pursuant to the Hearing Procedures, and as used in the Hearing Procedures shall include, depending on the context, the members of the Compliance Staff that participate in a proceeding or the members of the Certification Staff that participate in a proceeding pursuant to Appendix 4E.

"Party" or "Parties" means a Person or the Persons participating in a mediation pursuant to Appendix 4E.

"Penalty" means and includes all penalties and sanctions, including but not limited to a monetary or non-monetary penalty; a limitation on an activity, function, operation or other appropriate sanction; or the addition of the Registered Entity or Respondent to a reliability watch list composed of major violators. Penalties must be within the range set forth in the NERC *Sanction Guidelines* approved by FERC pursuant to 18 C.F.R. Section 39.7(g)(2), and shall bear a reasonable relation to the seriousness of a Registered Entity's or Respondent's violation and take into consideration any timely efforts made by the Registered Entity or Respondent to remedy the violation.

"Periodic Data Submittals" means modeling, studies, analyses, documents, procedures, methodologies, operating data, process information or other information to demonstrate compliance with Reliability Standards and provided by Registered Entities to the Compliance Enforcement Authority on a time frame required by a Reliability Standard or an ad hoc basis.

"Person" means any individual, partnership, corporation, limited liability company, governmental body, association, joint stock company, public trust, organized group of persons, whether incorporated or not, or any other legal entity.

"Planning Authority" means the responsible entity that coordinates and integrates transmission Facilities and service plans, resource plans, and Protection Systems.**

"Point of Delivery" means a location that a Transmission Service Provider specifies on its transmission system where an Interchange Transaction leaves or a Load-Serving Entity receives its energy.**

"Point of Receipt" means a location that the Transmission Service Provider specifies on its transmission system where an Interchange Transaction enters or a generator delivers its output.

"Possible Violation" means the identification, by the Compliance Enforcement Authority, ~~using one of the compliance monitoring and enforcement processes in Section 3.0 of Appendix 4C,~~ of a possible failure by a Registered Entity to comply with a Reliability Standard that is applicable to the Registered Entity.

"Preliminary Screen" means an initial evaluation of evidence indicating potential noncompliance with a Reliability Standard has occurred or is occurring, conducted by the Compliance Enforcement Authority for the purpose of determining whether a Possible Violation exists, and consisting of an evaluation of whether (1) the entity allegedly involved in the potential noncompliance is registered, ~~and~~ (2) the Reliability Standard Requirement to which the evidence of potential noncompliance relates is applicable to a reliability function for which the entity is registered, and (3) if known, the potential noncompliance is not a duplicate of a Possible Violation or Alleged Violation which is currently being processed.

"Probation" means a step in the disciplinary process pursuant to Section 605 of the Rules of Procedure~~Appendix 6~~ during which the certificate is still valid. During the probationary period, a subsequent offense of misconduct, as determined through the same process as described above, may be cause for more serious consequences.

"Protected FOIA Information" means Required Information, held by a governmental entity, that is subject to an exemption from disclosure under FOIA (5 U.S.C. §552(e)), under any similar state or local statutory provision, or under any comparable provision of Canadian federal or provincial law, which would be lost were the Required Information to be placed into the public domain.

"Protection System" means protective relays which respond to electrical quantities, communications systems necessary for correct operation of protective functions, voltage and current sensing devices providing inputs to protective relays, station dc supply associated with protective functions (including batteries, battery chargers, and non-battery-based dc supply), and control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.**

"Purchasing-Selling Entity" means the entity that purchases, or sells, and takes title to, energy, capacity, and Interconnected Operations Services. Purchasing-Selling Entities may be affiliated or unaffiliated merchants and may or may not own generating facilities.**

"Reactive Power" means the portion of electricity that establishes and sustains the electric and magnetic fields of alternating-current equipment. Reactive Power must be supplied to most types of magnetic equipment, such as motors and transformers. It also must supply the reactive losses on transmission facilities. Reactive Power is provided by generators, synchronous condensers, or electrostatic equipment such as capacitors and directly influences electric system voltage. It is usually expressed in kilovars (kvar) or megavars (Mvar).**

"Real Power" means the portion of electricity that supplies energy to the Load.**

"Receiving Entity" means NERC or a Regional Entity receiving Confidential Information from an owner, operator, or user of the Bulk Power System or from any other party.

"Recommendation" for purposes of Appendix 5C means the report to NERC containing the evaluation prepared in accordance with section 5.2 of Appendix 5C concerning whether or to what extent an Exception Request should be approved.

"Recommendations" or "Level 2 (Recommendations)" is a notification issued by NERC in accordance with Section 810.3.2 of the Rules of Procedure.

"Region" means the geographic area, as specified in a Regional Entity's delegation agreement with NERC, within which the Regional Entity is responsible for performing delegated functions.

"Regional Criteria" means reliability requirements developed by a Regional Entity that are necessary to implement, to augment, or to comply with Reliability Standards, but which are not Reliability Standards. Such Regional Criteria may be necessary to account for physical differences in the Bulk Power System but are not inconsistent with Reliability Standards nor do they result in lesser reliability. Such Regional Criteria are not enforceable pursuant to NERC-delegated authorities, but may be enforced through other available mechanisms. Regional Criteria may include specific acceptable operating or planning parameters, guides, agreements, protocols or other documents.

"Regional Entity" means an entity having enforcement authority pursuant to 18 C.F.R. § 39.8.++

"Regional Entity Compliance Monitoring and Enforcement Program Implementation Plan" or "Regional Implementation Plan" means an annual plan, submitted by on or about ~~November~~October 1 of each year to NERC for approval that, in accordance with NERC Rule of Procedure Section 401.6 and the NERC Compliance Monitoring and Enforcement Program Implementation Plan, identifies (1) all Reliability Standards identified by NERC to be actively monitored during each year, (2) other Reliability Standards proposed for active monitoring by the Regional Entity, (3) the methods to be used by the Regional Entity for reporting, monitoring, evaluation, and assessment of performance criteria with each Reliability Standard, and (4) the Regional Entity's Annual Audit Plan.

"Regional Reliability Standard" means a type of Reliability Standard that is applicable only within a particular Regional Entity or group of Regional Entities. A Regional Reliability Standard may augment, add detail to, or implement another Reliability Standard or cover matters

not addressed by other Reliability Standards. Regional Reliability Standards, upon adoption by NERC and approval by the Applicable Governmental Authority(ies), shall be Reliability Standards and shall be enforced within the applicable Regional Entity or Regional Entities pursuant to delegated authorities or to procedures prescribed by the Applicable Governmental Authority.

"Registered Ballot Body" means that aggregation of all entities or individuals that qualify for one of the Segments approved by the Board of Trustees, and are registered with NERC as potential ballot participants in the voting on proposed Reliability Standards.

"Registered Entity" means an owner, operator, or user of the Bulk Power System, or the entity registered as its designee for the purpose of compliance, that is included in the NERC Compliance Registry.

"Registration" or "Organization Registration" means the processes undertaken by NERC and Regional Entities to identify which entities are responsible for reliability functions within the Regional Entity's Region.

"Rejection of the Exception Request" or "Rejection" means the determination that an Exception Request is not an eligible Exception Request (i.e., a Request permitted by section 4.1 of Appendix 5C) or does not contain all the Required Information in accordance with section 4.5 of Appendix 5C in order to be reviewed for substance.

"Reliability Coordinator" means the entity that is the highest level of authority who is responsible for the Reliable Operation of the Bulk Electric System, has the Wide Area view of the Bulk Electric System, and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next-day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator's vision.**

"Reliability Coordinator Area" means the collection of generation, transmission and loads within the boundaries of the Reliability Coordinator. Its boundary coincides with one or more Balancing Authority Areas.**

"Reliability Standard" means a requirement to provide for Reliable Operation of the Bulk Power System, including without limiting the foregoing, requirements for the operation of existing Bulk Power System Facilities, including cyber security protection, and including the design of planned additions or modifications to such Facilities to the extent necessary for Reliable Operation of the Bulk Power System, but the term does not include any requirement to enlarge Bulk Power System Facilities or to construct new transmission capacity or generation capacity. A Reliability Standard shall not be effective in the United States until approved by the Federal Energy Regulatory Commission and shall not be effective in other jurisdictions until made or allowed to become effective by the Applicable Governmental Authority.

"Reliability Standards Development Plan" means the forward-looking plan developed by NERC on an annual basis setting forth the Reliability Standards development projects that are scheduled to be worked on during the ensuing three-year period, as specified in Section 310 of the Rules of Procedure.

"Reliable Operation" means operating the Elements of the Bulk Power System within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or Cascading failures of such system will not occur as a result of a sudden disturbance, including a Cyber Security Incident, or unanticipated failure of system Elements.++

"Remedial Action Directive" means an action (other than a Penalty or sanction) required by a Compliance Enforcement Authority that (1) is to bring a Registered Entity into compliance with a Reliability Standard or to avoid a Reliability Standard violation, and (2) is immediately necessary to protect the reliability of the Bulk Power System from an imminent or actual threat.

"Reporting Entity" means an entity required to provide data or information requested by NERC or a Regional Entity in a request for data or information pursuant to Section 1600 of the Rules of Procedure.

"Requirement" means an explicit statement in a Reliability Standard that identifies the functional entity responsible, the action or outcome that must be achieved, any conditions achieving the action or outcome, and the reliability-related benefit of the action or outcome. Each Requirement shall be a statement with which compliance is mandatory.

"Required Date" means the date given a Registered Entity in a notice from the Compliance Enforcement Authority by which some action by the Registered Entity is required.

"Required Information" means, as applicable, either (i) the information required to be provided in a TFE Request, as specified in Section 4.0 of Appendix 4D; or (ii) the information required to be provided in an Exception Request, as specified in section 4.0 of Appendix 5C.

"Reserve Sharing Group" means a group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating reserves required for each Balancing Authority's use in recovering from contingencies within the group. Scheduling energy from an Adjacent Balancing Authority to aid recovery need not constitute reserve sharing provided the transaction is ramped in over a period the supplying party could reasonably be expected to load generation in (e.g. ten minutes). If the transaction is ramped in quicker, (e.g., between zero and ten minutes), then, for the purposes of disturbance control performance, the areas become a Reserve Sharing Group.**

"Resource Planner" means the entity that develops a long-term (generally one year and beyond) plan for the resource adequacy of specific loads (customer demand and energy requirements) within a Planning Authority area.**

"Respondent" means, depending on the context, the Registered Entity, who is the subject of the Notice of Alleged Violation, contested Mitigation Plan or contested Remedial Action Directive

that is the basis for the proceeding, whichever is applicable, or the Registered Entity that is the subject of the Certification decision that is the basis for a proceeding under Appendix 4E.

"Responsible Entity" means an entity that is registered for a reliability function in the NERC Compliance Registry and is responsible for complying with an Applicable Requirement, as specified in the "Applicability" section of the CIP Standard.

"Revoked" means a NERC certificate that has been suspended for more than twelve months. While in this state, a certificate holder can not perform any task that requires an operator to be NERC-certified. The certificate holder will be required to pass an exam to be certified again. Any CE Hours accumulated prior to or during the revocation period will not be counted towards Credential Maintenance.

"Revoke for Cause" means a step in the disciplinary process pursuant to ~~Appendix 6~~ Section 605 of the Rules of Procedure during which the certificate is no longer valid and requiring successfully passing an exam to become certified. However, an exam will not be authorized until the revocation period expires. CE Hours earned before or during this revocation period will not be counted for maintaining a Credential.

"Scope of Responsibility" means the registered functions of a Planning Authority, Reliability Coordinator, Transmission Operator, Transmission Planner or Balancing Authority and the geographical or electric region in which the Planning Authority, Reliability Coordinator, Transmission Operator, Transmission Planner or Balancing Authority operates to perform its registered functions, or with respect to a Regional Entity, its Regional Entity Region.

"Section I Required Information" means Required Information that is to be provided in Section I of a Submitting Entity's Exception Request.

"Section II Required Information" means Required Information that is to be provided in Section II of a Submitting Entity's Exception Request.

"Section III Required Information" means Required Information that is to be provided in Section III of a Submitting Entity's Exception Request.

"Sector" means a group of Members of NERC that are Bulk Power System owners, operators, or users or other persons and entities with substantially similar interests, including governmental entities, as pertinent to the purposes and operations of NERC and the operation of the Bulk Power System, as defined in Article II, Section 4 of the NERC Bylaws. Each Sector shall constitute a class of Members for purposes of the New Jersey Nonprofit Corporation Act.

"Segment" means one of the subsets of the Registered Ballot Body whose members meet the qualification criteria for the subset.

"Self-Certification" means an attestation by a Registered Entity that it is compliant or non-compliant ~~of compliance or non-compliance~~ with a Reliability Standard Requirement that is the subject of the ~~for which~~ Self-Certification, or that it does not own Facilities that are subject to the

Reliability Standard Requirement, or that the Reliability Standard Requirement is not applicable to the Registered Entity~~is required by the Compliance Enforcement Authority and that is included for monitoring in the Regional Implementation Plan~~.

"Self-Report~~ing~~" means a report by a Registered Entity stating ~~(1)~~ that the Registered Entity believes it has, or may have, violated a Reliability Standard~~, and (2) the actions that have been taken or will be taken to resolve the violation~~.

"Senior Manager" means the person assigned by the Responsible Entity, in accordance with CIP Standard CIP-003-1 Requirement R2 (or subsequent versions), to have overall responsibility for leading and managing the Responsible Entity's implementation of, and adherence to, the CIP Standards.

"Sink Balancing Authority" means the Balancing Authority in which the Load (sink) is located for an Interchange Transaction.**

"Source Balancing Authority" means the Balancing Authority in which the generation (source) is located for an Interchange Transaction.**

"Special Protection System" means an automatic protection system designed to detect abnormal or predetermined system conditions, and take corrective actions other than and/or in addition to the isolation of faulted components to maintain system reliability. Such action may include changes in demand, generation (MW and Mvar), or system configuration to maintain system stability, acceptable voltage, or power flows. A Special Protection System does not include (a) underfrequency or undervoltage Load shedding or (b) fault conditions that must be isolated, or (c) out-of-step relaying (not designed as an integral part of a Special Protection System).**

"Spot Check~~ing~~" means a process in which the Compliance Enforcement Authority requests a Registered Entity to provide information (1) to support the Registered Entity's Self-Certification, Self-Report~~ing~~, or Periodic Data Submittal and to assess whether the Registered Entity complies with Reliability Standards, or (2) as a random check, or (3) in response to ~~events, as described in the Reliability Standards or based on~~ operating problems or system events.

"Staff" or "Compliance Staff" means individuals employed or contracted by NERC or the Compliance Enforcement Authority who have the authority to make initial determinations of compliance or violation with Reliability Standards by Registered Entities and associated Penalties and Mitigation Plans.

"Strict Compliance" means compliance with the terms of an Applicable Requirement without reliance on a Technical Feasibility Exception.

"Submitting Entity" means (i) an owner, operator, or user of the Bulk Power System or any other party that submits information to NERC or a Regional Entity that it reasonably believes contains Confidential Information or, (ii) solely for purposes of Appendix 5C, the entity that submits an Exception Request in accordance with section 4.0 of Appendix 5C.

"Suspended" means certificate status due to an insufficient number of CE Hours being submitted prior to the expiration of a certificate. While in this state, a certificate holder can not perform any task that requires an operator to be NERC-certified.

"System" means a combination of generation, transmission and distribution components.**

"System Operating Limit" means the value (such as MW, Mvar, amperes, frequency or volts) that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria.**

"Technical Advisor" means any Staff member, third-party contractor, or industry stakeholder who satisfies NERC's or the Compliance Enforcement Authority's (as applicable) conflict of interest policy and is selected to assist in a proceeding by providing technical advice to the Hearing Officer and/or the Hearing Body or Hearing Panel.

"Technical Feasibility Exception" or "TFE" means an exception from Strict Compliance with the terms of an Applicable Requirement on grounds of technical feasibility or technical limitations in accordance with one or more of the criteria in section 3.0 of Appendix 4D.

"Technical Review Panel" means a panel established pursuant to section 5.3 of Appendix 5C.

"Termination of Credential" means a step in the disciplinary process pursuant to Section 605 of the Rules of Procedure~~Appendix 6~~ whereby a Credential is permanently Revoked.

"Testimonial Hearing" means an Evidentiary Hearing at which the witness or witnesses on behalf of one or more Participants appears in person to present testimony and be subject to cross-examination.

"TFE Request" means a request submitted by a Responsible Entity in accordance with Appendix 4D for an exception from Strict Compliance with an Applicable Requirement.
"Transmission Customer" means 1. any eligible customer (or its designated agent) that can or does execute a Transmission Service agreement or can and does receive Transmission Service. 2. Any of the following responsible entities: Generator Owner, Load-Serving Entity, or Purchasing-Selling Entity.**

"Transmission Operator" means the entity responsible for the reliability of its "local" transmission system, and that operates or directs the operations of the transmission Facilities.**

"Transmission Owner" means the entity that owns and maintains transmission Facilities.**

"Transmission Planner" means the entity that develops a long-term (generally one year and beyond) plan for the reliability (adequacy) of the interconnected bulk electric transmission systems within its portion of the Planning Authority area.**

"Transmission Service" means services provided to the Transmission Customer by the Transmission Service Provider to move energy from a Point of Receipt to a Point of Delivery.**

"Transmission Service Provider" means the entity that administers the transmission tariff and provides Transmission Service to Transmission Customers under applicable Transmission Service agreements.**

~~"Type of CE Hours" means NERC-Approved Learning Activity covering topics from Appendix A to Appendix 6, NERC Reliability Standards and/or simulations for which there is a minimum requirement for Credential Maintenance.~~

"Variance" means an aspect or element of a Reliability Standard that applies only within a particular Regional Entity or group of Regional Entities, or to a particular entity or class of entities. A Variance allows an alternative approach to meeting the same reliability objective as the Reliability Standard, and is typically necessitated by a physical difference. A Variance is embodied within a Reliability Standard and as such, if adopted by NERC and approved by the Applicable Governmental Authority(ies), shall be enforced within the applicable Regional Entity or Regional Entities pursuant to delegated authorities or to procedures prescribed by the Applicable Governmental Authority.

"Violation Risk Factor" or "VRF" means a factor (lower, medium or high) assigned to each Requirement of a Reliability Standard to identify the potential reliability significance of noncompliance with the Requirement.

"Violation Severity Level" or "VSL" means a measure (lower, moderate, high or severe) of the degree to which compliance with a Requirement was not achieved.

"Wide Area" means the entire Reliability Coordinator Area as well as the critical flow and status information from adjacent Reliability Coordinator Areas as determined by detailed system studies to allow the calculation of Interconnected Reliability Operating Limits.**

**Appendix 4B**




**Proposed Revisions 3-05-2012**
**[Incorporates revisions filed with FERC on January 25, 2012]**

# Sanction Guidelines of the North American Electric Reliability Corporation

**Effective: January 31, 2012**

## Table of Contents

**1. Overview ..... 1**
**2. Basic Principles ..... 4**
2.1 Settlement of Compliance Violations ..... 4
2.2 Timing of Determination of Penalty, Sanction or Remedial Action Directive ..... 5
2.3 Reasonable Relationship to Violation ..... 5
2.4 Use of Factors to Determine Penalties ..... 6
2.5 Multiple Violations ..... 6
2.6 Relation of the Penalty to the Seriousness of the Violation and Violator's Ability to Pay ..... 7
2.7 Violation Time Horizon ..... 8
2.8 Extenuating Circumstances ..... 8
2.9 Concealment or Intentional Violation ..... 8
2.10 Economic Choice to Violate ..... 8
2.11 No Influence by Outcome of Economic Choice to Violate ..... 9
2.12 Non-Monetary Sanctions or Remedial Actions ..... 9
2.13 Non-Exclusiveness of Monetary Penalties or Non-Monetary Sanctions ..... 9
2.14 Monetization of the Value of Sanctions ..... 9
2.15 Maximum Limitations on Penalties ..... 10
2.16 Frequency and Duration of Violations ..... 11
**3. Determination of Monetary Penalties ..... 13**
3.1 Initial Value Range of the Base Penalty Amount ..... 13
3.1.1 Violation Risk Factor ..... 13
3.1.2 Violation Severity Level ..... 14
3.2 Setting of the Base Penalty Amount ..... 14
3.2.1 Applicability of the Violation Risk Factor ..... 14
3.2.2 First Violation ..... 14
3.3 Application of Adjustment Factors ..... 15
3.3.1 Repetitive Violations and Compliance History ..... 16
3.3.2 Failure to Comply with a Remedial Action Directive or with Agreed Corrective or Mitigating Activity ..... 16
3.3.3 Disclosure of the Violation Through Self-Reporting and Voluntary Mitigating Activities by the Violator ..... 16
3.3.4 Degree and Quality of Cooperation ..... 17
3.3.5 Presence and Quality of Violator's Internal Compliance Program ..... 17
3.3.6 Settlement ..... 17
3.3.7 Violation Concealment and Non-Responsiveness ..... 17
3.3.8 Intentional Violation ..... 17
3.3.9 Extenuating Circumstances ..... 18
3.4 Setting of the Final Penalty Amount ..... 18
3.4.1 Violator's Financial Ability to Pay ..... 18
3.4.2 Confirmation of Disgorgement of Unjust Profit or Gain ..... 19
**4. Determination of Non-Monetary Sanctions ..... 20**
**Appendix A: Base Penalty Amount Table ..... 23**

## 1. ~~Preamble and~~ Overview

The North American Electric Reliability Corporation ("NERC"), as the Electric Reliability Organization ("ERO"), and Regional Entities to whom NERC has delegated authority (hereinafter referred to collectively as "Regional Entities" or individually as a "Regional Entity"[1]) shall determine and may levy monetary Penalties and non-monetary sanctions and ~~r~~Remedial ~~a~~Action~~s~~ Directives against owners, operators, and users of the Bulk Power System for violations of the Requirements of NERC Reliability Standards approved by the Federal Energy Regulatory Commission ("FERC") and Applicable Governmental Authorities in Canada and/or Mexico. This document sets out the processes and principles to be followed, and factors that will be considered when determining Penalties, sanctions, or ~~r~~Remedial ~~a~~Action~~s~~ Directives for violations. Collectively these processes, principles and factors are NERC's Penalties, sanctions, and ~~r~~Remedial ~~a~~Action Directive guidelines.

NERC and the Regional Entities will ~~exclusively~~ follow the directives, principles and processes in these Sanction Guidelines when determining Penalties, sanctions, or ~~r~~Remedial ~~a~~Action Directives for a violation. ~~However,~~The adjustment factors in these Sanction Guidelines~~are also~~ provide~~d to afford~~ NERC ~~or~~and the Regional Entities~~Entity~~ the flexibility needed to ~~accommodate~~take into account the facts surrounding each violation. ~~In this manner, rigid prescription of specific Penalty formulae can be avoided at the same time that appropriate limitations on the degree of discretion and flexibility available to address each violation on its merits is maintained.~~ The outcome will be Penalties and sanctions~~remedies~~ that are commensurate ~~and fair compared~~ to the reliability impact of the violation and to those~~remedies~~ levied for similar violations, yet appropriately reflective of any unique facts and circumstances regarding the specific violation and violator.

~~The adjustment factors established in this document are generally consistent with those listed in the FERC Policy Statement on Enforcement issued on October 20, 2005. However, discussion of the factors presented in this document is not exhaustive as other facets of these factors, or other additional factors not discussed herein, may also be considered to determine a given Penalty, sanction, or remedial action, as NERC or the Regional Entity deems appropriate under the circumstances.~~

Regional Entities shall follow these Sanction ~~g~~Guidelines ~~to~~when determin~~e~~ing Penalties, sanctions, or ~~r~~Remedial ~~a~~Action~~s~~. Directives. NERC shall oversee the Regional Entities' application of the Sanction ~~g~~Guidelines to ensure that Regional Entities achieve acceptable levels of consistency ~~are achieved~~. NERC's oversight will ~~also~~ ensure ~~comparable outcomes; i.e.~~ that there is acceptable similarity in the degree and type of sanction for violations constituting comparable levels of threat to reliability of the Bulk Power System. ~~In order to facilitate this oversight, Regional Entities' reporting to NERC of Penalties and sanctions they have determined will be thorough and in sufficient detail that NERC can understand and reasonably replicate the outcomes reached;~~ NERC may develop reporting requirements or a standard reporting form for use by the Regional Entities for this purpose, as NERC deems necessary or appropriate.

As experience is gained by NERC and the Regional Entities through the use and application of these Sanction ~~g~~Guidelines, NERC will review the Sanction ~~g~~Guidelines and may modify them as NERC deems appropriate or necessary. Authority delegated by NERC to the Regional Entities with respect to Penalties, sanctions, or ~~r~~Remedial ~~a~~Action~~s~~ Directivesdoes not include the authority to modify these Sanction ~~g~~Guidelines.

NERC and the Regional Entities will apply the provisions of this document in accordance with applicable statutory provisions and the regulations, orders, and statements of policy of FERC and other Applicable

[1] For purposes of this document, the term "Regional Entity" shall be treated as either singular or plural, as necessary, to refer to the applicable Regional Entity or Regional Entities.

Governmental Authorities that are applicable to the determination and imposition of Penalties and sanctions for violations of Reliability Standards in the respective jurisdictions.

Any revision to this document ~~or to the principles and factors identified or addressed within it~~ must first be approved by the ~~NERC~~ Board, then by FERC, Applicable Governmental Authorities in Canada or Applicable Governmental Authorities in Mexico prior to becoming effective and applicable within the United States or these Applicable Governmental Authorities' respective jurisdictions.

## ~~2.Document Scope and Exclusions~~

~~This document identifies and discusses the processes and principles to be followed, and factors that will be considered to determine Penalties, sanctions, or remedial actions for violations of the Reliability Standards.~~

~~This document notes but does not otherwise address the progression of actions and steps that NERC or the Regional Entity will follow to process a violation from its initial incoming status upon discovery as a Possible Violation, through to its possible final determination as a Confirmed Violation. This is set out in the NERC Compliance Monitoring and Enforcement Program, Appendix 4C to the NERC Rules of Procedure.~~

~~This document notes but does not otherwise address how a Possible Violation or Alleged Violation is reviewed in order to confirm or dismiss it. NERC's process and requirements for this review are set out in the NERC Compliance Monitoring and Enforcement Program, Appendix 4C to the NERC Rules of Procedure. Regional Entities will undertake such reviews using the processes and requirements set out in the NERC Compliance Monitoring and Enforcement Program.~~

~~This document notes but does not otherwise address the processes and procedural steps by which a Confirmed Violation can be appealed, or by which a Penalty, sanction, or remedial action determined and levied for a violation can be appealed. These procedures are set out in the NERC Compliance Monitoring and Enforcement Program, Appendix 4C to the NERC Rules of Procedure, and applicable Regional Entity program documents.~~

~~The NERC Compliance Monitoring and Enforcement Program provides for the possibility of settlements within NERC or Regional Entity Compliance Monitoring and Enforcement Programs. This document makes reference to settlements too, but does not address them further.~~

## ~~3.~~2. Basic Principles

The following paragraphs identify and discuss the basic principles underpinning why and how NERC and the Regional Entities will determine Penalties, sanctions, and ~~r~~Remedial action~~s~~ Directives for violations of the Requirements of the Reliability Standards.

The ~~principles are unique and complimentary; the~~ order in which ~~they~~ the principles are presented in this document does not set or indicate order of precedence.

### ~~3.1Necessary Element of NERC Compliance Program~~

~~Primary objectives of NERC as the ERO include the promotion and enforcement of compliance with the Reliability Standards by owners, operators, and users of the Bulk Power System; Reliability Standards made mandatory by duly-authorized legislative bodies in the U.S and Canada, and designed to maintain and promote the reliability of the two countries' shared power grids. Consistent with these objectives, NERC and the Regional Entities will monitor and act to verify compliance with Reliability Standards' Requirements; however, beyond monitoring and acting only to verify compliance, NERC and the Regional Entities will also hold Bulk Power System owners, operators, and users — or their delegates — accountable for Confirmed Violations. This accountability will include determination and the possible levying of Penalties, sanctions, or remedial actions.~~

~~Penalties, sanctions, and remedial actions are valid and necessary mechanisms to NERC and the Regional Entities for the enforcement and promotion of compliance to the Reliability Standards, in part because they can:~~

~~a.promote compliance behavior;~~

~~b.provide deterrence to future incidents, actions or situations of noncompliance by the violator or others;~~

~~c.implement actions that will promptly correct behavior;~~

~~d.disgorge benefits that may or may have accrued to a violator as a consequence of violating;~~

~~e.visit upon a violator some portion of any damage their violation may or may have visited upon others.~~

~~Accordingly, the determination and potential levying of appropriate Penalties, sanctions, or remedial actions by NERC or the Regional Entity upon those responsible for violations shall be a required step within the NERC and Regional Entity Compliance Monitoring and Enforcement Programs.~~

### ~~3.2~~2.1 Settlement of Compliance Violations

~~NERC and the Regional Entities shall maintain the reliability of the Bulk Power System by enforcing compliance with NERC and Regional Reliability Standards. NERC and Regional Entity Compliance Monitoring and Enforcements Programs will lay out how NERC and the Regional Entities will do this. In particular and by necessity, elements of these programs regarding the confirmation of violations, the determination and levying of Penalties, sanctions, or remedial actions, and appeals are rigid and legalistic in form and nature in order to respect the basic tenets of due process and natural justice inherent within United States and Canadian justice systems, respectively, upon which they are being based. However, absolute adherence to the Compliance Monitoring and Enforcement Programs, to the exclusion of other options, may not be the most appropriate, efficient or desirable means by which to achieve the end goal in all circumstances, to all entities party to a violation.~~

Pursuant to ~~As set out in~~ the NERC Compliance Monitoring and Enforcement Program, Appendix 4C to the NERC Rules of Procedure, Possible or Alleged ~~v~~Violations of the Reliability Standards may be resolved ~~dealt with~~ through settlements reached between NERC, a Regional Entity and the Registered Entity or Entities to whom a Possible~~,~~ or Alleged~~, or Confirmed~~ Violation is attributed ~~to~~ by NERC or the Regional Entity. Any provisions ~~made~~ within a settlement regarding Penalties~~,~~ or sanctions~~, or~~

~~remedial actions~~ can supersede any corresponding Penalties~~,~~ or sanctions that would otherwise be determined pursuant to these Sanction ~~g~~Guidelines.

### ~~3.3Settlement Request~~

~~Any Registered Entity found in or being investigated for a violation may request settlement negotiations at any time, including prior to issuance of a Notice of Alleged Violation; however, NERC or the Regional Entity may decline to enter into or continue settlement negotiations after the Possible Violation or Alleged Violation becomes a Confirmed Violation.~~

### ~~3.4Settlement Effect on Continuation of Determination of Penalties, Sanctions, or Remedial Actions~~

~~Until a settlement is finalized or parties to that settlement agree otherwise, NERC or the Regional Entity may continue activities and actions towards the determination and levying of a Penalty, sanction, or remedial action that would otherwise be applicable pursuant to these guidelines, or that will be applicable if the settlement is not finalized.~~

### ~~3.5~~2.2 Timing of Determination of Penalty, Sanction or Remedial Action Directive

~~All Possible Violations and Alleged Violations will be reviewed by NERC or the Regional Entity with the outcome that either the violation will be confirmed or the violation will be dismissed.~~

The Penalty~~,~~ or sanction~~, or other remedial action~~ for a violation will be determined during the enforcement process in accordance with Section 5.0 of Appendix 4C~~when the violation becomes a Confirmed Violation or is resolved as part of a settlement agreement~~.

At any time during the enforcement process, including any~~confirmation review,~~ hearings~~,~~ or appeals, NERC or the Regional Entity may determine that a ~~r~~Remedial ~~a~~Action Directive to the Registered Entity is warranted and, in accordance with Section 7.0 of Appendix 4C, ~~by the subject Registered Entity of the review, hearing, or appeals. NERC or the Regional Entity~~ may direct that the Registered Entity implement the ~~such r~~Remedial ~~a~~Actions Directive ~~be undertaken by the subject Registered Entity at any time, including prior to confirmation of a violation, and without regulatory approval~~.

### ~~3.6Determining Party~~

~~The determination of Penalty, sanction or other remedial action for a violation will generally be undertaken by the same entity determining the violation to be a Confirmed Violation, but subject to review by NERC if the determination is made by a Regional Entity.~~

### ~~3.7No Influence of Penalty, Sanction or Remedial Action upon Violation Confirmation Process~~

~~The Penalty, sanction, or remedial action determined for a violation will not influence the outcome of the Regional Entity' or NERC's confirmation review of the violation. In particular, if the determination of Penalty, sanction, or remedial action for a probable violation is being undertaken by the same entity undertaking the confirmation review, the entity will insure that there is sufficient separation, in such terms as time, process, personnel or the like, to preclude that the Penalty, sanction, or remedial action determined influences the outcome of the confirmation review.~~

### ~~3.8~~2.3 Reasonable Relationship to Violation

Penalties~~,~~ and sanctions~~, and remedial actions~~ levied ~~or applied~~ for the violation of a Reliability Standard shall bear a reasonable relation to the seriousness of the violation while also reflecting consideration of the other factors specified in~~that~~ these Sanction ~~g~~Guidelines ~~direct to take into account. In the United States, the legislation establishing mandatory enforceable Reliability Standards and the ERO requires that "Any penalty imposed … shall; (A) bear a reasonable relation to~~

~~the seriousness of the violation; and (B) take into consideration the efforts of the user, owner, or operator to remedy the violation in a timely manner~~[2]~~.~~"

### ~~3.9~~2.4 Use ~~and Facets~~ of Factors to Determine Penalties

Penalties levied for a ~~given~~Reliability Standard violation will be based on all facts and ~~other~~ information relevant to the violation~~incident or situation~~. To that end, these Sanction ~~g~~Guidelines include factors ~~which~~that NERC and the Regional Entities will consider while determining the Penalty or sanction for a violation~~to be levied~~.

~~NERC considers, and these guidelines direct, that t~~The presence of some factors in connection with~~in~~ a violation aggravates the seriousness of that violation and should ~~cause an~~ increase ~~or expansion of~~ the Penalty ~~to be levied~~. Conversely, the presence of ~~some~~certain other factors mitigates ~~that~~the seriousness of the violation and should ~~cause a decrease or reduction of~~reduce the Penalty ~~to be levied~~. ~~Also, some factors may mitigate or aggravate, and should have commensurate impact. NERC considers, and these guidelines direct, that t~~The absence of an aggravating or mitigating factor will have no impact~~, as opposed to a mitigating or aggravating impact, respectively, to a~~ on the Penalty.

This document identifies many aggravating and mitigating~~presents many of the relevant facets of the~~ factors that, if present in connection with a violation, should be considered in determining the Penalty or sanction, and describes how these factors should be taken into account ~~included in these guidelines~~. ~~However, additional facets of these factors, or a~~Additional factors not identified in this document~~discussed herein,~~ may also be considered ~~into~~ determining a ~~given~~ Penalty~~,~~ or sanction, ~~or remedial action,~~ as NERC or the Regional Entity deems appropriate under the circumstances. Where additional factors ~~or facets~~ are considered~~used~~ they will be identified, and their use will be justified, in the Notice of Penalty, and the~~. The~~ effect of using these factors ~~or facets~~ on the Penalty~~,~~ or sanction~~, or remedial action~~ determined will ~~also~~ be fully and clearly disclosed.

### ~~3.10~~2.5 Multiple Violations

A violation is a failure ~~or inadequacy~~ to meet a Requirement of a Reliability Standard by a Bulk Power System owner, operator or user~~party~~ responsible to comply with that Requirement.

The ~~failure or inadequacy of a violator to~~Registered Entity's noncompliance ~~comply~~ may involve more than one Reliability Standard or several Requirements of a single Reliability Standard~~:~~. ~~a~~As such, multiple individual violations may exist~~be in play~~ when NERC or the Regional Entity determines Penalties~~,~~ or sanctions~~, or remedial actions~~ for a~~n incident or situation of~~ noncompliance ~~are being determined~~.

~~Strictly speaking,~~ NERC or the Regional Entity ~~can~~may determine and levy a separate Penalty or sanction~~, or direct remedial action,~~ upon a violator for each individual violation of a Reliability Standard Requirement. However, where~~in instances of~~ multiple violations related to a single act or common incidence of noncompliance, or where Penalties or sanctions for several unrelated violations by the Registered Entity are being determined at the same time, NERC or the Regional Entity or Entities ~~will generally~~may determine and issue a single aggregate Penalty~~,~~ or sanction~~, or Remedial Action Directive~~ bearing reasonable relationship to the aggregate of the ~~related~~ violations. In such a case, ~~T~~the Penalty~~,~~ or sanction~~, or remedial action will not be that determined individually for the least serious of the violations; it~~ will generally be at least as large or expansive as what would be called for individually for the most serious of the violations.

Some entities may ~~be~~ register~~ed as being responsible~~ for more than one reliability function in the NERC Compliance Registry (e.g., Transmission Owner, Transmission Operator, Balancing Authority, Generation Operator), and as a result, a single Requirement in ~~some~~certain Reliability Standards may apply to the ~~responsible~~ entity for several of its registered functions. Where an entity

[2] ~~H.R.6, Energy Policy Act of 2005, Section 215, Paragraph c, subparagraph 6.~~

performs several registered ~~functions are performed by the same Registered Entity~~, NERC or the Regional Entity will assess a violation and associated Penalty or sanction~~will be assessed~~ against the Registered Entity, not against each function.

### ~~3.11~~2.6 Relation of the Penalty to the Seriousness of the Violation and Violator's Ability to Pay

As stated ~~discussed~~ in Section ~~3.8,~~2.3 above, Penalties levied for the violation of a Reliability Standard shall bear a reasonable relation to the seriousness of the violation. As part of the assessment of the seriousness of the violation, NERC or the Regional Entity shall~~The seriousness of a given violation by a given violator shall be assessed by~~ review ~~of the applicability of~~ the Violation Risk Factors[3] associated with the violation and~~to~~ the characteristics of the violator's operation or power system. NERC or the Regional Entity may consider the size of the violator. ~~Size is a characteristic of a violator's operation or system. The size of the violator can be considered in the assessment but shall not be the only characteristic considered. Where size is considered in such a review the facts relating to the violation in question will be reviewed~~ NERC or the Regional Entity will also consider the facts of the violation so ~~such~~ that the "actual" size of the violator is ~~properly discerned and~~ appropriately considered~~;~~. ~~t~~The following are provided as illustrative examples:

- If the violator belongs to a generation and transmission cooperative or joint-action agency, size will be attributed to the particular violator, rather than to that generation and transmission cooperative or joint-action agency.
- If the violator constitutes part of a corporate family the size of the violator will be attributed to that violator alone, in the absence of any facts indicating involvement of the whole corporation or corporate affiliates of the violator.
- If the violator is an entity established solely as a shell to register as subject to one or more Reliability Standards the size of the entity will be disregarded in favor of consideration of the size of the parent entity or any affiliates that NERC or the Regional Entity deems involved and constituting the "actual" size of the violator.

At the request of the violator, NERC or the applicable Regional Entity or Entities may review the Penalty in light of the violator's financial ability to pay the Penalty. Financial ability shall include ~~both~~ the financial strength of the Registered Entity as well as its financial structure (e.g., for-profit versus non-profit). Where Penalties are reduced or eliminated NERC or the Regional Entity may~~shall~~ consider non-monetary sanctions ~~or remedial action~~ as alternatives or substitutes to the Penalty, pursuant to Sections ~~3.17, 3.18 and 3.19~~2.12, 2.13 and 2.14, below, of these Sanction Guidelines~~this document~~.

~~The above actions will: (i) promote that violators are penalized or sanctioned commensurate with the risk or effect that their specific violation of the Reliability Standards had or is having to the reliability of the Bulk Power System while also; (ii) mitigating overly burdensome Penalties to less consequential or financially-limited entities concurrent with; (iii) promoting that no Penalty is inconsequential to the violator to whom it is assessed. This will promote that Penalties levied for violations of Reliability Standards bear a reasonable relation to the seriousness of the violation while also addressing violators' ability to pay the Penalties they are assessed.~~Consideration of the factors described in this subsection is intended to (i) promote that violators are penalized or sanctioned commensurate with the risk or effect that their specific violation of the Reliability Standards had or is having on the reliability of the Bulk Power System while also (ii) mitigating overly burdensome Penalties to less consequential or financially-limited entities concurrent with (iii) promoting that no Penalty is inconsequential to the violator to whom it is assessed. Consideration of these factors is intended to result in Penalties levied for violations of Reliability Standards bearing a reasonable relationship to the seriousness of the violation while also addressing the violators' ability to pay the Penalties that are assessed.

[3] See Section ~~4 Part 4.11~~3.1.1 for a discussion of these factors

### ~~3.12~~2.7 Violation Time Horizon

Reliability Standards involving longer and broader time horizons, such as long-term planning activities, may have a lesser immediate impact and pose less immediate risk to the reliability of the Bulk Power System than Reliability Standards ~~addressing~~involving shorter and narrower timeframes, such as Registered Entities' conduct in real time. Similarly, Reliability Standards involving longer and broader time horizons typically will provide a longer time period over which to discover and remedy a violation when compared to Reliability Standards ~~addressing~~involving more immediate activities such as next-day planning, same-day operations or real-time operations. Using a time horizon element in the determination of Penalties for violations provides for recognition of the "more immediate" nature — and hence higher risk — of the threat of some violations as opposed to the lesser-risk "future threat if not corrected" nature of other violations.

NERC or the Regional Entity~~Penalties levied for the violation of a Reliability Standard~~ shall consider the time horizon of the Reliability Standard violated~~;. v~~Violations of Reliability Standards involving ~~more~~ immediate or real-time activities will generally incur larger Penalties than violations of Reliability Standards with longer or broader time horizons.

Time horizons inherent in Reliability Standard Requirements are not reflected in their ~~assigned~~ Violation Risk Factors or Violation Severity Levels for the Requirement[4]. Accordingly, the time horizon element of a violation will be considered when determining the Base Penalty Amount[5] for the violation.

NERC or the Regional Entity will utilize judgment and will analyze the facts of the violation to determine t~~T~~he time horizon for the violation~~considered~~ and its impact on the selection of the Base Penalty Amount ~~for the violation will be decided upon by NERC or the Regional Entity based upon judgment and the facts of the violation~~. The rationale for the time horizon used and its impact on the setting of the Base Penalty Amount will be ~~documented by NERC or the Regional Entity and~~ provided within the Notice of Penalty issued for the violation.

### ~~3.13~~2.8 Extenuating Circumstances

In unique extenuating circumstances causing or contributing to the violation, such as significant natural disasters, NERC or the Regional Entity may significantly reduce or eliminate Penalties ~~may be significantly reduced or eliminated~~.

### ~~3.14~~2.9 Concealment or Intentional Violation

NERC or the Regional Entity~~Penalties levied for the violation of a Reliability Standard~~ shall always consider as an aggravating factor~~take into consideration~~ any attempt by a violator to conceal the violation from NERC or the Regional Entity, or any intentional violation incurred for purposes other than a demonstrably good faith effort to avoid a significant and greater threat to the immediate reliability of the Bulk Power System.

### ~~3.15~~2.10 Economic Choice to Violate

~~Owners, operators, and users of the Bulk Power System may be presented with situations or circumstances where compliance with the Reliability Standards preclude or reduce an economic gain that could be realized by violating the Reliability Standards.~~ Penalties shall be sufficient to assure that entities responsible for complying with Reliability Standards do not have incentives~~find it attractive~~ to make economic choices that cause or unduly risk violations ~~to~~of Reliability Standards, or ~~risk or cause~~ incidents resulting from violations of the Reliability Standards. Economic choice includes economic gain for, or the avoidance of costs to, the violator. NERC or the Regional Entity shall treat economic choice to violate as an aggravating factor when determining a Penalty~~Penalties levied to violators who have made such a choice shall reflect this aspect of the violation~~.

[4] See Section ~~4 Part 4.11~~3.1 for a discussion of these factors.
[5] See Section ~~4 Part 4~~3.2

### ~~3.16~~2.11 No Influence by Outcome of Economic Choice to Violate

~~Economic choices to violate are generally made for the violator's own potential gain, but making such a choice does not always result in all potential gains being realized or may result in damage or loss. However, irrespective of~~ Whatever the financial outcome to the Registered Entity making an economic choice to violate a Reliability Standard, such decisions present a risk to~~others'~~ reliability and to others, commonly without ~~either~~ their knowledge or consent. Penalties levied to violators making an economic choice to violate shall reflect only that the violator made an economic choice to violate a Reliability Standard.~~was made at all; t~~The lack of or reduced magnitude of any actual benefit received, or any damage suffered, by the violator as a consequence of making this choice will have no influence upon the determination of the Penalty ~~to be levied~~.

### ~~3.17~~2.12 Non-Monetary Sanctions or Remedial Actions

Enforcement actions taken by NERC or a Regional Entity are not limited to monetary Penalties~~;~~. NERC or the Regional Entity may apply, at ~~the~~its discretion ~~of NERC or the Regional Entity~~, non-monetary sanctions ~~or remedial actions may also be applied and can~~ includinge limitations on activities, functions, operations, or placement of the violator's name on~~other appropriate sanctions, including the establishment of~~ a reliability watch list ~~composed~~ of major violators.

### ~~3.18~~2.13 Non-Exclusiveness of Monetary Penalties or Non-Monetary Sanctions

NERC or the Regional Entity may impose ~~A~~a non-monetary sanction ~~may be imposed~~ either in lieu of or in addition to a monetary Penalty ~~imposed~~ for the same ~~Confirmed V~~violation, and vice versa. Imposition of a monetary Penalty or non-monetary sanction for a violation does not preclude the imposition of the other as long as~~, in combination,~~ the aggregate Penalty ~~continues to~~ bears a reasonable relation to the seriousness of the violation and other relevant factors.

### ~~3.19~~2.14 Monetization of the Value of Sanctions

A significant element of NERC's oversight of Penalties, sanctions, and ~~r~~Remedial ~~a~~Action Directives determined and levied by Regional Entities is to ensur~~e~~ing acceptable similarity in the degree and type of sanction for violations constituting comparable levels of threat to the reliability of the Bulk Power System by similarly situated entities. It is also a requirement and a commitment of NERC and and the Regional Entities~~its designees~~ that Penalties~~,~~ or sanctions~~, or remedial actions~~ levied ~~or applied~~ for the violation of a Reliability Standard bear reasonable relation to the seriousness of the violation. ~~Specifically with respect to Penalties and sanctions, it is intuitive that i~~It is~~will be~~ easier, more objective, and more transparent to monitor and test for the acceptable similarity of Penalties and sanctions if ~~(~~monetary~~)~~ Penalties or monetized values of sanctions ~~determined for violations~~ are used as the primary basis of comparison~~, versus comparisons made on the basis of other (non-monetized) considerations~~. Similarly, there will be ~~strong intuitiveness and~~ transparency, particularly to those ~~interested but not strongly~~ familiar with the power industry, that NERC or the Regional Entity reasonably addressed the seriousness of a violation ~~has been reasonably addressed~~ if the consequences ~~for it to the violator~~ are ~~determined and can be~~ expressed clearly and quantifiably in monetary terms.

Penalties determined and levied by NERC or Regional Entities will by definition be valued in monetary terms: U.S or Canadian dollars. It is~~will be~~ the preference of NERC that ~~(~~non-monetary~~)~~ sanctions imposed either in lieu of or in addition to a Penalty should include disclosure of the monetary value of~~that~~ the sanctions ~~represent to the violator~~. ~~It is intuitive that defensible monetary values for those sanctions will be most easily determined if~~Generally, NERC or the Regional Entity will first determine the Penalty for the violation ~~pursuant to these guidelines is first determined~~ and may, at their discretion, introduce ~~then the~~ sanctions ~~to be levied are introduced and justified~~ as appropriate alternatives to ~~that~~the Penalty or as additions to a lesser Penalty. However, NERC or the Regional Entity may determine the monetary value of sanctions ~~may be determined directly (e.g. without first determining a Penalty amount) and monetized~~ using other methods.

~~NERC does not have a preference between Penalties and sanctions for violations. The preference expressed here will support ensuring comparability of outcomes regarding application of these guidelines and the promotion of reasonable relationship between the seriousness of a violation and the sanctions, or Penalties and sanctions, levied for it.~~

### ~~3.20~~2.15 Maximum Limitations on Penalties

~~Penalties are direct, monetary judgments levied against a violator by NERC or the Regional Entity for the violation of Requirements of the Reliability Standards. In contrast, sanctions will impose limitations or restrictions of some kind that may result in economic or other impacts to the violator, and remedial actions are directives by NERC or a Regional Entity to the violator regarding the correction of conditions, practices or any other relevant action or activity underlying the noncompliance(s) involved.~~

***~~In the United States, the Federal Power Act allows for the imposition of civil penalties of up to $1,000,000 per day per violation.~~*** ~~NERC and the Regional Entities draw their authority to levy Penalties from the Federal Power Act; accordingly this figure is and can be understood as the maximum monetary Penalty that NERC or Regional Entities are authorized to levy. However, as this legislation also requires that "[a]ny penalty imposed … shall; (A) bear a reasonable relation to the seriousness of the violation; and (B) take into consideration the efforts of the user, owner, or operator to remedy the violation in a timely manner[6]"~~ ***~~entities required to comply with the Reliability Standards must also understand that~~*** In the United States, the maximum Penalty amount that NERC or a Regional Entity will assess for a violation of a Reliability Standard Requirement is $1,000,000 per day per violation. NERC and the Regional Entities will ~~be obligated to~~ assess Penalties amounts up to and including ~~the~~this maximum amount for violations where warranted pursuant to these Sanction ~~g~~Guidelines.

In Canadian jurisdictions, the maximum monetary Penalty ~~potentially assessable~~ for a Reliability Standard violation is significantly less than $1,000,000 per day per violation~~the amount allowed in the United States under the Federal Power Act. Also~~ Further, legislation presently governing certain~~some~~ Canadian jurisdictions does not accommodate the levying of such a Penalty under certain~~some~~ circumstances, may not accommodate the levying of such a Penalty for all violations, or does not accommodate the levying of any monetary Penalties.

When NERC or a Regional Entity levies a Penalty ~~may be levied,~~ or propose~~d~~s a Penalty to Applicable Governmental Authorities with jurisdiction to ~~be~~ levy~~ied~~ a Penalty, NERC or the Regional Entity shall~~the~~ follow~~ing~~ these steps ~~will be followed~~:

a. NERC or the Regional Entity will initially disregard the Penalty limitations of the Applicable Governmental Authorities ~~with jurisdiction~~, and will determine what the Penalties or sanctions would be pursuant to these ~~s~~Sanction ~~g~~Guidelines ~~only~~.

b. NERC or the Regional Entity will review the maximum Penalty allowed in the applicable~~by the Applicable Governmental Authorities with~~ jurisdiction.

c. NERC or the Regional Entity will set the actual Penalty ~~to be levied, or proposed to the Applicable Governmental Authorities with jurisdiction to be levied,~~ as the lesser of (i) the Penalty~~that~~ determined pursuant to these Sanction ~~g~~Guidelines and (ii) the maximum Penalty or sanction allowed in~~by~~ the ~~A~~applicable jurisdiction~~Governmental Authorities~~.

d. If ~~the lesser Penalty is~~ the maximum Penalty allowed ~~by~~in the ~~A~~applicable jurisdiction is lower than the Penalty determined under the Sanction Guidelines, in addition to the legally permissible Penalty~~Governmental Authorities~~, the Notice of Penalty or similar document issued by NERC or the Regional Entity regarding the violation will also list the Penalty that was determined pursuant to these Sanction ~~g~~Guidelines.

[6] ~~H.R.6, Energy Policy Act of 2005, Section 215, Paragraph e, subparagraph 6.~~

Adhering to the above steps will insure that ~~the result of~~ the determination of any Penalty for any violation will produce output that can be directly compared (i.e. without influence of ~~local Applicable Governmental Authorities'~~ any Penalty limitations or restrictions applicable in certain jurisdictions) with the Penalty determined for any other violation, thus assisting the efforts of NERC and others to ensure that these Sanction ~~g~~Guidelines are uniformly applied and that there is an acceptable level of consistency in their application ~~of these sanction guidelines~~ across North America. Applicable Governmental Authorities ~~with jurisdiction~~ may also find such information useful for their determination of the appropriateness of any Penalty or sanction proposed to them to be levied against a violator of the Reliability Standards. ~~Similarly, policy and legislative bodies may find such information of value to the review or development of arrangements addressing such matters.~~

### ~~3.21~~2.16 Frequency and Duration of Violations

~~Section 316A of the Federal Power Act [16 U.S.C. § 825o-1(b)], as amended by the Energy Policy Act of 2005, provides that "any person who violates any provision of Part II of this title or any provision of any rule or order thereunder shall be subject to a civil penalty of not more than $1,000,000 for each day that such violation continues."~~

~~FERC Order No. 672 interprets this statement as setting a cap on the monetary Penalties that the Commission, NERC and Regional Entities can impose under FPA section 215. FERC has referred to this statutory provision as imposing a maximum $1,000,000 "per day, per violation" Penalty and has directed that the ERO must ensure that in the U.S. such a Penalty amount ($1,000,000), in such a manner ("per day, per violation"), can be imposed for a violation of the Reliability Standards should the conduct at issue so warrant.~~

As stated in Section 2.15 above, the maximum Penalty that will be imposed in the U.S. for violation of a Reliability Standard is $1,000,000 per day. However, ~~S~~some Reliability Standards may not support the assessment of Penalties on a "per day, per violation" basis, but instead should have Penalties calculated based on an alternative Penalty frequency or duration. Where NERC or the Regional Entity deems that a monetary Penalty is warranted, or where NERC or the Regional Entity ~~is~~ monetize~~s~~ing (Section 2.14~~3.19~~) the value of a non-monetary sanction, ~~for the violation of such a Reliability Standard NERC or the Regional Entity~~ they shall determine the Penalty or monetized amount consistent with the following:

Multiple Instances of Violation on One Day

The nature of some Reliability Standards includes the possibility that a Registered Entity could violate the same Requirement two or more times on the same day. In this instance NERC ~~or~~and the Regional Entity are~~is~~ not limited to penalizing the violator a maximum of $1,000,000 per day. ~~As NERC or the Regional Entity deems appropriate~~ NERC or the Regional Entity may deem that ~~there have been~~ multiple violations of the same Requirement ~~that~~ occurred on the same day, each of which is subject to the maximum potential Penalty of $1,000,000 per violation, per day. Also, NERC or the Regional Entity is not constrained to assessing the same Penalty amount for each of the multiple violations, irrespective of their proximity in time.

Cumulative Over Time

Certain Requirements of ~~the~~ Reliability Standards are measured not on the basis of discrete acts, but ~~of~~on cumulative acts over time. Reliability Standards that fall into this category ~~are~~ generally ~~those~~ involve~~ing~~ measurements based on averages over a given period. ~~Where a violation of such a Reliability Standard has occurred the element of averaging performance over a period of time introduces the difficulty to NERC or the Regional Entity of reasonably identifying (i) what date the violation should be deemed to have occurred and (ii) its duration.~~

If a Reliability Standard Requirement measured by an average over time can only be violated once per applicable period, ~~then~~ there is risk that a disproportionately mild Penalty might be levied in a situation where the violation was serious and the effects on the Bulk Power System were severe. In the future, as individual Reliability Standards are revised, each Reliability Standard Requirement that is based on an average over time will specify the minimum period in which a violation could occur and how to determine when a violation arises, which may be other than once per applicable period[7]. In the interim until relevant Reliability Standards are so modified, where assessing a Penalty for violation of~~any ambiguity on this point will be construed conservatively, meaning that where a Registered Entity has not complied with~~ such a Reliability Standard NERC or the Regional Entity will generally consider that only one violation occurred per measurement period. However, ~~notwithstanding this general principle of one violation per measurement period,~~ if an average must be measured by a span of time greater than a month, each month of that span shall constitute at a minimum one violation.

Periodically Monitored Discrete Violation

Some Reliability Standards may involve discrete events which are only monitored periodically or which are reported by exception. If a Requirement of such a Reliability Standard states that a discrete event constitutes a violation, then (i) a violation arises when that event occurs and (ii) that violation continues until remedied; and~~furthermore,~~ (iii) the violation ~~is deemed to have~~ occurred at the point that the Registered Entity entered into noncompliance with the Reliability Standard, regardless of the monitoring period for the activity or its date of discovery or reporting. For example, if a task required by a Reliability Standard Requirement ~~has~~was not ~~been~~ done by the required date, it is irrelevant that monitoring for compliance for the Requirement occurs only on a yearly or other periodic basis; NERC or the Regional Entity will deem a violation to have occurred on the first day of noncompliance and each day thereafter until compliance is effectuated. Similarly, if a discrete event occurs and is not remedied on the date of its occurrence, then NERC or the Regional Entity will deem a violation to have occurred on the day of the first instance of the noncompliance and each day~~, or portion thereof~~ thereafter until the entity is in compliance ~~is effectuated~~.

~~Non-compliance with a Reliability Standard of this type will subject the violator to the potential maximum monetary Penalty of $1,000,000 per violation per day in violation.~~

NERC or the Regional Entity may, at its discretion, ~~is not constrained to~~ assess~~ing~~ the same Penalty amount for each day that the Registered Entity was in violation of the Reliability Standard Requirement in question.

[7] ~~Para. 41; FERC Order on Clarification and Rehearing [Docket No. RR06-1-006]~~

## 4.3. Determination of Monetary Penalties

~~The following~~ This Section describes the specific steps that NERC or the Regional Entity will follow to determine the monetary Penalty for a violation[8]. The determination of non-monetary sanctions is discussed in Section ~~5~~4 of this document~~; Section 6 discusses remedial action~~.

Step 1. NERC or the Regional Entity will set ~~T~~the Base Penalty Amount for the violation ~~will be set~~ as discussed in Sections ~~4~~3.1 and ~~4~~3.2, below.

Step 2. NERC or the Regional Entity will adjust ~~T~~the Base Penalty Amount set in Step 1 ~~will be reviewed~~ pursuant to Section ~~4~~3.3, below. This will result in the Adjusted Penalty Amount.

Step 3. NERC or the Regional Entity may review ~~T~~the Adjusted Penalty Amount determined in Step 2 ~~may be reviewed~~ in light of the violator's financial ability to pay the Penalty. Also, where applicable, NERC or the Regional Entity will ~~re~~confirm that the Penalty ~~set~~ will disgorge unjust profits or economic benefits associated with an economic choice to violate[9]. At the conclusion of this review, NERC or the Regional Entity will set the Final Penalty Amount ~~will be set~~.

~~Unless NERC or the Regional Entity deems alternative frequency or duration is warranted Penalties shall be assessed on a per violation per day basis.~~At the discretion of NERC or the Regional Entity, a Penalty may be assessed on a per violation per day basis or with an alternative frequency or duration. Where NERC or the Regional Entity deems that alternative Penalty frequency or duration is warranted, the Notice of Penalty associated with the violation will clearly identify this and provide the rationale for it. Where NERC or the Regional Entity deems that alternative Penalty frequency or duration is warranted, Penalties shall be determined in accordance with section ~~3.21~~2.16 of these Sanction Guidelines.

### ~~4.1~~3.1 Initial Value Range of the Base Penalty Amount

NERC or the Regional Entity will determine an initial value range for the Base Penalty Amount by considering ~~two factors regarding the violation:~~ the Violation Risk Factor ("VRF") of the Requirement violated and the Violation Severity Level (VSL) assessed for the violation. Using the Base Penalty Amount Table provided in Appendix A NERC or the Regional Entity will look up the initial value range for the Base Penalty Amount by finding the intersection of the violation's VRF and VSL on the table.[10] ~~.~~

#### ~~4.1.1~~3.1.1 Violation Risk Factor

Each ~~Requirement set out within NERC's~~ Reliability Standard~~s~~ Requirement has been assigned a ~~Violation Risk Factor (~~VRF~~)~~ through the NERC Reliability Standards development process. The VRFs~~factors~~ have been defined and approved through the Reliability Standards development process and are assigned to Requirements to provide clear, concise and comparative association between the violation of a Requirement and the expected or potential impact of the violation to the reliability of the Bulk Power System. One of three defined levels of risk is assigned to each Reliability Standards Requirement: ~~l~~Lower VRF~~Violation Risk Factor, or~~; ~~m~~Medium VRF~~Violation Risk Factor,~~; or~~;~~ ~~h~~High VRF~~Violation Risk Factor. Definitions of the factors can be found in appropriate Reliability Standards development process documentation~~.

[8] The text in this section discusses the determination of a single Penalty for an individual violation; however, the process laid out is also applicable to determining the individual Penalties, or a single aggregate Penalty, for multiple violations that are associated with each other as discussed in Section ~~3 Part 3.1~~2.8 of this document.

[9] ~~Reference: Section 3 Parts 3.15 and 3.16.~~

[10] As discussed in Section ~~3 Part 3.1~~2.5 of this document, where there is more than one violation ~~in play~~, but the violations are sufficiently associated, NERC or the Regional Entity may set a single initial value range that is appropriate in light of the individual VRF/VSL combinations of the violations.

### ~~4.1.2~~3.1.2 Violation Severity Level

~~Violation Severity Levels (~~VSLs~~)~~ are defined levels~~measurements~~ of the degree to which ~~a violator violated~~ a Requirement of a Reliability Standard was violated. Whereas VRFs~~Violation Risk Factors~~ are determined pre-violation and indicate the relative potential impacts that violations of each Reliability Standard could pose to the reliability of the Bulk Power System, VSLs are~~the Violation Severity Level is~~ assessed post-violation and ~~is~~are an indicator of the severity of the~~how severely the violator~~ actual~~ly violated~~violation of the Reliability Standard(s) Requirement(s) in question.

These Sanction ~~g~~Guidelines utilize the VSLs, which~~Violation Severity Levels that have been established~~[11] ~~by NERC for Requirements of the Reliability Standards. Up to four levels can be defined for each Requirement; the levels~~ have been designated as: L~~l~~ower, ~~m~~Moderate, ~~h~~High, and S~~s~~evere.

### ~~4.2~~3.2 Setting of the Base Penalty Amount

NERC or the Regional Entity will set the Base Penalty Amount for the violation. The Base Penalty Amount ~~set~~ for the violation may be set at the highest figure of the initial value range determined pursuant to Section ~~4.1~~3.1, above. However, NERC or the Regional Entity may set the Base Penalty Amount at or below the lowest figure of the initial value range in light of two specific circumstances regarding the violation and the violator, specifically:

a. The applicability of the VRF~~Violation Risk Factor of the violation~~ to the specific circumstances[12] of the violator.

b. Whether this is an inconsequential first violation by the violator of the Reliability Standard(s) in question.

As noted in Section ~~3.12~~2.7, NERC or the Regional Entity will consider the time horizon for~~involved with~~ the violation when setting the Base Penalty Amount for the violation. ~~As also noted in Section 3.12 this consideration will be documented for inclusion in the Notice of Penalty issued for the violation.~~

The Penalty amount resulting from this review will be the Base Penalty Amount that is used as the basis for further adjustment pursuant to the factors discussed in the next section (3.3) of this document.

#### ~~4.2.1~~3.2.1 Applicability of the Violation Risk Factor

VRFs~~Violation Risk Factors~~ are assigned to Reliability Standards~~'~~ Requirements as indicators of the expected risk or harm to the Bulk Power System posed by the violation of a Requirement by a typical or median Registered Entity that is required to comply. NERC or the Regional Entity may consider the specific circumstances of the violator to determine if the violation of the Requirement in question actually produced the degree of risk or harm anticipated by the VRF~~Violation Risk Factor~~. If that expected risk or harm was not or would not have been produced, NERC or the Regional Entity may set the Base Penalty Amount to a value it (i) deems appropriate and (ii) is within the initial value range set above pursuant to Section 3.1.

#### ~~4.2.2~~3.2.2 First Violation

If the actual or foreseen impact of the violation is judged to be inconsequential by NERC or the Regional Entity and the violation is the first incidence of violation of the Requirement in

[11] ~~Assignment of these levels will be complete and filed with the Commission by March 1, 2008 in accordance with FERC Order on Compliance Filing dated June 7, 2007 [Docket No. RR06-1-007] .~~

[12] The circumstances of the violator will include but not be limited to~~, as appropriate~~: the violator's aggregate and net Load~~load~~; and interconnections characteristics such as voltage class and transfer ratings.

question by the violator, NERC or the Regional Entity may at its discretion: (i) set the Base Penalty Amount to a value it deems appropriate within the initial value range set above pursuant to Section 43.1, or (ii) excuse the Penalty for the violation (i.e. set the Base Penalty Amount to $0$).

This relief will generally not be afforded to the violator if NERC or the Regional Entity determines that the violator has a poor internal compliance program or there is other evidence of a poor culture of compliance or compliance record; e.g. the circumstances discussed in Section 43.3.1 have been an aggravating factor in one or more previous Penalties assessed againstto the violator.

This relief will not be available for consideration in those instances where the violator has concealed or attempted to conceal the violation, failed or refused to comply with compliance directives from NERC or the Regional Entity, or intentionally violated for purposes other than a demonstrably good faith effort to avoid a significant and greater threat to the immediate reliability of the Bulk Power System.

### 4.33.3 Application of Adjustment Factors

Adjustment factors provide anthe opportunity tofor NERC or the Regional Entity to adjust the Base Penalty Amount to reflect the specific facts and circumstances material to each violation and violator.

These Sanction gGuidelines recognize and require that, as a minimum, NERC or the Regional Entity consider the following:

a. Repetitive violations and the violator's compliance history

b. Failure of the violator to comply with compliance directives

c. Disclosure of the violation by the violator through Sself-reportingdisclosure, or as the result of a compliance self-analysis following a Bulk Power System event, and voluntary Mitigating Activitiescorrective action, by the violator

d. Degree and quality of cooperation by the violator in the violation investigation and in any remedial actionMitigating Activities directed for the violation

e. The presence and quality of the violator's compliance program quality

f. Settlement

f.g. Any attempt by the violator to conceal the violation

g.h. Intentional violations

h.i. Extenuating circumstances

Two documents issued by United States regulatory agencies will be instructive to NERC and the Regional Entities when they are determining Penalties for violations of the Reliability Standards: the FERC's Policy Statement on Enforcement issued on October 20, 2005 under Docket No. PL06-00, and; U.S Securities and Exchange Commission (SEC) Release No. 44969 under the Securities and Exchange Act of 1934, issued on October 23 2001, also concurrently issued by the SEC as Release No. 1470 under Accounting and Auditing Enforcement.

NERC or the Regional Entity may also consider other additional factors it deems appropriate under the circumstances as long as their use is clearly identified and adequately justified. The effect of using these factors will alsomust be fully and clearly disclosed in the Notice of Penalty and supporting documents.

### ~~4.3.1~~3.3.1 Repetitive Violations and Compliance History

~~A bulleted point under Paragraph 20 of the FERC Policy Statement on Enforcement highlights repeat offenses by a violator.~~ If a violator has had repetitive infractions of the same or a closely-related Reliability Standard Requirement, particularly within a time frame defined within the Reliability Standard(s) or deemed appropriate by NERC or the Regional Entity in the absence of a definition of~~the Reliability Standard(s) defining the~~ a time frame in the relevant Reliability Standard, NERC or the Regional Entity shall consider an~~some~~ increase to the Penalty. In evaluating the violator's compliance history, NERC or the Regional Entity will take into account previous violations by affiliates of the violator, particularly violations of the same or similar Reliability Standard Requirements, and will evaluate whether any such prior violations reflect recurring conduct by affiliates that are operated by the same corporate entity or whose compliance activities are conducted by the same corporate entity.

The ~~term "violation~~ reset ~~time~~ period~~"~~ or reset time frame of a Reliability Standards Requirement may be defined or implied within a given Reliability Standard as~~to describe~~ the period of time generally required for a violator to continue operations without ~~incidence of further violation(s) of the~~violating a Reliability Standard~~s~~, particularly ~~of~~ the initial Reliability Standard violated or a similar Reliability Standard ~~violated,. in order to avoid~~Expiration of this reset period or reset time frame would serve to negate or minimize consideration of the violator's previous violation history for sanctioning purposes in the event of a subsequent violation(s). NERC or~~and~~ the Regional Entity~~ies~~ shall exercise appropriate judgment and discretion in this regard as warranted by the facts and circumstances, particularly where no reset ~~time~~ period or reset time frame is specifically set within the Reliability Standard violated. Repeat violations within violation reset ~~time~~ periods or reset time frames are aggravating factors in the determination of the Penalty or sanction~~ing~~. ~~Accordingly, a~~A violation history of no violations will produce no mitigation of the Penalty otherwise determined; a violation history of infrequent minor violations of lesser risk Requirements assessed lower VSL~~Violation Severity Level~~s may result in small or no increase; and a history of more frequent violations or previous violations of higher risk Requirements assessed more severe ~~Violation Severity Level~~VSLs will generally incur commensurately larger increases.

### ~~4.3.2~~3.3.2 Failure to Comply with a Remedial Action ~~Compliance~~ Directive~~s~~ or with Agreed Corrective or Mitigating Activity

If the violator has violated Reliability Standard Requirements despite~~notwithstanding having~~ receiv~~inged~~ related ~~compliance~~Remedial Action ~~d~~Directives or despite having agreed to corrective or Mitigating Activities for prior violations, ~~such as for remedial action from NERC or the Regional Entity,~~ NERC or the Regional Entity shall consider ~~some~~ increasinge ~~to~~ the Penalty.

### ~~4.3.3~~3.3.3 Disclosure of the Violation Through Self-Reporting~~Disclosure~~ and Voluntary Mitigating Activities by the Violator~~Corrective Action~~

NERC or the Regional Entity shall consider whether a violator ~~self-disclosed~~reported the violation by a Self-Report, prior to detection or intervention by NERC or the Regional Entity, and any Mitigating Activities voluntarily~~action~~ undertaken by the violator to correct the ~~situation~~noncompliance. ~~NERC or the Regional Entity will be instructed in their consideration of these factors by the text of Paragraphs 24 and 25 of the FERC Policy Statement on Enforcement.~~ As they deem warranted, NERC or the Regional Entity may reduce the violator's Penalty ~~consistent with the cited sections of the FERC policy~~. If a Self-Report or a Self-Certification submitted by the violator accurately identifies a violation of a Reliability Standard, an identification of the same violation in a subsequent Compliance Audit or Spot Check will not subject the violator to an escalated Penalty as a result of the

Compliance Audit or Spot Check process unless the severity of the violation is found to be greater than reported by the violator in the Self-Report or Self-Certification.

### ~~4.3.4~~3.3.4 Degree and Quality of Cooperation ~~in Violation Investigation and Remedial Action~~

NERC or the Regional Entity shall consider the degree and quality of the violator's cooperation with NERC or the Regional Entity in the investigation of the violation and any ~~remedial action~~Mitigating Activities arising from it. ~~NERC or the Regional Entity will be instructed in making their determination on this by the text of Paragraphs 26 and 27 of the FERC Policy Statement on Enforcement~~. NERC or the Regional Entity may adjust the violator's Penalty as they deem appropriate, which ~~warranted commensurate with the cited sections of the FERC policy statement. This~~ may result in an increase, a decrease or no change to the Penalty.

### ~~4.3.5~~3.3.5 Presence and Quality of Violator's Internal Compliance Program

NERC or the Regional Entity shall consider the presence and quality of the violator's internal compliance program, if any, and other indicators of the violator's culture of compliance. ~~NERC or the Regional Entity will be instructed in making their determination on this factor by the text of Paragraphs 22 and 23 of the FERC Policy Statement on Enforcement. As they deem warranted,~~ NERC or the Regional Entity may reduce the violator's Penalty as they deem appropriate.~~consistent with the cited sections of the FERC policy. Consistent with the FERC policy~~ However, NERC or the Regional Entity may not increase a violator's Penalty ~~specifically~~solely on the grounds that the violator has no internal compliance program or a poor quality program.

### 3.3.6 Settlement

NERC or the Regional Entity may consider a reduction in Penalty of the violator resolves the violation through settlement, taking into account the speed with which settlement was reached.

### ~~4.3.6~~3.3.7 Violation Concealment and Non-Responsiveness

~~Two bulleted points under Paragraph 20 of the FERC Policy Statement on Enforcement highlight misrepresentation of material facts and resistance or impediment to inquiry of a violation. When determining a Penalty NERC or the Regional Entity shall consider any concealment or attempt to conceal the violation, or information needed to investigate the violation, on the part of the violator.~~ NERC or the Regional Entity shall consider a significant increase to the Penalty ~~I~~if NERC or the Regional Entity determines, based on its review of the facts, that the violator concealed or attempted to conceal the violation or information necessary to investigate the violation. The presumption in such circumstances is to double~~, some significant increase to the Penalty shall be considered; doubling of the Penalty otherwise determined is suggested. Conduct of this nature on more than one occasion regarding one violation, or with respect to more than one violation, should incur an even larger increase to~~ the Penalty otherwise determined; however, NERC or the Regional Entity will determine the actual increase to the Penalty based on the particular facts and circumstances of the violation. Additionally, NERC or the Regional Entity shall consider an increase to the Penalty if NERC or the Regional Entity determines, based on its review of the facts, that the violator resisted or impeded the discovery and review of a violation.

### ~~4.3.7~~3.3.8 Intentional Violation

~~Another bulleted point under Paragraph 20 of the FERC Policy Statement on Enforcement highlights offenses as willful action by a violator.~~ When determining a Penalty NERC or the Regional Entity shall consider if the violator intentionally violated the Reliability

Standard~~without just cause; i.e.,~~ for purposes other than a demonstrably good faith effort to avoid a significant and greater threat to the immediate reliability of the Bulk Power System. If the violator engaged in such conduct, a~~some~~ significant increase to the Penalty shall be considered; the presumption in such cases is to doubl~~eing of~~ the Penalty otherwise determined ~~is suggested~~. If conduct of this nature has been detected on more than one occasion, NERC or the Regional Entity should assess an even larger increase to the Penalty ~~otherwise determined~~. NERC or the Regional Entity will determine the actual increase to the Penalty based on the particular facts and circumstances of each case.

NERC or the Regional Entity will consider violations attributable to an economic choice to violate as intentional violations. ~~Consistent with the FERC Policy Statement on Enforcement a~~Any Penalty issued involving conduct of this manner shall ~~as~~at a minimum disgorge any profits or economic benefits the violator acquired as a consequence of the behavior, whenever and to the extent that they can be determined or reasonably estimated.

### ~~4.3.8~~3.3.9 Extenuating Circumstances

NERC or the Regional Entity will consider any~~if there are~~ extenuating circumstances regarding the violation that justify reduction or elimination of the Penalty otherwise determined.

~~Consideration of adjusting a Penalty for this factor would be inconsistent with NERC or the Regional Entity increasing a Penalty after consideration of any other factor included in this section of these guidelines, such as intentional violation without justifiable cause or concealment or attempt to conceal.~~

## ~~4.4~~3.4 Setting of the Final Penalty Amount

The Adjusted Penalty Amount determined in Step 2 may be reviewed in light of the violator's financial ability to pay the Penalty. ~~Also, i~~If the violation ~~was~~resulted from an economic choice, NERC or the Regional Entity will ~~re~~confirm that the Penalty ~~set~~ will disgorge any unjust profits or economic benefits. At the conclusion of this review, if applicable, NERC or the Regional Entity will set the Final Penalty Amount ~~will be set~~.

### ~~4.4.1~~3.4.1 Violator's Financial Ability to Pay[13]

At the written request of the violator NERC or the Regional Entity will review the Penalty determined in Step 2 in light of relevant, verifiable information that the violator provides regarding its~~their~~ financial ability to pay. At the conclusion of this review NERC or the Regional Entity may:

1. Reduce the Penalty ~~payable~~ to an amount that NERC or the Regional Entity~~, as applicable,~~ deems that the violator has the financial ability to pay, or;
2. Excuse the Penalty amount payable, or;
3. Sustain the Penalty amount determined in Step 2.

~~Where the Penalty amount has been reduced or excused,~~If NERC or the Regional Entity reduces or excuses the Penalty, NERC or the Regional Entity shall consider the assessment of appropriate non-monetary sanction(s) as a substitute or an alternative for the Penalty amount otherwise considered appropriate ~~that has been excused or by which the Penalty has been reduced~~.

[13] NERC anticipates that this will be the primary vehicle for addressing the ability to pay of "not-for-profit" and other similar organizations.

### ~~4.4.2~~3.4.2 ~~Rec~~Confirmation of Disgorgement of Unjust Profit or Gain

Notwithstanding the application of any other consideration or factor applicable to the determination of a just and reasonable Penalty for the violation, if the violation in question involved an economic choice to violate a Reliability Standard, NERC or the Regional Entity shall ~~re~~confirm that the Penalty ~~set~~ meets the requirements set forth in ~~Parts 3.15 and 3.16 of~~ Sections 2.10 and 2.11 ~~3~~ of this document.

## ~~5.~~4. Determination of Non-Monetary Sanctions

The imposition of sanctions is not limited~~bounded~~ to monetary Penalties. Non-monetary sanctions ~~applied must~~ may be applied with the objective of promoting reliability and compliance with the Reliability Standards. Non-monetary sanctions may include~~, but not be limited to, the following:~~ limiting activities, functions, or operations, or placing the violator on a reliability watch list of significant violators.

~~a.Limitations on activities, functions, or operations~~

~~b.Placing an entity on a reliability watch list composed of major violators~~

# 6.Remedial Action Directives

## 6.1Definition and Anticipated Use

Remedial Action Directives are directives that may be issued to a Bulk Power System owner, operator, or user to resolve an Alleged Violation of a Reliability Standard by addressing conditions, practices, or any other relevant action or activity that is immediately necessary to terminate or correct to protect the reliability of the Bulk Power System from an imminent threat. A Remedial Action Directive will be issued when NERC or the Regional Entity identifies an Alleged Violation of a Reliability Standard that must be corrected immediately to protect the reliability of the Bulk Power System from the imminent threat that NERC or the Regional Entity has identified.

NERC or the Regional Entity will generally employ Remedial Action Directives where they deem it necessary to clearly specify minimum corrective actions that the subject of the Remedial Action Directive must take; additionally or alternatively a Remedial Action Directive may clearly specify timelines within which the Registered Entity must take specified actions, complete specified tasks, or achieve specified outcomes. Also, to the extent NERC or the Regional Entity is authorized to do so, a Remedial Action Directive may communicate Penalties, sanctions, or further Remedial Action Directives that may be imposed should the specific Remedial Action Directive not be complied with by those to whom it has been issued. As a rule of thumb, Remedial Action Directives will be of use to NERC or the Regional Entity whenever any significant combination of specificity, clarity, or time is of the essence to address a threat to the reliability of the Bulk Power System brought on by lack of or inadequate compliance to the Reliability Standards.

## 6.2Compliance Requirements

In the United States, the Commission has concluded that owners, operators, or users of the Bulk Power System must comply with Remedial Action Directives issued to them by NERC or a Regional Entity. Noncompliance with a Remedial Action Directive may result in a substantially increased Penalty or sanction.

Remedial Action Directives issued by NERC or the Regional Entity will include a deadline by which time the owner, operator, or user must complete requirements set out in the Remedial Action Directive, and by which time the Registered Entity must demonstrate compliance to the Remedial Action Directive to NERC or the Regional Entity that issued it. Failure or refusal to meet the requirements or deadlines set out in a Remedial Action Directive may itself result in further Remedial Action Directives or significantly increased Penalties or sanctions by NERC or the Regional Entity.

## 6.3No Obligation to Issue

NERC or the Regional Entity may, but is not obligated, to issue Remedial Action Directives. Lack of being issued a Remedial Action Directive does not relieve a Bulk Power System owner, operator, or user from any responsibilities they otherwise have to comply or maintain compliance with Requirements of the Reliability Standards. Remedial Action Directives will be used by NERC or the Regional Entities only as they deem warranted, when they deem warranted.

## 6.4Scope of Application

The scope of Remedial Action Directives issued by NERC or the Regional Entity will be limited to conditions, practices, or any other relevant actions or activities resulting in noncompliance, or that NERC or the Regional Entity considers at significant risk of becoming noncompliant, to Requirements of the Reliability Standards, and that present an imminent threat to the reliability of the Bulk Power System. However, beyond merely directing compliance or improved compliance with Reliability Standards' Requirements, where NERC or the Regional Entity is authorized to do so, the Remedial Action Directive may also stipulate how compliance or the improvement to compliance is to be achieved.

### ~~6.5Availability~~

~~In the United States, the Commission has interpreted the Federal Power Act to authorize the NERC or the Regional Entity can issue a Remedial Action Directive prior to completion of the confirmation review of a probable violation, or prior to the determination of a Penalty or sanction for that violation. The Commission also concluded it is not necessary for NERC or the Regional Entity to acquire the Commission's or other regulators' approval prior to issuing Remedial Action Directives. Accordingly, NERC or the Regional Entity may issue Remedial Action Directives to Registered Entities in the United States whenever they deem it necessary or otherwise warranted to do so. Also, NERC or the Regional Entity may issue Remedial Action Directives to Registered Entities in the United States regarding a violation that is immediately necessary to terminate or correct to protect the reliability of the Bulk Power System from an imminent threat, irrespective of whether that violation is ultimately verified or dismissed by NERC or the Regional Entity's investigation of the violation.~~

### ~~6.6No Impact on Confirmation of Violation, or Penalties or Sanctions~~

~~Remedial Action Directives issued regarding a violation, in particular any costs incurred by the violator to comply with any such Remedial Action Directive, will not be considered when reviewing whether the aggregate of any Penalties and sanctions levied for that violation bear a reasonable relation to the seriousness of the violation. Also, any Remedial Action Directives issued with respect to a violation will not influence the outcome of the confirmation review of that violation nor the determination of Penalties or sanctions for that violation; ordering a violator to correct what needs correcting anyway is no grounds for dispelling a violation nor reducing or eliminating a Penalty or sanction that would otherwise be determined appropriate for the violator for that violation.~~

### ~~6.7Types of Remedial Actions~~

~~NERC or the Regional Entities may issue Remedial Action Directives to correct compliance with NERC or Regional Reliability Standards and reduce or eliminate imminent threats to the reliability of the Bulk Power System. Examples of Remedial Action Directives include:~~

~~a.Specifying operating or planning criteria, limits, or limitations~~

~~b.Requiring specific system studies~~

~~c.Defining operating practices or guidelines~~

~~d.Requiring confirmation of data, practices, or procedures through inspection testing or other methods~~

~~e.Requiring specific training for personnel~~

~~f.Requiring development of specific operating plans~~

## Appendix A: Base Penalty Amount Table

The following lists the Base Penalty amounts corresponding to combinations of Violation Risk Factor and Violation Severity Level.

| Violation Risk Factor | Violation Severity Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Lower | | Moderate | | High | | Severe | |
| | Range Limits | | Range Limits | | Range Limits | | Range Limits | |
| | Low | High | Low | High | Low | High | Low | High |
| Lower | $1,000 | $3,000 | $2,000 | $7,500 | $3,000 | $15,000 | $5,000 | $25,000 |
| Medium | $2,000 | $30,000 | $4,000 | $100,000 | $6,000 | $200,000 | $10,000 | $335,000 |
| High | $4,000 | $125,000 | $8,000 | $300,000 | $12,000 | $625,000 | $20,000 | $1,000,000 |

NOTE: This table describes the amount of Penalty that could be applied for each day that a violation continues, subject to the considerations of Section ~~3.21~~2.16 regarding frequency and duration of violations.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

**Proposed Revisions 3-05-2012**

# North American Electric Reliability Corporation

# Compliance Monitoring and Enforcement Program

# APPENDIX 4C TO THE RULES OF PROCEDURE

## Effective: January 31, 2012

## TABLE OF CONTENTS


1.0 INTRODUCTION ..... 3
1.1 Definitions ..... 3
2.0 IDENTIFICATION OF ORGANIZATIONS RESPONSIBLE FOR COMPLYING WITH RELIABILITY STANDARDS ..... 7
3.0 COMPLIANCE MONITORING PROCESSES ..... 8
3.1 Compliance Audits ..... 9
3.2 Self-Certifications ..... 16
3.3 Spot Checks ..... 18
3.4 Compliance Investigations ..... 20
3.5 Self-Reports ..... 23
3.6 Periodic Data Submittals ..... 24
3.7 Complaints ..... 26
3.8 Preliminary Screen ..... 27
4.0 ANNUAL IMPLEMENTATION PLANS ..... 28
4.1 NERC Compliance Monitoring and Enforcement Program Implementation Plan ..... 28
4.2 Regional Implementation Plan ..... 28
5.0 ENFORCEMENT ACTIONS ..... 28
5.1 Notice of Possible Violation ..... 30
5.2 Assessment of Possible Violation ..... 30
5.3 Notification to Registered Entity of Alleged Violation ..... 30
5.4 Registered Entity Response ..... 32
5.5 Hearing Process for Compliance Hearings ..... 33
5.6 Settlement Process ..... 33
5.7 NERC Appeal Process ..... 34
5.8 Notification of Confirmed Violation ..... 35
5.9 Notice of Penalty ..... 35
5.10 Completion of Enforcement Action ..... 36
5.11 Special Procedures for an Enforcement Action Against an ISO/RTO Where the Monetary Penalty May be Allocated by the ISO/RTO to Other Entities ..... 37
6.0 MITIGATION OF VIOLATIONS OF RELIABILITY STANDARDS ..... 41
6.1 Requirement for Submission of Mitigation Plans ..... 42
6.2 Contents of Mitigation Plans ..... 42
6.3 Timetable for Completion of Mitigation Plans ..... 43
6.4 Submission of Mitigation Plans ..... 44
6.5 Review and Acceptance or Rejection of Proposed Mitigation Plans ..... 44
6.6 Completion/Confirmation of Implementation of Mitigation Plans ..... 45
6.7 Recordkeeping ..... 46
7.0 REMEDIAL ACTION DIRECTIVES ..... 46
8.0 REPORTING AND DISCLOSURE ..... 48
8.1 Information to be Reported ..... 48
8.2 Reporting to Applicable Governmental Authorities and Public Disclosure ..... 49
9.0 DATA RETENTION AND CONFIDENTIALITY ..... 50
9.1 Records Management ..... 50

9.2 Retention Requirements ..... 50
9.3 Confidentiality and Critical Energy Infrastructure Information ..... 50

ATTACHMENT 1 – PROCESS FOR NON-SUBMITTAL OF REQUESTED DATA

ATTACHMENT 2 – COMPLIANCE ENFORCEMENT AUTHORITY HEARING PROCEDURE

# COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM

## 1.0 INTRODUCTION

This Compliance Monitoring and Enforcement Program ("Compliance Program") is the program to be used by the North American Electric Reliability Corporation ("NERC") and the Regional Entities to monitor, assess, and enforce compliance with Reliability Standards within the United States. Compliance Monitoring and Enforcement Programs also will be implemented in Canada consistent with Canadian laws and agreements.

### 1.1 Definitions

Capitalized terms used in this Compliance Program shall have the meanings set forth in Appendix 2 of the NERC Rules of Procedure. For convenience of reference, defined terms frequently used in this Appendix are also set forth below:

**1.1.1** Alleged Violation: A Possible Violation for which the Compliance Enforcement Authority has determined, based on an assessment of the facts and circumstances surrounding the Possible Violation, that evidence exists to indicate a Registered Entity has violated a Reliability Standard.

**1.1.2** Annual Audit Plan: A plan developed annually by the Compliance Enforcement Authority that includes the Reliability Standards and Registered Entities to be audited~~,~~ and the schedule of Compliance Audits~~, and Compliance Audit Participant requirements~~ for the calendar year.

**1.1.3** Applicable Governmental Authority: The Federal Energy Regulatory Commission ("FERC") within the United States and the appropriate governmental authority with subject matter jurisdiction over reliability in Canada and Mexico.

**1.1.4** Complaint: An allegation that a Registered Entity violated a Reliability Standard.

**1.1.5** Compliance Audit: A systematic, objective review and examination of records and activities to determine whether a Registered Entity meets the Requirements of applicable Reliability Standards.

**1.1.6** Compliance Audit Participants: Registered Entities scheduled to be audited and the audit team members.

**1.1.7** Compliance Enforcement Authority: NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

**1.1.8** Compliance Investigation: A comprehensive investigation, which may include an on-site visit with interviews of the appropriate personnel, to determine if a violation of a Reliability Standard has occurred.

**1.1.9** Confirmed Violation: An Alleged Violation for which (1) ~~an~~the Registered ~~e~~Entity has~~: (1)~~ accepted or not contested the Notice of Alleged Violation and Proposed Penalty or Sanction or other notification of the Alleged Violation~~finding of the violation by a Regional Entity or NERC and will not seek an appeal~~, or (2) there has been the issuance of a final order from NERC or a Regional Entity Hearing Body finding a violation, Penalty or sanction~~completed the hearing and appeals process within NERC~~, or (3) ~~allowed~~ the period~~time~~ for requesting a hearing or ~~submitting~~ an appeal has~~to~~ expired, or (4) the Registered Entity has executed a settlement agreement pursuant to Section 5.6~~admitted to the violation in a settlement agreement~~.

**1.1.10** End Date: The last date of the period to be covered in a Compliance Audit.

**1.1.11** Exception Report~~ing~~: Information provided to the Compliance Enforcement Authority by a Registered Entity indicating that a violation of a Reliability Standard has occurred (e.g., a System Operating Limit has been exceeded) or enabling the Compliance Enforcement Authority to ascertain the Registered Entity's compliance.

**1.1.12** ISO/RTO: An independent transmission system operator or regional transmission organization approved by the FERC or the Public Utility Commission of Texas.

**1.1.13** Mitigating Activities: Actions taken by a Registered Entity to correct and prevent recurrence of a noncompliance, whether or not the actions are embodied in a Mitigation Plan.

~~1.1.12~~**1.1.14** Mitigation Plan: An action plan~~, required when a Registered Entity violates a Reliability Standard as determined by any means including Compliance Enforcement Authority decision, settlement agreement, or otherwise, that is~~ developed by the Registered Entity to (1) correct a violation of a Reliability Standard and (2) prevent re-occurrence of the violation.

~~1.1.13~~**1.1.15** NERC Compliance Registry: A list, maintained by NERC pursuant to Section 500 of the NERC Rules of Procedure and Appendix 5B, the NERC *Statement of Compliance Registry Criteria*, of the owners, operators and users of the Bulk Power System, and the entities registered as their designees, that perform one or more functions in support of reliability of the Bulk Power System and are required to comply with one or more Requirements of Reliability Standards.

~~1.1.14~~**1.1.16** NERC Compliance Monitoring and Enforcement Program Implementation Plan or NERC Implementation Plan: The annual NERC Compliance Monitoring and Enforcement Program Implementation Plan that specifies the Reliability Standards that are subject to reporting by Registered Entities to the Compliance Enforcement Authority in order to verify compliance and identifies the appropriate monitoring procedures and reporting schedules for each such Reliability Standard.

~~1.1.15~~**1.1.17** Notice of Alleged Violation and Proposed Penalty or Sanction: A notice issued by the Compliance Enforcement Authority to a Registered Entity pursuant to Section 5.3.

~~**1.1.16**~~**1.1.18** Notice of Completion of Enforcement Action: A notice issued by the Compliance Enforcement Authority to a Registered Entity, pursuant to Section 5.10, stating than an enforcement action is closed.

~~**1.1.17**~~**1.1.19** Notice of Confirmed Violation: A notice issued by the Compliance Enforcement Authority to a Registered Entity confirming the violation of one or more Reliability Standards~~, as a result of (1) the Registered Entity accepting a Notice of Alleged Violation and the proposed Penalty or sanction, or (2) the finding of a violation through a hearing and appeal, or (3) the expiration of the period for requesting a hearing or an appeal, or (4) the Registered Entity admitting the violation as part of an executed settlement agreement~~.

~~1.1.18~~**1.1.20** Notice of Penalty: A notice prepared by NERC and filed with FERC, following approval by NERC of a Notice or other notification of Confirmed Violation or a settlement agreement, stating the Penalty or sanction imposed or agreed to for the Confirmed Violation or as part of the settlement.

**1.1.~~19~~21** Notice of Possible Violation: A notice issued by the Compliance Enforcement Authority to a Registered Entity that (1) states a Possible Violation has been identified, (2) provides a brief description of the Possible Violation, including the Reliability Standard Requirement(s) and the date(s) involved, and (3) instructs the Registered Entity to retain and preserve all data and records relating to the Possible Violation.

~~1.1.20~~**1.1.22** Periodic Data Submittals: Modeling, studies, analyses, documents, procedures, methodologies, operating data, process information or other information to demonstrate compliance with Reliability Standards and provided by Registered Entities to the Compliance Enforcement Authority on a time frame required by a Reliability Standard or an ad hoc basis.

**1.1.~~21~~23** Possible Violation: The identification, by the Compliance Enforcement Authority, ~~using one of the compliance monitoring and enforcement processes in Section 3.0,~~ of a possible failure by a Registered Entity to comply with a Reliability Standard that is applicable to the Registered Entity.

~~1.1.22~~**1.1.24** Preliminary Screen: An initial evaluation of evidence indicating potential noncompliance with a Reliability Standard has occurred or is occurring, conducted by the Compliance Enforcement Authority for the purpose of determining whether a Possible Violation exists, and consisting of an evaluation of whether (1) the entity allegedly involved in the potential noncompliance is registered, ~~and~~ (2) the Reliability Standard Requirement to which the evidence of potential noncompliance relates is applicable to a reliability function for which the entity is registered, and (3) if known, the potential noncompliance is not a duplicate of a Possible Violation or Alleged Violation which is currently being processed.

~~1.1.23~~**1.1.25** Regional Implementation Plan: An annual plan, submitted by on or about October~~November~~ 1 of each year to NERC for approval that, in accordance with NERC Rule of Procedure Section 401.6 and the NERC Compliance Monitoring and Enforcement Program Implementation Plan, identifies (1) all Reliability Standards identified by NERC to be actively monitored during each year, (2) other Reliability Standards proposed for active monitoring by the Regional Entity, (3) the methods to be used by the Regional Entity for reporting, monitoring, evaluation, and assessment of performance criteria with each Reliability Standard, and (4) the Regional Entity's Annual Audit Plan.

~~1.1.24~~**1.1.26** Registered Entity: An owner, operator, or user of the Bulk Power System, or the entity registered as its designee for the purpose of compliance, that is included in the NERC Compliance Registry.

~~1.1.25~~**1.1.27** Remedial Action Directive: An action (other than a Penalty or sanction) required by a Compliance Enforcement Authority that (1) is to bring a Registered Entity into compliance with a Reliability Standard or to avoid a Reliability Standard violation, and (2) is immediately necessary to protect the reliability of the Bulk Power System from an imminent or actual threat.

~~1.1.26~~**1.1.28** Required Date: The date given a Registered Entity in a notice from the Compliance Enforcement Authority by which some action by the Registered Entity is required.

~~1.1.27~~**1.1.29** Self-Certification: An attestation by a Registered Entity that it is compliant or non-compliant ~~of compliance or non-compliance~~ with a Reliability Standard Requirement that is the subject of the~~for which~~

Self-Certification, or that it does not own Facilities that are subject to the Reliability Standard Requirement, or that the Reliability Standard Requirement is not applicable to the Registered Entity ~~is required by the Compliance Enforcement Authority and that is included for monitoring in the Regional Implementation Plan~~.

~~1.1.28~~**1.1.30** Self-Report~~ing~~: A report by a Registered Entity stating ~~(1)~~ that the Registered Entity believes it has, or may have, violated a Reliability Standard~~, and (2) the actions that have been taken or will be taken to resolve the violation~~.

~~1.1.29~~**1.1.31** Spot Check~~ing~~: A process in which the Compliance Enforcement Authority requests a Registered Entity to provide information (1) to support the Registered Entity's Self-Certification, Self-Report~~ing~~, or Periodic Data Submittal and to assess whether the Registered Entity complies with Reliability Standards, or (2) as a random check, or (3) in response to ~~events, as described in the Reliability Standards or based on~~ operating problems or system events.

## 2.0 IDENTIFICATION OF ORGANIZATIONS RESPONSIBLE FOR COMPLYING WITH RELIABILITY STANDARDS

NERC shall register the organizations responsible for complying with Reliability Standards, in accordance with Section 500 of the NERC Rules of Procedure and Appendix 5B, *Statement of Compliance Registry Criteria*. Organizations are responsible to register and to comply with Reliability Standards if they are owners, operators, and users of the Bulk Power System, perform a function listed in the functional types identified in Section II of Appendix 5B, and are material to the Reliable Operation of the Bulk Power System as defined by the criteria and notes in Appendix 5B. Regional Entities shall (i) develop and provide to NERC information to assist NERC to register organizations responsible for complying with Reliability Standards, and (ii) in the event of a Registration appeal to NERC or an Applicable Governmental Authority, provide information requested by NERC concerning how the Registered Entity meets the Registration criteria or is otherwise material to the reliability of the Bulk Power System.

NERC shall notify organizations of their inclusion on the NERC Compliance Registry and shall maintain the NERC Compliance Registry on its web site. NERC shall inform each Registered Entity at the time of Registration of the Reliability Standards that are applicable to reliability functions for which the Registered Entity is registered. Each Registered Entity shall inform NERC or the applicable Regional Entity promptly of changes to the Registered Entity's Registration information including planned or completed changes in ownership of Bulk Power System Facilities, Registration status, address and other contact information, and name of designated compliance contact. NERC will provide FERC and Applicable Governmental Authorities monthly updates to the NERC Compliance Registry.

NERC and each Regional Entity will designate a contact person(s) and require each Registered Entity to designate a contact person(s) responsible for sending and receiving all necessary

information and communications concerning compliance matters. NERC and the applicable Regional Entity will designate where Registered Entities are to send information, data, Mitigation Plans, or any other compliance-related correspondence.

NERC shall maintain on its website a current listing of Reliability Standards that are applicable to all Registered Entities.

As provided for herein, during the course of compliance monitoring and enforcement activities relating to U.S. entities, NERC may obtain information that it will provide to FERC and, if the information pertains to a Registered Entity or to a portion of the Bulk Power System over which another Applicable Governmental Authority has jurisdiction, to such other Applicable Governmental Authority. Any such provision of information to FERC or to another Applicable Governmental Authority shall be in accordance with Section 8.0, Reporting and Disclosure. ~~However, NERC will not provide non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to Applicable Governmental Authorities other than FERC without first obtaining permission from FERC for such disclosures and subject to such limitations as FERC may place on such disclosures. Similarly, during the course of compliance monitoring and enforcement activities relating to non-U.S. entities, NERC may obtain information that it will provide to the Applicable Governmental Authorities, including FERC, that have jurisdiction over the Registered Entity or the portion of the Bulk Power System to which the information pertains, but subject to any limitations placed on the disclosure of non-public, non-U.S. compliance information by the Applicable Governmental Authority with jurisdiction or by other law of the applicable jurisdiction. In any notice to, and request for permission to disclose compliance information from, FERC or another Applicable Governmental Authority pursuant to any provision of this Compliance Program, NERC will identify each Applicable Governmental Authority to which it proposes to disclose the information and the specific procedures that will be used for protecting from public disclosure any non-public compliance information that will be transferred to the other Applicable Governmental Authority or Authorities. The provisions of this paragraph do not apply to the provision by NERC to an Applicable Governmental Authority of information that is not directly related to a specific Registered Entity's compliance with a Requirement of a Reliability Standard.~~

## 3.0 COMPLIANCE MONITORING ~~AND ENFORCEMENT~~ PROCESSES

The Compliance Enforcement Authority will monitor~~, assess, and enforce~~ Registered Entities' compliance with Reliability Standards using the compliance monitoring processes described in this Section ~~3.0 to collect information in order to make assessments of compliance. These processes are described in Sections 3.1 through 3.8 below~~.

If a compliance monitoring process described in this Section reveals a potential noncompliance with a Reliability Standard, the Compliance Enforcement Authority will conduct a Preliminary Screen of the potential noncompliance in accordance with Section 3.8. In addition, if the Compliance Enforcement Authority obtains evidence or information of a potential noncompliance with a Reliability Standard through any other means, including but not limited to an Exception Report or other report of noncompliance that a Registered Entity is required to submit in accordance with the terms of a Reliability Standard, the Compliance Enforcement Authority will conduct a Preliminary Screen of the information in accordance with Section 3.8. If the Preliminary Screen results in an affirmative determination with respect to the Preliminary

Screen criteria, a Possible Violation exists and the Compliance Enforcement Authority will proceed in accordance with Section 5.0, Enforcement Actions.

~~Enforcement actions taken by the Compliance Enforcement Authority through the Compliance Program may include the imposition of remedial actions, sanctions, and Penalties, where applicable, which shall be based on the schedule of Penalties and sanctions approved for implementation by FERC and other Applicable Governmental Authorities. The imposition and acceptance of sanctions and Penalties shall not be considered an acceptable alternative to any Registered Entity's continuing obligation to comply with the Reliability Standards.~~ Registered Entities found in violation of a Reliability Standard will be required to mitigate the violation regardless of any enforcement actions taken.

The ~~C~~compliance monitoring processes in this Section ~~Program~~ require~~s~~ timely information, reports and data from Registered Entities to effectively monitor compliance with Reliability Standards. The Compliance Enforcement Authority has authority to collect Documents, data and information in the manner it deems most appropriate, including requesting copies of Documents, data and information to be made and removing those copies from the Registered Entity's location in accordance with appropriate security procedures conforming to Section 1500 of the Rules of Procedure and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the Documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost of the information were placed into the public domain. If Documents, data, information or other reports to determine compliance requested from a Registered Entity are not received by the Required Date, the Compliance Enforcement Authority may execute the steps described in **Attachment 1, Process for Non-submittal of Requested Data.**

Parties engaged in the process described in this section should consult with each other on the data and information that would be appropriate for effectively addressing this section's process requirements. If a ~~party~~Registered Entity believes that a request for Documents, data or information is unreasonable, the ~~party~~Registered Entity may request a written determination from the NERC general counsel~~compliance program officer~~.

Any report or other submission of information by a Registered Entity required by the Compliance Program shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity. Electronic signatures are permitted in accordance with processes established by NERC and the Regional Entity. NERC or the Compliance Enforcement Authority may require the signer to provide a statement of the basis of his or her authority to sign on behalf of the Registered Entity.

### 3.1 Compliance Audits

All Registered Entities are subject to audit for compliance with all Reliability Standards applicable to the functions for which the Registered Entity is registered. Compliance Audits are conducted on the Registered Entity's site to the extent required by NERC Rule of Procedure 403.11.2. Compliance Audit processes for Compliance Audits conducted in the United States shall be based on professional auditing standards recognized in the U.S., which may include~~ing~~ for example Generally Accepted Auditing Standards, Generally Accepted Government Auditing

Standards and standards sanctioned by the Institute of Internal Auditors. Compliance Audit processes for Compliance Audits conducted outside the U.S. may be based on Canadian or other international standards. All Compliance Audits shall be conducted in accordance with audit guides established for the Reliability Standards included in the Compliance Audit, consistent with accepted auditing guidelines as approved by NERC. The audit guides will be posted on NERC's website.

### 3.1.1 Compliance Audit Process Steps

The process steps for a Compliance Audit are as follows:[1]

- The Compliance Enforcement Authority poststo the Annual Audit Plan (developed in coordination with NERC) to the Compliance Audit Participants and NERC. The Compliance Enforcement Authority provides additional information to the Compliance Audit Participants, including Compliance Audit materials, coordinating agendas and changes to the Compliance Audit schedule as required. Prior to the Compliance Audit, the Compliance Enforcement Authority informs the Registered Entity of the Reliability Standards to be evaluated. NERC or the Regional Entity provides the Compliance Audit schedules to FERC and to any other Applicable Governmental Authority based upon the agreements in place with the other Applicable Governmental Authority.

- At least two (2) monthsninety (90) days prior to commencement of a regularly scheduled Compliance Audit, the Compliance Enforcement Authority notifies the Registered Entity of the Compliance Audit and the Reliability Standards to be evaluated, identifies the Compliance Audit team members and their recent employment history, and requests data, including a completed NERC pre-Compliance Audit questionnaire. If the Compliance Audit team members change from the time of the original notification, the Compliance Enforcement Authority will promptly notify the Registered Entity of the change and will allow time for the Registered Entity to object to the new Compliance Audit team member(s) (see Section 3.1.5.4).

- The Registered Entity provides to the Compliance Enforcement Authority the required information in the format and by the Required Date specified in the request.

- The Compliance Audit team reviews the submitted information for conformance with the Requirements of the Reliability Standards prior to performing the Compliance Audit. The Compliance Audit team follows NERC Compliance Audit guidelines in the implementation of the Compliance Audit.

- ThisThe Compliance Audit team shall include conductsing an exit briefing with the Registered Entity, providesing for a review of the Compliance Audit report with the Registered Entity before it is finalized, and completesissuing a Compliance Audit report

[1] This process normally completes within sixty (60) days of the completion of the on-site Compliance Audit work at the Registered Entity's site.

in accordance with Section 3.1.6~~, including an assessment of compliance with the Reliability Standards, to the Compliance Enforcement Authority~~.

- If the Compliance Audit Team identifies evidence of a potential noncompliance with a Reliability Standard Requirement by the Registered Entity, the Compliance Enforcement Authority conducts a Preliminary Screen of the potential noncompliance in accordance with Section 3.8.

~~The Compliance Enforcement Authority reviews the report developed by the Compliance Audit team and completes a Preliminary Screen for any Possible Violations of Reliability Standards, based on the potential noncompliances with Reliability Standards (if any) identified in the report.~~

- ~~If the Compliance Enforcement Authority concludes that there is a Possible Violation of a Reliability Standard, it shall send the Registered Entity a Notice of Possible Violation.~~

~~The Compliance Enforcement Authority provides the final Compliance Audit report to the Registered Entity and to NERC.~~

### 3.1.2 Compliance Enforcement Authority Annual Audit Plan and Schedule

The Compliance Enforcement Authority shall develop an Annual Audit Plan. The Annual Audit Plan of Regional Entities will be included in the Regional Implementation Plans submitted to NERC for review and approval (see Section 4.2). NERC or the Regional Entity provides the Annual Audit Plans to FERC and to any other Applicable Governmental Authority consistent with the agreements in place with the Applicable Governmental Authority.

Prior to ~~January~~October 1 of the year preceding the year covered by the Annual Audit Plan, the Compliance Enforcement Authority shall notify Registered Entities subject to Compliance Audits during the upcoming year~~,~~ of the Compliance Audit schedule~~s, methods, and data requirements for the Compliance Audit~~. The Compliance Enforcement Authority will give due consideration to any schedule changes requested by Registered Entities for reasonable cause~~to avoid unnecessary burdens~~.

Revisions and additions to a Regional Entity Annual Audit Plan shall be communicated to and approved by NERC, and shall be communicated to the Registered Entity~~ shall be notified~~ in a timely manner (normally sixty (60) days in advance) of changes or revisions to scheduled Compliance Audit dates.

### 3.1.3 Frequency of Compliance Audits

The Compliance Enforcement Authority will perform comprehensive Compliance Audits as required by the NERC Rules of Procedure and based on criteria established by NERC. In addition to scheduled Compliance Audits, the Compliance Enforcement Authority~~ Additionally,~~ (i) may initiate an unscheduled Compliance Audit of any Registered Entity~~ (i) may be initiated~~ at any time ~~by the Compliance Enforcement Authority~~ if the Compliance Enforcement Authority reasonably determine~~d~~ it to be necessary to ensure the Registered Entity's compliance with

Reliability Standards, and (ii) shall ~~be~~ initiate~~d by the~~ an unscheduled Compliance Audit~~Enforcement Authority or by NERC~~ if directed by FERC. The Compliance Enforcement Authority shall notify NERC and FERC ~~P~~prior to or on the same date it notifies the Registered Entity that an unscheduled Compliance Audit is being initiated~~, the Compliance Enforcement Authority shall notify NERC and FERC that an unscheduled Compliance Audit is being initiated~~. If NERC initiates the unscheduled Compliance Audit, it shall notify the appropriate Regional Entity or Entities. The ~~Registered Entity~~Compliance Enforcement Authority shall provide~~receive~~ at least ten (10) business days advance notice to the Registered Entity that an unscheduled Compliance Audit is being initiated, which notice shall include identification of the members of the Compliance Audit team. ~~The Registered Entity shall make any objections to the composition of the Compliance Audit team, which shall be based on failure to meet the criteria specified in Section 3.1.5.2, at least five (5) business days prior to the start of on-site audit work for the unscheduled Compliance Audit.~~

### 3.1.4 Scope of Compliance Audits

#### 3.1.4.1 Reliability Standards

A Compliance Audit shall include those Reliability Standards applicable to the Registered Entity that are identified in the NERC Implementation Plan for the current year, and may include other Reliability Standards applicable to the Registered Entity whether or not they ~~that~~ are identified in the Regional Entity's Regional Implementation Plan for the current year. ~~The Compliance Audit may include any other Reliability Standards that are applicable to the Registered Entity.~~

#### 3.1.4.2 Period Covered

The Registered Entity's data and information ~~should~~must show compliance with the Reliability Standards that are the subject of the Compliance Audit for the entire period covered by the Compliance Audit. The Compliance Enforcement Authority will indicate the beginning and End Date of the audit period in its notice of the Compliance Audit. The audit period begin~~sning with~~ the day after the End Date of the prior Compliance Audit by the Compliance Enforcement Authority ~~ended~~ (or the later of June 18, 2007 or the date the Registered Entity~~'s date of registration~~ became subject to Reliability Standards if the Registered Entity has not previously been subject to a Compliance Audit)~~, and ending with the End Date for the Compliance Audit. However, if another compliance monitoring and enforcement process has been conducted with respect to the Registered Entity subsequent to the date that would otherwise be the start of the period, the period covered by the Compliance Audit may, in the Regional Entity's discretion, begin with the completion of that compliance monitoring and enforcement process for those Reliability Standards requirements that were the subject of the compliance monitoring and enforcement process~~. The audit period will not begin prior to the End Date of the previous Compliance Audit. The Compliance Enforcement Authority may modify the beginning date of the audit period for any given Reliability Standard Requirement based on an intervening compliance monitoring process. The End Date should be a specified date prior to the scheduled start of the Compliance Audit, such as the date of the notification ~~will be stated in the Compliance Enforcement Authority's notification of the Compliance Audit~~ issued to the Registered Entity pursuant to Section 3.1.1l or the date that is thirty (30) days following the date of the notification.

The Registered Entity will be expected to demonstrate compliance for the entire period described above. ~~However, i~~If a Reliability Standard specifies a document retention period that does not cover the entire period described above, the Registered Entity will not be found in noncompliance solely on the basis of the lack of specific information that has rightfully not been retained based on the retention period specified in the Reliability Standard. However, in such cases, the Compliance Enforcement Authority will require the Registered Entity to demonstrate compliance through other means. In addition, if the Compliance Audit team discovers a potential noncompliance occurring subsequent to the End Date, the potential noncompliance will be subject to a Preliminary Screen pursuant to Section 3.8.

#### 3.1.4.3 Review of Mitigation~~on Plans~~Activities

The Compliance Audit ~~will~~may include a review of any Mitigating Activities~~Mitigation Plans~~ which the Registered Entity has not yet completed, for the purpose of determining whether the Registered Entity is making adequate progress towards completion of the Mitigating Activities~~Mitigation Plan~~.

### 3.1.5 Conduct of Compliance Audits

#### 3.1.5.1 Composition of Compliance Audit Teams

The Compliance Audit team shall be comprised of ~~staff from~~members whom the Compliance Enforcement Authority has determined have the requisite knowledge, training and skills to conduct the Compliance Audit.~~and such other persons as are included in t~~The Compliance Audit team ~~pursuant to Section 3.1.5.3, and~~ may include (i) contractors and industry subject matter experts~~, as determined by the Compliance Enforcement Authority to be appropriate to comprise a sufficient Compliance Audit team.~~ (ii) NERC staff members (which may include contractors to NERC), (iii) compliance staff members of other Regional Entities, and (iv) representatives of FERC and other Applicable Governmental Authorities so long as the Registered Entity is subject to the Applicable Governmental Authority's reliability jurisdiction. The Compliance Audit team leader shall be a staff member from the Compliance Enforcement Authority and is responsible for the conduct of the Compliance Audit and preparation of the Compliance Audit report.

#### 3.1.5.2 Requirements for Compliance Audit Team Members

Each Compliance Audit team member must:

- Be free of conflicts of interests in accordance with the Compliance Enforcement Authority policies. ~~For example, e~~Employees or contractors of the Registered Entity being audited shall not be allowed to participate as auditors in the Compliance Audit of the Registered Entity.

- Comply with the NERC Antitrust Compliance Guidelines and shall have either signed appropriate confidentiality agreements or acknowledgments that the confidentiality agreement signed by the Compliance Enforcement Authority is applicable.

- Successfully complete all NERC or NERC-approved Regional Entity auditor training applicable to the Compliance Audit.

- ~~Provide copies of~~Prior to the Compliance Audit, the Compliance Enforcement Authority shall provide confirmation to the Registered Entity that all Compliance Audit team members have executed confidentiality agreements or acknowledgements ~~to be provided to the Registered Entity prior to the Compliance Audit~~.

#### 3.1.5.3 Compliance Audit Observers and~~or~~ Other Attendees ~~Participants~~

In any Regional Entity Compliance Audit of a Registered Entity, in addition to the Compliance Audit team members, the following may participate as observers: (i) NERC Staff (which may include contractors to NERC) ~~may participate either as observers or as Compliance Audit team members~~; (ii) other members of the Regional Entity's Compliance Staff~~, in addition to the Compliance Audit team, may participate as observers~~; (iii) with the permission of the Regional Entity, Compliance Staff members of other Regional Entities ~~may participate either as observers or as Compliance Audit team members~~; and (iv) representatives of FERC and of other Applicable Governmental Authorities ~~may participate either as observers or as Compliance Audit team members~~ so long as the Registered Entity is subject to the Applicable Governmental Authority's reliability jurisdiction. Any members of NERC staff, Regional Entity Compliance Staff, or Compliance Staffs of other Regional Entities or representatives of FERC or other Applicable Governmental Authorities who are not Compliance Audit team members identified pursuant to Section 3.1.1 are observers.

In addition, at the request of the Registered Entity being audited, the Regional Entity may allow attendance at the Compliance Audit by: (1) representatives of corporate affiliates of the Registered Entity being audited that are Registered Entities or that provide compliance services, support or oversight to the Registered Entity being audited, and (2) representatives of Registered Entities whose compliance activities are conducted by the Registered Entity being audited or by the same corporate entity that conducts the compliance activities of the Registered Entity being audited (e.g., representatives of other members of a Joint Registration Organization or of participants in a Coordinated Functional Registration pursuant to Section 500 of the Rules of Procedure). Each such additional attendee must execute a confidentiality agreement approved by the Regional Entity.

Compliance Audit observers and attendees are not Compliance Audit team members and do not participate in conducting the Compliance Audit or in making Compliance Audit findings and determinations.

The Compliance Audit team leader or other staff of the Regional Entity conducting the Compliance Audit will communicate in advance with any observers or other attendees to ensure there are no undue disruptions to the Compliance Audit, such as space limitations, no conflicts of interest, and no other considerations that in the judgment of the Compliance Audit team leader may be detrimental to the conduct and quality of the Compliance Audit. If the Compliance Audit team leader identifies any such issues, he/she shall work with the proposed observers or attendees to facilitate observation in a less disruptive manner; or, alternatively, the Regional Entity Compliance staff will work with the proposed observers or attendees to schedule their participation in, observation of, or attendance at a different Compliance Audit in which such issues are not presented.

#### 3.1.5.4 Registered Entity Objections to Compliance Audit Team

A Registered Entity subject to a Compliance Audit may object to any member of the Compliance Audit team on grounds of a conflict of interest or the existence of other circumstances that could interfere with the team member's impartial performance of his or her duties. Any such objections must be provided in writing to the Compliance Enforcement Authority no later than fifteen (15) days prior to the start of on-site Compliance Audit work. This fifteen (15) day requirement shall not apply ~~(i)~~ where a Compliance Audit team member has been appointed less than twenty (20) days prior to the start of on-site Compliance Audit work, in which case the Registered Entity must provide any objections to the Compliance Enforcement Authority within five (5) business days after receiving notice of the appointment of the Compliance Audit team member.~~; and (ii)~~

~~i~~In the case of an unscheduled Compliance Audit pursuant to Section 3.1.3, ~~in which case~~ the Registered Entity must provide any objections to the Compliance Enforcement Authority at least five (5) business days prior to the start of on-site Compliance Audit work for the unscheduled Compliance Audit.

The Compliance Enforcement Authority will make a final determination on whether the member will participate in the Compliance Audit of the Registered Entity. Nothing in Section 3.1 shall be read to limit the participation generally of NERC staff in the Compliance Audit or to limit the participation generally of FERC staff in a Compliance Audit of a Registered Entity, or involving a portion of the Bulk Power System, over which FERC has jurisdiction (as opposed to participation by individual NERC Staff or FERC staff members to whom the Registered Entity states a valid objection in accordance with Section 3.1.5.4).

### 3.1.6 Compliance Audit Reports

The Compliance Audit team shall develop a draft Compliance Audit report that shall include a description of the objective, scope, and methodology of the Compliance Audit; identify any evidence of ~~possible~~potential noncompliance with Reliability Standards by the Registered Entity found by the Compliance Audit team; identify any ~~Mitigation Plans or~~ Remedial Action Directives, Mitigation Plans or other Mitigating Activities which have been completed or pending in the year of the Compliance Audit; and identify if~~the nature of~~ any Confidential Information has been redacted. The report may also state areas of concern and recommendations identified by the Compliance Audit team.~~A separate document may be prepared that contains recommendations of the Compliance Audit team. Any recommendations contained in that document will be considered non-binding.~~ The draft report will be provided to the Registered Entity for comment.

The Compliance Audit team ~~will~~ considers corrections based on comments of the Registered Entity, ~~and provide the~~ finalizes the Compliance Audit report, ~~to the Compliance Enforcement Authority who will review the report and assess compliance with the Reliability Standards~~ and provides the Registered Entity with a copy of the final report on or before the date the final report is provided to NERC. ~~Regional Entities~~The Compliance Enforcement Authority ~~will~~ provides the final report to NERC, which ~~will~~ in turn provides the report to FERC ~~if~~ the report pertains to a Registered Entity or to a portion of the Bulk Power System over which FERC has

jurisdiction and/or to another Applicable Governmental Authority if the report pertains to a Registered Entity or to a portion of the Bulk Power System over which the other Applicable Governmental Authority has jurisdiction. The provision of the final Compliance Audit report to FERC or to another Applicable Governmental Authority shall be in accordance with Section 8.0, Reporting and Disclosure.~~Provided, that NERC will not disclose non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to Applicable Governmental Authorities other than FERC without first obtaining permission from FERC for such disclosure and subject to such limitations as FERC may place on such disclosure; and NERC will not disclose non-public non-U.S. compliance information to an Applicable Governmental Authority (including FERC) without first obtaining permission for such disclosure from the Applicable Governmental Authority with jurisdiction over the Registered Entity or the portion of the Bulk Power System to which such non public information pertains and subject to any limitations placed on such disclosure by such Applicable Governmental Authority or by other law of the applicable jurisdiction. The Registered Entity shall receive the final Compliance Audit report at least five (5) business days prior to the release of the report to the public.~~ Work papers and other documentation associated with the Compliance Audit shall be maintained by the Compliance Enforcement Authority in accordance with NERC or Regional Entity requirements.

NERC will not publicly post the final Compliance Audit report for at least five (5) business days following receipt. ~~In the event~~If the Compliance Audit report identifies any Possible Violations of one or more Reliability Standards, the final Compliance Audit report, or pertinent part thereof identifying the Possible Violations, shall not be released to the public by NERC~~ or the Compliance Enforcement Authority~~ until (i) the Possible Violation is dismissed prior to becoming a Confirmed Violation, or (ii) NERC submits a Notice of Penalty to FERC or other Applicable Governmental Authority, or (iii) the Registered Entity executes~~admits to a violation or enters into~~ a settlement agreement with the Compliance Enforcement Authority pursuant to Section 5.6.

Information deemed by a Compliance Enforcement Authority or the Registered Entity as Critical Energy Infrastructure Information or Confidential Information shall be redacted from any public reports.

### 3.2 Self-Certifications

The Compliance Enforcement Authority may require Registered Entities to self-certify their compliance with Reliability Standards.

~~If a Self-Certification accurately identifies a violation of a Reliability Standard, an identification of the same violation in a subsequent Compliance Audit or Spot Check will not subject the Registered Entity to an escalated Penalty as a result of the Compliance Audit process unless the severity of the violation is found to be greater than reported by the Registered Entity in the Self-Certification.~~

#### 3.2.1 Self-Certification Process Steps

The process steps for the Self-Certification process are as follows:[2]

- The Compliance Enforcement Authority posts and updates the reporting schedule containing the applicable reporting periods and informs Registered Entities. The Compliance Enforcement Authority and NERC will ensures that the appropriate Reliability Standards, compliance procedures, and required submittal forms for the Reliability Standards being evaluated are maintained and available electronically.

- The Compliance Enforcement Authority requests the Registered Entity to make a Self-Certification within the advance notice period specified by the Reliability Standard. If the Reliability Standard does not specify the advance notice period, this request will be issued in a timely manner (normally thirty (30) days advance notice).

- The Registered Entity provides the required information to the Compliance Enforcement Authority in the form and manner, and by the Required Date, specified by the Compliance Enforcement Authority. The Self-Certification response may state that (i) the Registered Entity is in compliance with the Reliability Standard Requirement, (ii) the Registered Entity is not in compliance with the Reliability Standard Requirement, (iii) the Registered Entity does not own Facilities that are subject to the Reliability Standard Requirement, or (iv) the Reliability Standard requirement is not applicable to the Registered Entity.

- At a minimum, Tthe Compliance Enforcement Authority reviews Self-Certifications of non-compliance and Self-Certifications in which the Registered Entity has responded that it does not own Facilities that are subject to the Reliability Standard Requirement or that the Reliability Standard Requirement is not applicable to the Registered Entityinformation to determine compliance with the Reliability Standards and the Compliance Enforcement Authority may request additional data and/or information if necessary.

- The Compliance Enforcement Authority completes the assessment of the Registered Entity for compliance with the Reliability Standard (and with the Registered Entity's Mitigation Plan, if applicable). If the Compliance Enforcement Authority concludes, after completing a Preliminary Screen(s), that there is a Possible Violation of a Reliability Standard, it shall send the Registered Entity a Notice of Possible Violation.If the Compliance Enforcement Authority's review of the Self-Certification indicates a potential noncompliance with a Reliability Standard by the Registered Entity, the Compliance Enforcement Authority conducts a Preliminary Screen of the potential noncompliance in accordance with Section 3.8.

Receipt of a Self-Certification by the Compliance Enforcement Authority shall not be construed as a finding by the Compliance Enforcement Authority that the Registered Entity is compliant with, not compliant with, subject to, or not subject to, the Reliability Standard Requirement.

[2]If no Possible Violations are found, this process normally completes within sixty (60) days of the Compliance Enforcement Authority's receipt of data.

### 3.3 Spot Check~~s~~ing

Spot Check~~s~~ing will be conducted by the Compliance Enforcement Authority. Spot Check~~s~~ing may be initiated at the discretion of~~by~~ the Compliance Enforcement Authority or as directed by NERC at any time to verify or confirm Self-Certifications, Self-Report~~s~~ing, and Periodic Data Submittals. Spot Check~~s~~ing may also be random or may be initiated in response to events, as described in the Reliability Standards, or to operating problems, or system events. ~~The Compliance Enforcement Authority then reviews the information submitted to verify the Registered Entity's compliance with the Reliability Standard. Compliance auditors may be assigned to the Spot Checking process by the Compliance Enforcement Authority as necessary.~~

#### 3.3.1 Spot Check~~ing~~ Process Steps

The process steps for Spot Checking are as follows:[3]

- The Compliance Enforcement Authority shall issue a notification letter to~~notifies~~ the Registered Entity that a Spot Check~~ing~~ will be performed, ~~and~~ the reason for the Spot Check~~ing~~, and the scope of the Spot Check including the Reliability Standard Requirements that will be covered, in accordance with~~in~~ the advance notice period specified by the Reliability Standard. If the Reliability Standard Requirement does not specify an advance notice period, any information submittal request made by the Compliance Enforcement Authority will allow at least twenty (20) days for the Registered Entity to submit the information or make it available for review.

- The Compliance Enforcement Authority, as part of the notification package,~~during the advance notice period, notifies~~ shall provide the Registered Entity with~~of~~ the names and employment histories of the persons who will be conducting the Spot Check~~ing~~. The Compliance Enforcement Authority shall provide confirmation to the Registered Entity that the members of the Spot Check team have executed confidentiality agreements or acknowledgements. The Registered Entity may object to inclusion of any individual on the Spot Check~~ing~~ team on the grounds specified in ~~accordance with~~ Section 3.1.5.4. Any such objections must be submitted to the Compliance Enforcement Authority by the later of (i) five (5) business days before the information being requested by the Compliance Enforcement Authority is submitted and (ii) five (5) business days after the Registered Entity is notified of the persons on the Spot Check~~ing~~ team. Nothing in Section 3.1~~this step~~ shall be read to limit the participation generally of NERC ~~or FERC~~ staff ~~on the~~in a Spot Check~~ing team~~ or to limit the participation generally of FERC staff in a Spot Check of a Registered Entity, or involving a portion of the Bulk Power System, over which FERC has jurisdiction (as opposed to individual NERC Staff or FERC staff members to whom the Registered Entity has stated a valid objection).

- The Spot Check~~ing~~ may require submission of data, documentation, and information and~~or possibly~~ an on-site review.

[3] ~~If no Possible Violations are found, this process normally completes within ninety (90) days of the Compliance Enforcement Authority's receipt of data.~~

- The Registered Entity provides the required information to the Compliance Enforcement Authority in the format and by the Required Date specified in the request.

- The ~~Compliance Enforcement Authority~~Spot Check Team conducts a review~~s~~ of the information submitted to determine compliance with the Reliability Standards Requirements and may request additional data and/or information if necessary ~~for a complete assessment of compliance~~.

- If the Spot Check team's review of the information submitted indicates a potential noncompliance with a Reliability Standard Requirement by the Registered Entity, the Compliance Enforcement Authority conducts a Preliminary Screen pursuant to Section 3.8.

- The Spot Check team prepares a draft Spot Check report~~Compliance Enforcement Authority reviews its draft assessment of the Registered Entity's compliance with the Registered Entity~~ and provides the Registered Entity ten (10) business days~~an opportunity for the Registered Entity~~ to comment on the draft report~~assessment~~.

- The ~~Compliance Enforcement Authority~~Spot Check team considers any corrections based on the Registered Entity's comments, finalizes ~~completes and documents the assessment of the Registered Entity for compliance with the Reliability Standard and provides a~~the Spot Check report and provides it to the Registered Entity and to NERC~~indicating the results of the Spot Checking~~.

- If the Compliance Enforcement Authority is a Regional Entity, the Regional Entity provides the final report to NERC. NERC provides the report to FERC if the report pertains to a Registered Entity or to a portion of the Bulk Power System over which FERC has jurisdiction and/or to another Applicable Governmental Authority if the report pertains to a Registered Entity or to a portion of the Bulk Power System over which the other Applicable Governmental Authority has jurisdiction. The provision of the report to FERC or to another Applicable Governmental Authority shall be in accordance with Section 8.0, Reporting and Disclosure. ~~Provided, that NERC will not disclose non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to Applicable Governmental Authorities other than FERC without first obtaining permission from FERC for such disclosure and subject to such limitations as FERC may place on such disclosure; and NERC will not disclose non-public non-U.S. compliance information to an Applicable Governmental Authority (including FERC) without first obtaining permission for such disclosure from the Applicable Governmental Authority with jurisdiction over the Registered Entity or the portion of the Bulk Power System to which such non-public information pertains and subject to any limitations placed on such disclosure by such Applicable Governmental Authority or by other law of the applicable jurisdiction.~~

- The report will not be publicly posted, or otherwise made publicly available, by the Regional Entity or by NERC.

- ~~If the Compliance Enforcement Authority concludes, after completing a Preliminary Screen(s), that there is a Possible Violation of a Reliability Standard, it shall send the Registered Entity a Notice of Possible Violation.~~

### 3.4 Compliance Investigations

A Compliance Investigation may be initiated at any time by the Compliance Enforcement Authority or NERC in response to a system disturbance, Complaint, or any potential noncompliance with~~Possible Violation of~~ a Reliability Standard identified by any other means.

Compliance Investigations will generally be led by the Regional Entity's staff. NERC reserves the right to assume the leadership of a Compliance Investigation.[4] The Regional Entity shall not be entitled to appeal NERC's decision to lead a Compliance Investigation.

Compliance Investigations are confidential, unless FERC directs that a Compliance Investigation should be public or that certain information obtained in the Compliance Investigation should be publicly disclosed. Confirmed Violations resulting from a Compliance Investigation will be made public.

FERC or another Applicable Governmental Authority may initiate an investigation at any time in response to a system disturbance, Complaint, or potential noncompliance with~~Possible Violation of~~ a Reliability Standard identified by any other means, or for any other purpose authorized by law. Investigations initiated by FERC or another Applicable Governmental Authority shall be governed by and conducted pursuant to the statutory authority and rules of the Applicable Governmental Authority and not the procedures set forth herein. If an Applicable Governmental Authority other than FERC initiates an investigation of a U.S.-related matter, NERC shall provide notice to FERC of the investigation prior to disclosure of any non-public U.S.-related compliance information regarding the matter to be investigated to the other Applicable Governmental Authority. NERC's notice to FERC shall identify the other Applicable Governmental Authority, shall describe the nature of the proposed disclosures to the other Applicable Governmental Authority, and shall state the procedures NERC will utilize in connection with the Compliance Investigation to ensure compliance with the requirements of 18 C.F.R. §39.7(b)(4) concerning nondisclosure of violations and Alleged Violations.

If FERC initiates an investigation of a non-U.S.-related matter, NERC shall provide notice of the investigation to the Applicable Governmental Authority having jurisdiction over the Registered Entity or the portion of the Bulk Power System that is the subject of the investigation prior to disclosure to FERC of any non-public non-U.S.-related compliance information regarding the matter to be investigated. NERC's notice to the other Applicable Governmental Authority shall describe the nature of the proposed disclosures to FERC and shall state the procedures NERC

[4]Examples of situations in which NERC may decide to lead a Compliance Investigation include: (i) to assure consistency in investigative processes, (ii) to coordinate Compliance Investigations into matters that may cross Regional Entity boundaries, (iii) where the potential noncompliance is related to the Regional Entity or one of its affiliates, divisions, committees or subordinate structures, or (iv) where the Regional Entity determines it cannot conduct the Compliance Investigation.

will utilize in connection with the investigation to ensure compliance with regulations of the other Applicable Governmental Authority or other law of the applicable jurisdiction concerning disclosure of non-public compliance information.

### 3.4.1 Compliance Investigation Process Steps

The process steps for a Compliance Investigation are as follows:[5]

- The Compliance Enforcement Authority ~~is notified or~~ becomes aware of circumstances indicating a Reliability Standard may have been or is being violated and determines whether a Compliance Investigation is warranted. Within three (3)~~two (2)~~ business days of the decision to initiate a Compliance Investigation, the Compliance Enforcement Authority: (i) notifies the Registered Entity of the initiation and initial scope of the Compliance Investigation, (ii) instructs the Registered Entity~~the requirements~~ to preserve all records and information relevant to the Compliance Investigation~~ and, where appropriate, the reasons for the Compliance Investigation~~, and (iii) ~~notifies~~provides a copy of the notice to NERC~~ of the initiation of and the reasons for the Compliance Investigation~~. ~~While the Compliance Enforcement Authority may, at its discretion, notify the Registered Entity of the reasons for its~~The Compliance Investigation~~,~~ may be expanded beyond the initial scope based on information obtained by the Compliance Enforcement Authority after initiation of the Compliance Investigation~~, as it unfolds, need not be limited to this scope~~.

- NERC assigns a NERC staff member to the Compliance Investigation as an observer or team member and to serve as a single point of contact for communications with NERC, and notifies the Registered Entity as to whether the NERC staff member is acting as an observer or as a team member. Within three (3)~~two (2)~~ business days after NERC receives notice~~is notified~~ of the decision to initiate a Compliance Investigation, NERC will notify FERC and each other Applicable Governmental Authority having jurisdiction over a Registered Entity or a portion of the Bulk Power System to which the Compliance Investigation relates. Any such notice to FERC or to another Applicable Governmental Authority will be provided in accordance with Section 8.0, Reporting and Disclosure. ~~Provided, that NERC will not disclose non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to an Applicable Governmental Authority other than FERC without first obtaining permission from FERC for such disclosure and subject to any limitations placed by FERC on such disclosure, and NERC will not disclose non-public non-U.S. compliance information to an Applicable Governmental Authority (including FERC) without first obtaining permission from the Applicable Governmental Authority that has jurisdiction over the Registered Entity or portion of the Bulk Power System to which the non-public information pertains and subject to any limitations placed on such disclosure by such Applicable Governmental Authority or by other law of the applicable jurisdiction.~~

- The Compliance Enforcement Authority requests data or documentation and provides a list of individuals on the Compliance Investigation team and their recent employment

[5] ~~If no Possible Violation(s) are found, this process normally completes within sixty (60) days following the decision to initiate a Compliance Investigation.~~

history. ~~The Registered Entity may object to any individual on the Compliance Investigation team in accordance with Section 3.1.5.4; however, the Registered Entity may not object to participation by NERC, by FERC staff or by staff of another Applicable Governmental Authority on the Compliance Investigation team. If the Reliability Standard does not specify the advance notice period, a request is normally issued with no less than twenty (20) days advance notice.~~

- Within ten (10) business days of receiving the notification of a Compliance Investigation, a Registered Entity subject to a Compliance Investigation may object to any individual member of the Compliance Investigation team on grounds of a conflict of interest or the existence of other circumstances that could interfere with the team member's impartial performance of his or her duties; however, the Registered Entity may not object to participation generally by NERC, by FERC staff or by staff of another Applicable Governmental Authority having reliability jurisdiction over the Registered Entity in the Compliance Investigation (as opposed to objecting to inclusion of specific persons on the Compliance Investigation team). Such objections must be provided in writing to the Compliance Enforcement Authority within such ten (10) business day period. The Compliance Enforcement Authority will make a final determination as to whether the individual will participate in the Compliance Investigation of the Registered Entity.

- The Registered Entity provides the required information to the Compliance Enforcement Authority in the format and by the Required Date as specified in the request. If information is not received in the time and format requested, the Compliance Enforcement Authority may initiate the steps in **Process for Non-Submittal of Requested Data in Attachment 1.**

- If necessary, the Compliance Investigation may include an on-site visit with interviews of the appropriate personnel and review of data.

- ~~In conducting the Compliance Investigation, t~~The Compliance Enforcement Authority may require the Registered Entity to (i) provide a verification under oath by an officer, employee, attorney or other authorized representative of the Registered Entity attesting to the accuracy, completeness and truth of the Registered Entity's responses to the Compliance Enforcement Authority's requests for information; and (ii) produce one or more officers, employees or other authorized representatives of the Registered Entity who are familiar with the matter(s) that are the subject of the Compliance Investigation, to be interviewed or to provide testimony under oath concerning such matters. The Compliance Enforcement Authority shall determine in each case (i) whether representatives of the Registered Entity shall be allowed to be present when an interview is taking place or testimony is being taken, and (ii) whether, and by what method, the interview or testimony shall be recorded; provided, that counsel for the person being interviewed or giving testimony may be present when the interview is being conducted or testimony is being taken (regardless of whether such counsel also represents the Registered Entity).

- The Compliance Enforcement Authority reviews information to determine compliance with the Reliability Standards. The Compliance Enforcement Authority may request

additional data and/or information, if necessary ~~for a complete assessment or to demonstrate compliance~~.

- The Compliance Enforcement Authority completes the assessment of compliance with the Reliability Standard, ~~and/or approval of the applicable~~ which may include review of a Mitigation Plan or Mitigating Activities, ~~writes~~ and ~~distributes the~~provides a report of the Compliance Investigation to NERC, and ~~notifies~~ the Registered Entity.

- If the Compliance Enforcement Authority ~~concludes~~, at any time during the Compliance Investigation, identifies a potential noncompliance with a Reliability Standard Requirement by a Registered Entity, the Compliance Enforcement Authority shall conduct a Preliminary Screen of the potential noncompliance in accordance with Section 3.8~~and after completing a Preliminary Screen(s), that there is a Possible Violation of a Reliability Standard, it shall send the Registered Entity a Notice of Possible Violation~~.

- If the Compliance Enforcement Authority determines that no violation occurred, it shall send the Registered Entity and NERC a notice that the Compliance Investigation has been completed. NERC will in turn notify FERC and, if the Compliance Investigation pertained to a Registered Entity or to a portion of the Bulk Power System over which another Applicable Governmental Authority has jurisdiction, will also notify such other Applicable Governmental Authority. Any such notice to FERC or to another Applicable Governmental Authority shall be provided in accordance with Section 8.0, Reporting and Disclosure.~~Provided, however, that NERC will not disclose non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to Applicable Governmental Authorities other than FERC without first obtaining permission from FERC for such disclosure and subject to any limitations placed by FERC on such disclosure, and NERC will not disclose non-public non-U.S. compliance information to an Applicable Governmental Authority (including FERC) without first obtaining permission from the Applicable Governmental Authority that has jurisdiction over the Registered Entity or portion of the Bulk Power System to which the non-public information pertains and subject to any limitations placed on such disclosure by such Applicable Governmental Authority or by other law of the applicable jurisdiction.~~

### 3.5 Self-Report~~sing~~

Self-Report~~sing is~~ are encouraged at the time a Registered Entity becomes aware (i) that it has, or may have,~~of a~~ violated~~ion of~~ a Reliability Standard, or (ii) ~~a change in~~ the Violation Severity Level of a previously reported violation has changed. Self-Report~~sing~~ of a violation of a Reliability Standard are~~is~~ encouraged regardless of whether the Reliability Standard requires reporting on a pre-defined schedule in the Compliance Program ~~and~~or whether the violation is determined outside the pre-defined reporting schedule. If possible, and without delaying the Self-Report, a Self-Report may include the actions that have been taken or will be taken to resolve the violation.

#### 3.5.1 Self-Report~~ing~~ Process Steps

The process steps for Self-Report~~sing~~ are as follows:[6]

- The Compliance Enforcement Authority posts the Self-Report~~ing~~ submittal forms and ensures they are maintained and available ~~on its website~~.
- The Registered Entity provides the Self-Report~~ing~~ information to the Compliance Enforcement Authority.
- The Compliance Enforcement Authority reviews the information to evaluate~~determine~~ compliance with the Reliability Standards and may request that the Registered Entity ~~to~~ provide clarification or additional data and/or information.

~~The Compliance Enforcement Authority completes the assessment of the Registered Entity for compliance with the Reliability Standards and any Mitigation Plan, if applicable, and notifies the Registered Entity.~~

- ~~If t~~The Compliance Enforcement Authority ~~concludes, after~~ conduct~~sing~~ a Preliminary Screen~~(s),~~ of the Self-Report information in accordance with Section 3.8~~that there is a Possible Violation of a Reliability Standard, it shall send the Registered Entity a Notice of Possible Violation~~.

### 3.6 Periodic Data Submittals

The Compliance Enforcement Authority requires Periodic Data Submittals in accordance with the schedule stated in the applicable Reliability Standard, or as established by the Compliance Enforcement Authority, or on an as-needed basis. ~~Requests for data submittals will be issued by t~~The Compliance Enforcement Authority shall issue requests for Periodic Data Submittals to Registered Entities within at least the minimum advance notice period specified by the applicable Reliability Standard. If the Reliability Standard does not specify an advance notice period, the Compliance Enforcement Authority will normally issue this request ~~will normally be issued~~ with no less than twenty (20) days advance notice.

#### 3.6.1 Periodic Data Submittals Process Steps

The process steps for Periodic Data Submittal are as follows:[7]

- The Compliance Enforcement Authority posts the current data reporting schedule on its website and informs~~keeps~~ Registered Entities ~~informed~~ of changes and/or updates. The Compliance Enforcement Authority ensures that the ~~appropriate Reliability Standard compliance procedures and the~~ required submittal forms for the Reliability Standards being evaluated are maintained and available ~~via its website~~.
- The Compliance Enforcement Authority makes a request for a Periodic Data Submittal.

[6] ~~This process normally completes within sixty (60) days following the Compliance Enforcement Authority's receipt of data.~~

[7] ~~If no Possible Violation(s) are found, this process generally completes within ten (10) business days of the Compliance Enforcement Authority's receipt of data.~~

- The Registered Entity provides the required information to the Compliance Enforcement Authority in the format and by the Required Date ~~as~~ specified in the request.

- The Compliance Enforcement Authority reviews the data submittal to determine compliance with the Reliability Standards and may request additional data and/or information if necessary~~for a complete assessment or to demonstrate compliance~~.

- If the Compliance Enforcement Authority's review of the data submittal indicates a potential noncompliance with a Reliability Standard Requirement by the Registered Entity, the Compliance Enforcement Authority performs a Preliminary Screen of the potential noncompliance in accordance with Section 3.8.

~~If the Compliance Enforcement Authority's assessment of the Registered Entity's compliance indicates there may be a Possible Violation, the Compliance Enforcement Authority provides an opportunity for the Registered Entity to comment on the assessment before it is finalized.~~

~~If the Compliance Enforcement Authority concludes, after conducting a Preliminary Screen(s), that there is a Possible Violation of a Reliability Standard, it shall send the Registered Entity a Notice of Possible Violation.~~

Receipt of a Periodic Data Submittal by the Compliance Enforcement Authority shall not be construed as a finding by the Compliance Enforcement Authority that the Registered Entity is compliant with, not compliant with, subject to, or not subject to, the Reliability Standard Requirement.

### ~~3.7Exception Reporting~~

~~Some Reliability Standards require reporting of exceptions to compliance with the Reliability Standard as a form of compliance monitoring. The Compliance Enforcement Authority shall require Registered Entities to provide reports identifying any exceptions to the extent required by any Reliability Standard.~~

~~The Compliance Enforcement Authority shall also require Registered Entities to confirm the number of exceptions that have occurred in a given time period identified by NERC, even if the number of exceptions is zero.~~

### ~~3.8~~3.7 Complaints

Either NERC or Regional Entities may receive Complaints alleging violations of a Reliability Standard. ~~A Regional Entity~~The Compliance Enforcement Authority will conduct a review of each Complaint it receives to determine if the Complaint provides sufficient basis for initiating another compliance monitoring or~~and~~ enforcement process, except that NERC will review any Complaint ~~(1) that is related to a Regional Entity or its affiliates, divisions, committees or subordinate structures, (2)~~ where the Compliance Enforcement Authority~~Regional Entity~~ determines it cannot conduct the review, or ~~(3)~~ if the complainant wishes to remain anonymous or specifically requests NERC to conduct the review of the Complaint.

If the Complaint is submitted to NERC, NERC will forward the information to the Regional Entity, as appropriate.

All anonymous Complaints will be reviewed and any resulting compliance monitoring or~~and~~ enforcement processes conducted by NERC will be conducted in accordance with Section ~~3.8.2~~3.7.2 to prevent disclosure of the identity of the complainant.

The Compliance Enforcement Authority conducting the review will determine if the Complaint may be closed as a result of the initial review and assessment ~~of the Complaint to determine~~ or if it provides sufficient basis for initiating another compliance monitoring or~~and~~ enforcement process. The ~~Regional Entity~~Compliance Enforcement Authority will report the results of its review of the Complaint to NERC. If, as a result of the initial review of the Complaint, the Compliance Enforcement Authority determines that initiating another compliance monitoring or~~and~~ enforcement process is warranted, the Compliance Enforcement Authority shall conduct that compliance monitoring or~~and~~ enforcement process ~~will be conducted~~ in accordance with the applicable provisions of Section 3.0.

#### ~~3.8.1~~3.7.1 Complaint Process Steps

The detailed process steps for the Complaint process are as follows:[†]

- The complainant notifies NERC or a Regional Entity using the NERC compliance hotline, submitting a NERC Complaint reporting form, or by other means. NERC and the Regional Entity shall post ~~A~~a link to the Complaint reporting form ~~will be posted~~ on ~~the NERC and Regional Entity~~their respective websites. The Complaint should include sufficient information to enable NERC or the Regional Entity to make an assessment ~~of~~regarding whether the initiation of another compliance monitoring or~~and~~ enforcement process is warranted. NERC or the Regional Entity may not act on a Complaint if the Complaint is incomplete and does not include sufficient information.

- If the Compliance Enforcement Authority determines that initiation of another compliance monitoring or~~and~~ enforcement process is warranted, it initiates the compliance monitoring or~~and~~ enforcement process in accordance with the applicable

[†] ~~If no Possible Violations are found, this process normally completes within sixty (60) days following receipt of the Complaint.~~

provisions of Section 3.0 or Section 5.0; otherwise it takes no further action. The Compliance Enforcement Authority notifies the complainant, the Registered Entity, and NERC of the initiation of the compliance monitoring or~~and~~ enforcement process. If the Compliance Enforcement Authority determines that initiation of another compliance monitoring or~~and~~ enforcement process is not warranted, it will notify the complainant, NERC, and the Registered Entity that no further action will be taken.

- The Compliance Enforcement Authority fully documents the Complaint and the Complaint review, and whether another compliance monitoring or~~and~~ enforcement process is warranted~~initiated or not~~.

### ~~3.8.2~~3.7.2 Anonymous Complainant Notification Procedure

A~~n anonymous~~ complainant who believes, or has information indicating, there has been a violation of a Reliability Standard, and wishes to remain anonymous, can report the information and request that the complainant's identity not be disclosed.[2] All Complaints lodged by a person or entity requesting that the complainant's identity not be disclosed shall be investigated by NERC following the procedural steps described in Section 3.7.1~~3.8.1~~. Anonymous Complaints received by a Regional Entity will either be directed to NERC or the Regional Entity will collect and forward the information to NERC, at the Regional Entity's discretion. Neither NERC nor the Regional Entity shall disclose the identity of any person or entity reporting information indicating violations of Reliability Standards to NERC or to a Regional Entity that requests that his/her/its identity not be revealed. The identity of the complainant will only be known by NERC and in the case where a Regional Entity collects the information, by NERC and the Regional Entity. If the Compliance Enforcement Authority determines that initiation of another compliance monitoring and enforcement process is not warranted, it will notify the complainant, NERC, and the Registered Entity that no further action will be taken.

## 3.8 Preliminary Screen

If the Compliance Enforcement Authority obtains information, through one of the compliance monitoring processes described in this Section 3.0 or by any other means, that indicates a potential noncompliance with a Reliability Standard Requirement, the Compliance Enforcement Authority shall conduct a Preliminary Screen of the potential noncompliance. The Preliminary Screen shall be conducted within five (5) business days after the Compliance Enforcement Authority identifies the potential noncompliance, except that (i) if the Compliance Enforcement Authority identifies the potential noncompliance during a Compliance Audit, the Preliminary Screen shall be conducted immediately following the exit briefing of the Registered Entity, and (ii) if the Compliance Enforcement Authority identifies the potential noncompliance during a Compliance Investigation, the Preliminary Screen shall be conducted immediately after the Registered Entity is first notified of the potential noncompliance identified by the Compliance Investigation.

A Preliminary Screen shall be limited to determining whether:

[2]NERC has established a Compliance Hotline that may be used for the submission of Complaints by persons or entities that ~~to~~ do not want his/her/its identity disclosed (see www.nerc.com for additional information).

(1) the entity allegedly involved in the potential noncompliance is a Registered Entity;

(2) the Reliability Standard Requirement to which the evidence of potential noncompliance relates is applicable to the entity, has been approved by the Applicable Governmental Authority, and is in effect at the time of the potential noncompliance; and

(3) if known, the potential noncompliance is not a duplicate of a Possible Violation or Alleged Violation that is currently being processed.

If the Preliminary Screen results in an affirmative determination with respect to the above criteria, a Possible Violation exists and the Compliance Enforcement Authority shall proceed in accordance with Section 5.0, unless an alternative enforcement process is used.

The Compliance Enforcement authority shall maintain records of all Preliminary Screens.

## 4.0 ANNUAL IMPLEMENTATION PLANS

### 4.1 NERC Compliance Monitoring and Enforcement Program Implementation Plan

NERC will maintain and update the NERC Implementation Plan, to be carried out by Compliance Enforcement Authorities in the performance of their responsibilities and duties in implementing the NERC Compliance Monitoring and Enforcement Program. The NERC Implementation Plan will be provided to the Regional Entities ~~by October~~ on or about September 1 of each year and will specify the Reliability Standards requiring reporting by Registered Entities to the Compliance Enforcement Authority to provide verification of compliance through one of the monitoring methods described in this Compliance Program ~~document~~. The NERC Implementation Plan will be posted on the NERC website. NERC may update and revise the NERC Implementation Plan during the course of the year as necessary. Regional Entities have discretion to make modifications to the NERC Implementation Plan with respect to individual Registered Entities.

### 4.2 Regional Implementation Plan

By ~~November~~on or about October 1 of each year, each Regional Entity~~ies~~ will submit a Regional Implementation Plan for the following calendar year to NERC for review and approval. The Regional Implementation Plan and the Regional Entity's other relevant Compliance Program documents shall be posted on the Regional Entity's website. The Regional Entity may update and revise the Regional Entity Implementation Plan during the course of the year as necessary, with NERC approval, or as required by NERC. Regional Entities have discretion to make modifications to the Regional Entity Implementation Plan with respect to individual Registered Entities.

## 5.0 ENFORCEMENT ACTIONS

The Compliance Enforcement Authority shall determine (i) whether there have been violations of Reliability Standards by Registered Entities within the Compliance Enforcement Authority's

Area of Responsibility, and (ii) if so, the appropriate ~~remedial actions~~Mitigating Activities, and Penalties and sanctions, as prescribed in the NERC *Sanction Guidelines* (Appendix 4B to the NERC Rules of Procedure). NERC will work to achieve consistency in the application of the *Sanction Guidelines* by Regional Entities by direct oversight and review of Penalties and sanctions, and each Regional Entity shall provide to NERC such information as is requested by NERC concerning any Penalty, sanction, or ~~remedial actions~~Mitigating Activities imposed by the Regional Entity.

The imposition and acceptance of Penalties and sanctions shall not be considered an acceptable alternative to any Registered Entity's continuing obligation to comply with the Reliability Standards.

The Compliance Enforcement Authority has authority to collect Documents, data and information in the manner it deems most appropriate, including requesting copies be made of Documents, data and information and removing those copies from the Registered Entity's location in accordance with appropriate security procedures conforming to Section 1500 of the Rules of Procedure and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the Documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost of the information were placed into the public domain. Parties engaged in the process described in this section should consult with each other on the data and information that would be appropriate for effectively addressing this section's process requirements. If a ~~party~~Registered Entity believes that a request for Documents, data or information is unreasonable, the ~~party~~Registered Entity may request a written determination from the NERC general counsel~~director of enforcement~~. If Documents, data or information requested from a Registered Entity in connection with an enforcement process are not received by the Required Date, the Compliance Enforcement Authority may execute the steps described in **Attachment 1, Process for Non-submittal of Requested Data.**

The following enforcement process is undertaken by the Compliance Enforcement Authority following identification~~, through one of the compliance monitoring and enforcement processes set forth in Section 3.0,~~ of a Possible Violation~~evidence~~ of ~~noncompliance with~~ a Reliability Standard Requirement by a Registered Entity. However, under the circumstances presented by some Possible Violations, Alleged Violations or Confirmed Violations, absolute adherence to the following enforcement process, to the exclusion of other approaches, may not be the most appropriate, efficient or desirable means by which to achieve the overall objectives of the Compliance Program for NERC, the Compliance Enforcement Authority and the Registered Entity. In such circumstances, other approaches may be considered and employed. The Registered Entity shall be entitled to object to the use of any such other approach.

### ~~5.1Preliminary Screen~~

~~If the Compliance Enforcement Authority identifies or obtains evidence of potential noncompliance with a Reliability Standard, the Compliance Enforcement Authority shall perform a Preliminary Screen to determine whether there is a Possible Violation. A Preliminary Screen shall be limited to determining whether:~~

~~(i)the entity allegedly involved in the potential noncompliance is a Registered Entity; and~~

~~(ii) the Reliability Standard Requirement to which the evidence of potential noncompliance relates is applicable to a reliability function for which the entity is registered.~~

~~The Compliance Enforcement Authority shall complete the Preliminary Screen within five (5) business days after identifying or obtaining evidence of potential noncompliance with a Reliability Standard.~~

~~The Compliance Enforcement Authority shall maintain records of all Preliminary Screens.~~

### 5.1 Notice of Possible Violation

If a Preliminary Screen conducted in accordance with Section 3.8 results in an affirmative determination with respect to the Preliminary Screen~~above~~ criteria, a Possible Violation exists. The Compliance Enforcement Authority shall issue a Notice of Possible Violation to the Registered Entity. The Notice of Possible Violation shall:

(i) state that a Possible Violation by the Registered Entity has been identified;

(ii) provide a brief description of the Possible Violation, including the Reliability Standard requirement(s) and, if known, the date(s) involved; and

(iii) instruct the Registered Entity to retain and preserve all data and records relating to the Possible Violation.

Upon issuing a Notice of Possible Violation, the Compliance Enforcement Authority reports ~~enters~~ the Possible Violation ~~into the~~to NERC ~~compliance reporting and tracking system~~. NERC reports the Possible Violation to the ~~NERC~~ Board of Trustees Compliance Committee and submits a Notice of Possible Violation, on a confidential basis, to FERC and to other Applicable Governmental Authorities, as applicable. Any such notice to FERC or to other Applicable Governmental Authorities shall be provided in accordance with Section 8.0, Reporting and Disclosure.

### ~~5.2~~5.2 Assessment of Possible Violation

After issuing a Notice of Possible Violation, the Compliance Enforcement Authority shall conduct an assessment of the facts and circumstances surrounding the Possible Violation to determine whether evidence exists to indicate the Registered Entity has violated the Reliability Standard Requirement(s) identified in the Notice of Possible Violation, or whether the Possible Violation should be dismissed. The Compliance Enforcement Authority may consider any additional information to demonstrate that the Possible Violation should be dismissed or modified.

### ~~5.3~~5.3 Notification to Registered Entity of Alleged Violation

If the Compliance Enforcement Authority determines, based on an assessment of the facts and circumstances surrounding a Possible Violation, that evidence exists to indicate a Registered Entity has violated a Reliability Standard, ~~and the Compliance Enforcement Authority and the~~

~~Registered Entity have not entered into settlement negotiations pursuant to Section 5.6,~~ the Compliance Enforcement Authority shall notify the Registered Entity of the determination of the Alleged Violation, through issuance of ~~issue~~ a Notice of Alleged Violation and Proposed Penalty or Sanction or similar notification, and shall report the Alleged Violation to NERC ~~(signed by an officer or designee of the Compliance Enforcement Authority) to the Registered Entity (CEO or equivalent and compliance contact) and shall enter the Alleged Violation into the NERC compliance reporting and tracking system.~~ The notification of Alleged Violation shall be transmitted by the Compliance Enforcement Authority to the Registered Entity by electronic mail and shall be effective as of the date of the electronic mail message from the Compliance Enforcement Authority transmitting the notification. The ~~Notice~~notification of Alleged Violation shall include~~state~~, at a minimum:

~~(ii)~~(i) the Reliability Standard and Requirement(s) thereof the Registered Entity has allegedly violated,

~~(iii)~~(ii) the date and time the Alleged Violation occurred (or is occurring),

~~(iv)~~(iii) the facts the Compliance Enforcement Authority believes demonstrate or constitute the Alleged Violation,

~~(v)~~(iv) the proposed Penalty or sanction, if any, determined by the Compliance Enforcement Authority to be applicable to the Alleged Violation in accordance with the NERC *Sanction Guidelines*, including an explanation of the basis on which the particular Penalty or sanction was determined to be applicable,

~~(vi)~~(v) notice that the Registered Entity shall, within thirty (30) days, elect one of the following options or the Compliance Enforcement Authority will deem the Registered Entity to have accepted the determination of violation and proposed Penalty or sanction:

1. agree with the Alleged Violation and proposed Penalty or sanction, and agree to submit and implement a Mitigation Plan or other Mitigating Activities to correct the violation and its underlying causes, and may provide a response in accordance with Section 5.4, or

2. agree with the Alleged Violation and agree to submit and implement a Mitigation Plan or other Mitigating Activities to eliminate the violation and its underlying causes, but contest the proposed Penalty or sanction, and may provide a response in accordance with Section 5.4, or

3. contest both the Alleged Violation and proposed Penalty or sanction,

(vi) notice that the Registered Entity may elect to submit a Mitigation Plan while contesting the Alleged Violation and/or the proposed Penalty or sanction, and that submission of a Mitigation Plan will not waive the Registered Entity's right to contest the Alleged Violation and/or the proposed Penalty or sanction;

(vii) notice that if the Registered Entity elects to contest the Alleged Violation and/or the proposed Penalty or sanction, the Registered Entity may elect to have a

hearing conducted pursuant to either (i) the short-form procedure in Section 1.3.4~~1.3.2~~, or (ii) the ~~full~~general hearing procedure, in **Attachment 2, Hearing Procedures**, and

(viii) required procedures to submit the Registered Entity's Mitigation Plan.

NERC shall ~~forward a copy of the Notice of Alleged Violation to~~notify FERC of the Alleged Violation and, if the Alleged Violation pertains to a Registered Entity or to a portion of the Bulk Power System over which another Applicable Governmental Authority has jurisdiction, ~~to~~shall notify such other Applicable Governmental Authority of the Alleged Violation, within two (2) business days of receipt from the Compliance Enforcement Authority~~, provided, that NERC will not disclose non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to Applicable Governmental Authorities other than FERC without first obtaining permission from FERC for such disclosure and subject to any limitations placed by FERC on such disclosure, and NERC will not disclose non-public non-U.S. compliance information to an Applicable Governmental Authority (including FERC) without first obtaining permission from the Applicable Governmental Authority that has jurisdiction over the Registered Entity or portion of the Bulk Power System to which the non-public information pertains and subject to any limitations placed on such disclosure by such Applicable Governmental Authority or by other law of the applicable jurisdiction~~. Any such notice to FERC or to another Applicable Governmental Authority shall be provided in accordance with Section 8.0, Reporting and Disclosure.

~~Upon acceptance by the Registered Entity of the Alleged Violation and proposed Penalty or sanction, the Notice of Confirmed Violation or other enforcement action will then be processed and issued to the Registered Entity.~~

### ~~5.4~~5.4 Registered Entity Response

If the Registered Entity agrees with, does not contest, or does not respond to the notification~~Notice~~ of Alleged Violation within thirty (30) days following the date of the notification of Alleged Violation by electronic mail, it shall be deemed to have accepted the Compliance Enforcement Authority's determination of violation and Penalty or sanction, ~~in which case~~and the Compliance Enforcement Authority shall issue a Notice of Confirmed Violation or similar notification to the Registered Entity and shall ~~enter~~report the Confirmed Violation ~~in~~to ~~the~~ NERC ~~compliance reporting and tracking system~~. At the time of notifying the Registered Entity~~issuing the Notice~~ of the Confirmed Violation ~~to the Registered Entity~~, the Compliance Enforcement Authority~~Regional Entity~~ shall also provide notice to the Registered Entity that it may provide a written explanatory statement to accompany the filing with FERC and public posting ~~Notice~~ of the Confirmed Violation. The Registered Entity's statement must include the name, title, and signature of an officer, employee, attorney or other authorized representative of the Registered Entity.

If the Registered Entity contests the Alleged Violation or the proposed Penalty or sanction, the Registered Entity shall submit to the Compliance Enforcement Authority, within thirty (30) days following the date of the notification of the Alleged Violation, a response explaining its position, signed by an officer, employee, attorney or other authorized representative together with any supporting information and documents. The Compliance Enforcement Authority shall schedule

a conference with the Registered Entity within ten (10) business days after receipt of the response. If the Compliance Enforcement Authority and the Registered Entity are unable to resolve all issues within forty (40) days after the Registered Entity's response, the Registered Entity may request a hearing. The Compliance Enforcement Authority and the Registered Entity may agree in writing to extend the forty (40) day period. If no hearing request is made prior to the end of the forty (40) day period, the violation will be become a Confirmed Violation~~, in which case the Compliance Enforcement Authority shall issue a Notice of Confirmed Violation to the Registered Entity and to NERC~~.

If a hearing is requested the Compliance Enforcement Authority shall initiate the hearing process in accordance with **Attachment 2, Hearing** Procedures.~~by convening a Hearing Body and issuing a written notice of hearing to the Registered Entity and the Hearing Body and identifying the Compliance Enforcement Authority's designated hearing representative.~~[3]

### ~~5.5~~5.5 Hearing Process for Compliance Hearings

The Compliance Enforcement Authority hearing process is set forth in **Attachment 2**.

### ~~5.6~~5.6 Settlement Process

The Registered Entity can request settlement negotiations at any time, including prior to the issuance of notification of an ~~Notice of~~ Alleged Violation; however, the Compliance Enforcement Authority may decline to engage in or to continue settlement negotiations after a Possible Violation or Alleged Violation becomes a Confirmed Violation in accordance with Section 5.4. The Registered Entity or the Compliance Enforcement Authority may terminate settlement negotiations at any time. Where the Compliance Enforcement Authority has agreed top engage in settlement negotiations, the running of the time period specified in Section 5.4 for the Registered Entity to respond to the notification of Alleged Violation is suspended until settlement negotiations are concluded or terminate. NERC shall be notified of all settlement negotiations and may participate in any settlement negotiations. All settlement negotiations will be confidential until such time as the settlement is approved by NERC. For all settlement discussions, the Compliance Enforcement Authority shall require the Registered Entity to designate an individual(s) authorized to negotiate on its behalf.

The Compliance Enforcement Authority may consider all relevant facts in settlement negotiations. A settlement agreement must ensure that the reliability of the Bulk Power System will not be compromised by the settlement and that a violation of a Reliability Standard will not occur as a result of the settlement. All settlement agreements must provide, if the settlement is approved, for waiver of the Registered Entity's right to further hearings and appeal.

The Compliance Enforcement Authority and the Registered Entity will execute a settlement agreement~~issue a letter~~ setting forth the final settlement terms including all Penalties, sanctions and mitigation requirements provided for in the final settlement.

---

~~[3] If the dispute involves a proposed Mitigation Plan, which has not been accepted by the Compliance Enforcement Authority, the Registered Entity may file a request for hearing with the Compliance Enforcement Authority.~~

The ~~Regional Entity~~Compliance Enforcement Authority shall report the terms of all settlements of compliance matters to NERC. NERC will review the settlement for the purpose of evaluating its consistency with other settlements entered into for similar violations or under other, similar circumstances. The Registered Entity may submit an explanatory statement, conforming to the requirements of Section 5.4, to be included in the settlement agreement and which shall be subject to consent of the Compliance Enforcement Authority as part of the settlement agreement. The settlement agreement may state that the Registered Entity (i) admits the Alleged Violation, or (ii) does not contest the Alleged Violation, or (iii) neither admits nor denies the Alleged Violation, but may not state that the Registered Entity denies the Alleged Violation. Based on this review, NERC will either approve the settlement or reject the settlement and notify the Compliance Enforcement Authority~~Regional Entity and the Registered Entity~~ of any changes to the settlement that would result in approval, and within five (5) business days the Compliance Enforcement Authority will in turn notify the Registered Entity. If NERC rejects the settlement, the ~~Regional Entity~~Compliance Enforcement Authority will attempt to negotiate a revised settlement agreement with the Registered Entity including any changes to the settlement specified by NERC.

NERC will report the approved settlement of the violation to FERC and, if the settlement relates to a Registered Entity or to a portion of the Bulk Power System over which another Applicable Governmental Authority has jurisdiction, to such other Applicable Governmental Authority.~~,~~ Any such report shall be provided in accordance with Section 8.0, Reporting and Disclosure. ~~provided, that NERC will not disclose non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to Applicable Governmental Authorities other than FERC without first obtaining permission from FERC for such disclosure and subject to any limitations placed by FERC on such disclosure, and NERC will not disclose non-public non-U.S. compliance information to an Applicable Governmental Authority (including FERC) without first obtaining permission from the Applicable Governmental Authority that has jurisdiction over the Registered Entity or portion of the Bulk Power System to which the non-public information pertains and subject to any limitations placed on such disclosure by such Applicable Governmental Authority or by other law of the applicable jurisdiction.~~ NERC will also publicly post the violation settled (regardless of whether the settlement includes or does not include an admission of a violation) and the resulting Penalty or sanction provided for in the settlement. This posting shall include a copy of the settlement or a description of the terms of the settlement, and a copy of any Mitigation Plan that is agreed to as part of the settlement, with any Critical Energy Infrastructure Information and Confidential Information redacted. The Compliance Enforcement Authority will issue a letter setting forth the final settlement terms including all Penalties, sanctions and mitigation requirements provided for in the final settlement. Postings of Notices of Confirmed Violations are addressed in Section 8.0.

### ~~5.7~~5.7 NERC Appeal Process

~~The~~A Registered Entity or the Compliance Enforcement Authority may appeal the decision of a Regional Entity Hearing Body~~'s decision~~ to NERC, as provided for in NERC Rules of Procedure, Section 409.[4]

[4] ~~This process generally completes within ninety (90) days of NERC's receipt of request for appeal.~~

On appeal, NERC shall either affirm the ~~Regional Entity~~ decision or remand to the Compliance Enforcement Authority~~Regional Entity~~ with reasons for its remand, which may include a direction to the ~~Regional Entity~~Compliance Enforcement Authority to revise the decision. If NERC affirms the ~~Regional Entity~~ decision, the ~~Regional Entity~~Compliance Enforcement Authority shall issue a Notice of Confirmed Violation to the Registered Entity. If NERC directs the ~~Regional Entity~~Compliance Enforcement Authority to revise ~~its~~the decision, ~~the~~a Registered Entity that was the subject of the decision or the Compliance Enforcement Authority~~Staff of the Regional Entity whose interests are adversely affected by the directed revision~~ may reopen the proceeding on any issue whose resolution is affected by NERC's directive, irrespective of whether the issue was previously litigated, settled or unopposed.

### ~~5.8~~5.8 ~~Approval of a Notice~~Notification of Confirmed Violation

A Notice or other notification of Confirmed Violation issued to a Registered Entity pursuant to Sections 5.4 or 5.7 shall include a detailed record of the enforcement action, including the facts and circumstances analyzed and the information on which the Compliance Enforcement Authority relied in proposing a Penalty or sanction.

After NERC receives~~receiving~~ a ~~Notice~~notification of Confirmed Violation ~~through the NERC compliance reporting and tracking system~~from the Compliance Enforcement Authority, NERC shall review the ~~Notice~~notification of Confirmed Violation and utilize the information therein to prepare a Notice of Penalty. NERC shall advise the Compliance Enforcement Authority~~Regional Entity~~ of any additional detail or further development of the factual findings that NERC deems necessary before the Notice of Penalty can be issued.

NERC may direct the Compliance Enforcement Authority~~Regional Entity~~ to revise a Penalty determination, in which case the Registered Entity subject to the Penalty, or the Compliance Enforcement Authority, as applicable~~Staff of the Regional Entity~~, may reopen the proceedings on any issue on which the Penalty was based, irrespective of whether the issue was previously litigated, settled or unopposed.

### ~~5.9~~5.9 Notice of Penalty

If (i) the Registered Entity accepts~~does not dispute~~ the Notice of Alleged Violation and Proposed Penalty or Sanction or other notification of enforcement action from the Compliance Enforcement Authority ~~and the proposed Penalty or sanction~~, or (ii) a decision has been entered affirming an~~finding a~~ Alleged ~~v~~Violation and all appeals have been concluded, or (iii) a settlement agreement has been reached addressing the Possible Violation or Alleged Violation~~(s)~~, NERC shall submit~~prepare~~ a ~~draft~~ Notice of Penalty to the Applicable Governmental Authority and provide a copy to the Compliance Enforcement Authority~~Regional Entity~~. The ~~Regional Entity~~Compliance Enforcement Authority shall inform the Registered Entity that a Notice of Penalty is pending public filing, at least five (5) business days prior to the public filing and posting. NERC will file the Notice of Penalty with FERC and any other Applicable Governmental Authority~~, as provided in the next paragraph,~~ no sooner than five (5) business days after NERC approves the Notice of Confirmed Violation or settlement agreement.

NERC shall file the Notice of Penalty with FERC and, if the Possible Violation or Alleged Violation pertains to a Registered Entity or to a portion of the Bulk Power System over which

another Applicable Governmental Authority has jurisdiction, to such other Applicable Governmental Authority. Any such filing with FERC or with another Applicable Governmental Authority shall be made in accordance with Section 8.0, Reporting and Disclosure.~~; provided, that NERC will not disclose any non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to Applicable Governmental Authorities other than FERC without first obtaining permission from FERC for such disclosure and subject to any limitations placed by FERC on such disclosure, and NERC will not disclose non-public non-U.S. compliance information to an Applicable Governmental Authority (including FERC) without first obtaining permission from the Applicable Governmental Authority that has jurisdiction over the Registered Entity or portion of the Bulk Power System to which the non-public information pertains and subject to any limitations placed on such disclosure by such Applicable Governmental Authority or by other law of the applicable jurisdiction.~~ NERC will include with the Notice of Penalty any statement provided by the Registered Entity as set forth in Sections 5.4 or ~~5.7~~5.6.

The Penalty or sanction will be effective upon expiration of the thirty (30) day period following filing with FERC of the Notice of Penalty (or such longer period as ordered by FERC) or, if FERC decides to review the Penalty or sanction, upon final determination by FERC.

### 5.10 ~~Closure~~Completion of Enforcement Action

Following FERC approval of, or expiration of the period for action by FERC on, a Notice of Penalty filed by NERC, the Compliance Enforcement Authority shall issue a payment due notice and invoice to the Registered Entity. The payment due notice and invoice shall state the payment due date which shall be thirty (30) days from the date of the payment due notice and invoice. Upon payment of all monetary Penalties by the Registered Entity, the Compliance Enforcement Authority shall issue a notice confirming payment to the Registered Entity, and provide a copy of the notice confirming payment to NERC. Following the completion by the Registered Entity of all requirements set forth in the Notice of Penalty and any settlement agreement, the Compliance Enforcement Authority shall issue the Registered Entity a Notice of Completion of Enforcement Action.

If the Compliance Enforcement Authority dismisses or disposes of a Possible Violation or Alleged Violation that does not become a Confirmed Violation, the Compliance Enforcement Authority shall issue a Notice of Completion of Enforcement Action to the Registered Entity.

A copy of the Notice of Completion of Enforcement Action shall also be provided to NERC by the Compliance Enforcement Authority.

The Notice of Completion of Enforcement Action shall include a release of any data retention directives that were previously issued to the Registered Entity in connection with the matter. Upon issuance of a Notice of Completion of Enforcement Action, tracking of the violation is completed, and the enforcement action shall be closed.

### 5.11 Special Procedures for an Enforcement Action Against an ISO/RTO Where the Monetary Penalty May be Allocated by the ISO/RTO to Other Entities

A Registered Entity that is an ISO/RTO may have authority to allocate, pursuant to a proceeding under section 205 of the Federal Power Act, some or all of a monetary Penalty imposed on the ISO/RTO for violation of a Reliability Standard, to another entity(ies) that the Compliance

Enforcement Authority, NERC or FERC determines was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation of the Reliability Standard. This section sets forth the procedures to be followed when an ISO/RTO that has received a Notice of Possible Violation requests a determination by the Compliance Enforcement Authority that another entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation (if confirmed) identified in the Notice of Possible Violation.

The procedures in this section apply only where an ISO/RTO requests a determination that a specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation (if confirmed) identified in a Notice of Possible Violation issued to the ISO/RTO, and shall not apply where the ISO/RTO anticipates or is entitled to allocate or assign a monetary Penalty among all, or an identified segment of, its members, customers or users, pursuant to general cost recovery provisions in the ISO/RTO's tariffs, agreements or governance documents and regardless of actual fault or responsibility of the entities to whom the monetary Penalty is issued for the violation.

### 5.11.1 ISO/RTO's Request for Determination and Notice to Other Entity(ies)

In order to request the Compliance Enforcement Authority to make a determination in an enforcement action that a specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to a violation (if confirmed) of a Reliability Standard for which the ISO/RTO has received a Notice of Possible Violation, the ISO/RTO shall, no later than ten (10) business days after receiving the Notice of Possible Violation or such additional period as the Compliance Enforcement Authority may permit for good cause shown (i) submit a written request to the Compliance Enforcement Authority and (ii) issue a notice to the specified other entity(ies), each conforming to the requirements of the following two paragraphs of this section.

The ISO/RTO's written request to the Compliance Enforcement Authority shall contain:

(1) the Compliance Enforcement Authority's identification number for the Notice of Possible Violation;

(2) a statement that the ISO/RTO is requesting that the Compliance Enforcement Authority make a determination that a specified other entity(ies) was responsible, in whole or in part, for actions and omissions that caused or contributed to the violation (if confirmed) identified in the Notice of Possible Violation;

(3) the name(s) of, and contact information for, the specified other entity(ies), including name(s) and address(es) of the entity(ies) and name(s), telephone number(s) and e-mail address(es) of the contact person(s) for the other entity(ies);

(4) a statement that the ISO/RTO has authority to allocate some or all of the monetary Penalty to the specified other entity(ies), including citations to any supporting tariffs, agreements, orders, or governance documents, and a brief explanation to show that the specified other entity(ies) are subject to the tariffs, agreements, orders and/or other governance documents; and

(5) a brief statement of the factual basis on which the ISO/RTO contends in good faith that the specified other entity(ies) was responsible for actions or omissions that caused or contributed to the violation (if confirmed) identified in the Notice of Possible Violation. As the enforcement action proceeds, the ISO/RTO may supplement, expand or modify this explanation as additional information becomes available during the course of the enforcement action.

The ISO/RTO's notice to the specified other entity(ies) shall contain the following information:

(1) The name of the specified other entity, and the name, telephone number and e-mail address of the specified other entity's contact person (person to whom the notice is being sent);

(2) A statement that the ISO/RTO has received a Notice of Possible Violation from the Compliance Enforcement Authority, the Compliance Enforcement Authority's identification number for the Notice of Possible Violation, and contact information for the Compliance Enforcement Authority;

(3) A statement that the ISO/RTO has requested the Compliance Enforcement Authority to determine that the specified other entity was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation identified in the Notice of Possible Violation, and that the ISO/RTO intends to seek to allocate to the specified other entity all or a portion of any monetary Penalty that is imposed on the ISO/RTO for the violation (if confirmed), if the Compliance Enforcement Authority determines the specified other entity was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation identified in the Notice of Possible Violation.

(4) A statement that the specified other entity should promptly contact the Compliance Enforcement Authority for further information and to request to participate in the enforcement action relating to the Notice of Possible Violation.

The ISO/RTO shall cause its notice to the specified other entity(ies) to be delivered to the other entity(ies) by next-business-day delivery using a delivery service that provides verification of delivery. The ISO/RTO shall provide the Compliance Enforcement Authority with (i) a copy of the notice sent to each specified other entity, and (ii) a copy of the delivery service's verification of delivery of the notice to each specified other entity.

### 5.11.2 Responses of the Compliance Enforcement Authority and the Specified Other Entity(ies) to ISO/RTO's Request for Determination and Notice

If (i) the ISO/RTO's written request meets the requirements of Section 5.11.1, the Compliance Enforcement Authority shall provide the specified other entity(ies) with a copy of a non-disclosure agreement (which shall include the specified other entity's agreement to comply with the confidentiality requirements of the Compliance Program and of Section 1500 of the NERC

Rules of Procedure) that must be executed to obtain a copy of the Notice of Possible Violation and a copy of the ISO/RTO's written request to the Compliance Enforcement Authority for a determination that the specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation (if confirmed) identified in the Notice of Possible Violation. In addition, the Compliance Enforcement Authority shall advise the specified other entity(ies) that: (i) the specified other entity(ies) may elect not to participate in the enforcement action, and may submit a written statement to the Compliance Enforcement Authority stating why the specified other entity is not participating and providing any facts or information the other entity wishes to provide concerning the occurrence(s) that are the subject of the Notice of Possible Violation, and (ii) whether or not the specified other entity elects to participate in the enforcement action, the Compliance Enforcement Authority may determine that the specified other entity was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation identified in the Notice of Possible Violation.

If the ISO/RTO's written request meets the requirements of Section 5.11.1, then the specified other entity(ies) shall be permitted to participate in the enforcement action concerning the Notice of Possible Violation if the other entity(ies) submits a written request to participate to the Compliance Enforcement Authority and executes a non-disclosure agreement in the form provided by the Compliance Enforcement Authority. The specified other entity must submit its written request to participate prior to, as applicable (i) the date of execution of a settlement agreement between the Compliance Enforcement Authority and the ISO/RTO, or (ii) the date that the Compliance Enforcement Authority issues a Notice of Confirmed Violation to the ISO/RTO. The Compliance Enforcement Authority is not required to suspend or delay the enforcement process pending receipt of a request to participate from the specified other entity(ies), nor to revisit or redo any aspect of the enforcement process that has already occurred prior to receipt of the specified other entity(ies)'s written request to participate; however, upon receipt of a written request to participate and executed nondisclosure agreement from the specified other entity(ies), the Compliance Enforcement Authority shall suspend activity in the enforcement action until it has acted on the request to participate.

Upon receiving the specified other entity's written request to participate in the enforcement action and the other entity's executed nondisclosure agreement, the Compliance Enforcement Authority shall issue a notice to the ISO/RTO and to the specified other entity stating that the specified other entity is allowed to participate in the enforcement action. The Compliance Enforcement Authority's notice that the specified other entity is allowed to participate in the enforcement action shall include a copy of the Notice of Possible Violation originally issued to the ISO/RTO and, if a Notice of Alleged Violation and Proposed Penalty or Sanction or similar notification has been issued to the ISO/RTO, a copy of the latter Notice or notification. Upon receiving notice from the Compliance Enforcement Authority that it is allowed to participate in the enforcement action, the specified other entity may participate in the same manner as the ISO/RTO and shall be subject to all applicable requirements and deadlines specified in the NERC Compliance Program.

If the ISO/RO fails to meet the requirements of Section 5.11.1, the Compliance Enforcement Authority shall issue a notice to the ISO/RTO and to the specified other entity(ies) stating that the Compliance Enforcement Authority will not make the determination requested by the

ISO/RTO and therefore the specified other entity will not be allowed to participate in the enforcement action relating to the Notice of Possible Violation.

### 5.11.3 Compliance Enforcement Authority's Notices to NERC

(a) Within five (5) business days after receiving an ISO/RTO's written request for a determination that a specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to a violation identified in the Notice of Possible Violation issued to the ISO/RTO, the Compliance Enforcement Authority shall provide to NERC (i) a copy of the ISO/RTO's written request for a determination that a specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation identified in the Notice of Possible Violation, and (ii) the ISO/RTO's notice to the specified other entity(ies).

(b) On the same day that the Compliance Enforcement Authority issues a notice pursuant to Section 5.11.2 stating, as applicable, that (i) it will or will not make the determination requested by the ISO/RTO or (ii) the specified other entity(ies) are or are not allowed to participate in the enforcement action, the Compliance Enforcement Authority shall provide a copy of the notice to NERC and shall send a copy of the notice to any other entities that have been allowed to participate in the enforcement action.

### 5.11.4 Compliance Enforcement Authority's Determination

After issuing a notice pursuant to Section 5.11.3 that it will make a determination as to whether the specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation that is the subject of the Notice of Possible Violation issued to the ISO/RTO, then, if the enforcement action is not resolved by a settlement agreement stating whether or not the specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation identified in the Notice of Possible Violation, the Compliance Enforcement Authority shall make, and include in its proposed Notice of Penalty, its determination of whether or not the specified other entity(ies) were responsible, in whole or in part, for actions or omissions that caused or contributed to the violation. The Compliance Enforcement Authority's determination shall only address whether or not the specified other entity(ies) was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation, and shall not address whether all or a part of any monetary Penalty imposed on the ISO/RTO for the violation should be allocated or assigned to the specified other entity(ies).

The specified other entity(ies) shall be entitled to request a hearing on the Compliance Enforcement Authority's determination pursuant to Section 1.3.1 of Attachment 2 of this Appendix 4C, and to appeal the Hearing Body's decision pursuant to Section 1.7.10 of Attachment 2 to this Appendix 4C, as though the specified other entity(ies) were a Registered Entity(ies).

### 5.11.5 Procedure Where ISO/RTO Members Are Allowed to Directly Assign Monetary Penalties for Violations of Reliability Standards to the ISO/RTO

If an ISO/RTO's tariffs, agreement or other relevant governance documents establish procedures that allow members of the ISO/RTO to directly assign to the ISO/RTO monetary Penalties imposed on the ISO/RTO member(s) for violations of Reliability Standards, then the ISO/RTO members may follow the same requirements of Sections 5.11.1 and 511.2 as are applicable to an ISO/RTO under those sections, and the ISO/RTO shall be afforded the same rights to participate in the enforcement action as a specified other entity under Sections 5.11.1, 5.11.2, and 5.11.4, subject to the same requirements and conditions specified in those sections. In such circumstances, the ISO/RTO shall be deemed to be a "specified other entity" for purposes of this Section.

### 5.11.6 Obligation to Pay Monetary Penalty

(a) The ISO/RTO shall be obligated and responsible to pay any monetary Penalty imposed by the Compliance Enforcement Authority on the ISO/RTO for violation of a Reliability Standard, in accordance with Section 5.10, (i) regardless of whether the Compliance Enforcement Authority has made a determination that a specified other entity was responsible, in whole or in part, for actions or omissions that caused or contributed to the violation, (ii) without regard to the timing of any separate proceeding(s) in which the ISO/RTO seeks to allocate some or all of the monetary Penalty to a specified other entity(ies), and (iii) without regard to whether or when the ISO/RTO receives payment from the specified other entity(ies).

(b) In an enforcement action subject to Section 5.11.5, the ISO/RTO member(s) shall be obligated and responsible to pay any monetary Penalty imposed by the Compliance Enforcement Authority on the ISO/RTO member(s) for violation of a Reliability Standard, regardless of whether or when the ISO/RTO members receive payment or reimbursement from the ISO/RTO.

## 6.0 MITIGATION OF VIOLATIONS OF RELIABILITY STANDARDS

The Compliance Enforcement Authority has authority to collect Documents, data and information in the manner it deems most appropriate, including requesting copies be made of Documents, data and information and removing those copies from the Registered Entity's location in accordance with appropriate security procedures conforming to Section 1500 of the Rules of Procedure and other safeguards as appropriate in the circumstances to maintain the confidential or other protected status of the Documents, data and information, such as information held by a governmental entity that is subject to an exemption from disclosure under the United States Freedom of Information Act, or a comparable state or provincial law, that would be lost of the information were placed into the public domain. Parties engaged in the process described in this section should consult with each other on the data and information that would be appropriate for effectively addressing this section's process requirements. If a Registered Entity believes that a request for Documents, data or information is unreasonable, the Registered Entity may request a written determination from the NERC general counsel~~director of enforcement~~. If Documents, data, information or other reports requested from a Registered Entity in connection with development of a Mitigation Plan or other Mitigating Activities are not received by the Required Date, the Compliance Enforcement Authority may execute the steps described in **Attachment 1, Process for Non-submittal of Requested Data.**

### 6.1 Requirement for Submission of Mitigation Plans

A Registered Entity found to be in violation of a Reliability Standard shall file with the Compliance Enforcement Authority (i) a proposed Mitigation Plan to correct the violation, or (ii) a description of how the violation has been mitigated, and any requests for extensions of Mitigation Plans or a report of completed mitigation. A Registered Entity may also submit a proposed Mitigation Plan at any other time, including with a Self-Report, or, without admitting it has committed a violation, in response to a Notice of Possible Violation or ~~Notice~~notification of Alleged Violation.

### 6.2 Contents of Mitigation Plans

A Mitigation Plan shall include the following information:

- The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section 2.0.

- The Possible, Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.

- The cause of the Possible, Alleged or Confirmed Violation(s).

- The Registered Entity's action plan to correct the Possible, Alleged or Confirmed Violation(s).

- The Registered Entity's action plan to correct the cause of the Possible, Alleged or Confirmed Violation.

- The Registered Entity's action plan to prevent recurrence of the Possible, Alleged or Confirmed Violation(s).

- The anticipated impact of the Mitigation Plan on the Bulk Power System reliability and an action plan to mitigate any increased risk to the reliability of the Bulk Power System while the Mitigation Plan is being implemented.

- A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Possible, Alleged or Confirmed Violation(s) corrected.

- Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined for not completing work associated with accepted milestones.

- Any other information deemed necessary or appropriate.

The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity~~, which if applicable, shall be the person that signed the Self-Certification or Self-Reporting submittals~~.

### 6.3 Timetable for Completion of Mitigation Plans

The Mitigation Plan shall be completed in accordance with its terms.~~time to have a reasonable potential to correct all of the violation(s) prior to the next applicable compliance reporting/assessment period after occurrence of the violation for which the Mitigation Plan is submitted. In all cases the Mitigation Plan should be completed without delay, and should encompass actions necessary to prevent a recurring violation of the Reliability Standard Requirements underlying the Possible, Alleged or Confirmed Violation(s). The Compliance Enforcement Authority will expect full compliance with the Reliability Standard to which the Mitigation Plan is applicable at the next report or assessment of the Registered Entity.~~ At the Compliance Enforcement Authority's discretion, the completion deadline may be extended for good cause including, but not limited to: (i) operational issues such as the inability to schedule an outage to complete Mitigating Activities~~short assessment periods (i.e., event driven or monthly assessments)~~, and (ii) construction requirements in the Mitigation Plan that require longer to complete than originally anticipated~~extend beyond the next assessment period or other extenuating circumstances~~. If the Mitigation Plan extends beyond the next applicable reporting/assessment period, sanctions for any violation of the applicable Reliability Standard(s) occurring during the implementation period will be held in abeyance and will be waived if the Mitigation Plan is satisfactorily completed.

Any violations assessed during the period of time the accepted Mitigation Plan is being implemented will be recorded by the Compliance Enforcement Authority with associated sanctions or Penalties. Regional Entities will report any findings of violations recorded during this time period to NERC with the notation that the Registered Entity is working under an accepted Mitigation Plan with an extended completion date with Penalties and sanctions held in abeyance until completion of the Mitigation Plan. Upon completion of the accepted Mitigation Plan in accordance with Section 6.6, the Compliance Enforcement Authority will notify the Registered Entity that any findings of violations of the applicable Reliability Standard during the period that the accepted Mitigation Plan was being implemented have been waived and no Penalties or sanctions will apply. Regional Entities will also notify NERC of any such waivers of violations of Reliability Standards.

A request for an extension of any milestone or the completion date of the accepted Mitigation Plan by a Registered Entity must be received by the Compliance Enforcement Authority at least five (5) business days before the original milestone or completion date. The Compliance Enforcement Authority may accept a request for an extension or modification of a Mitigation Plan if the Compliance Enforcement Authority determines the request is justified, and shall notify NERC of the extension or modification within five (5) business days.

If a Mitigation Plan submitted by a Registered Entity is rejected by the Regional Entity acting as Compliance Enforcement Authority or the Hearing Body in accordance with Section 6.5, the Registered Entity shall be subject to any findings of violation of the applicable Reliability Standards during the period the Mitigation Plan was under consideration and to imposition of any Penalties or sanctions imposed for such violations.

### 6.4 Submission of Mitigation Plans

A Mitigation Plan may be submitted at any time but shall have been submitted by the Registered Entity within thirty (30) days after being served the ~~Notice~~notification of Alleged Violation, if the Registered Entity does not contest the Alleged Violation and Penalty or sanction, or shall be reflected in a settlement agreement or Notice of Penalty. If the Registered Entity disputes the ~~Notice of~~ Alleged Violation or the Penalty or sanction, the Registered Entity shall submit its Mitigation Plan within ten (10) business days following issuance of the written decision of the Hearing Body, unless the Registered Entity elects to appeal the Hearing Body's determination to NERC. The Registered Entity may choose to submit a Mitigation Plan while it contests an Alleged Violation or Penalty or sanction or in response to a Notice of Possible Violation; such submission shall not be deemed an admission of a violation or the appropriateness of a Penalty or sanction. If the Registered Entity has not yet submitted a Mitigation Plan, or the Registered Entity submits a Mitigation Plan but it is rejected by the Regional Entity acting as Compliance Enforcement Authority or the Hearing Body in accordance with Section 6.5, any subsequent violations of the Reliability Standard identified by the Compliance Enforcement Authority before the Hearing Body renders its decision will not be held in abeyance and will be considered as repeat violations of the Reliability Standard.

### 6.5 Review and Acceptance or Rejection of Proposed Mitigation Plans

Unless the time period is extended by the Compliance Enforcement Authority, it will complete its review of the Mitigation Plan, and will issue a written statement accepting or rejecting the Mitigation Plan, within thirty (30) days of receipt; otherwise the Mitigation Plan will be deemed accepted. In order to extend the initial or an extended period for review of the Mitigation Plan, the Compliance Enforcement Authority shall, within the initial or extended review period, notify the Registered Entity (and NERC if NERC is not the Compliance Enforcement Authority) that the review period is being extended and identify the date by which the Compliance Enforcement Authority will complete its review of the Mitigation Plan. The Compliance Enforcement Authority's extension notice shall also state that if the Compliance Enforcement Authority has not issued a notice by the end of the extended review period either stating that the Compliance Enforcement Authority accepts or rejects the proposed Mitigation Plan or further extending the Compliance Enforcement Authority's period for review of the Mitigation Plan, the Mitigation Plan will be deemed accepted.

If the Compliance Enforcement Authority rejects a Mitigation Plan, the Compliance Enforcement Authority will provide the Registered Entity with a written statement describing the reasons for the rejection, and will require the Registered Entity to submit a revised Mitigation Plan by the Required Date. The Compliance Enforcement Authority will notify the Registered Entity within ten (10) business days after receipt of a revised Mitigation Plan whether the Compliance Enforcement Authority will accept or reject the revised Mitigation Plan and provide a written statement describing the reasons for rejection and the Required Date for the second revised Mitigation Plan. If the second review results in rejection of the Mitigation Plan, the Registered Entity may request a hearing in accordance with the Hearing Procedures, by submitting to the Compliance Enforcement Authority a written request for hearing including an explanation of why the Mitigation Plan should be accepted. After the hearing is completed, the Compliance Enforcement Authority will issue a written statement accepting a Mitigation Plan it deems as appropriate.

Within five (5) business days after a Regional Entity accepts a Mitigation Plan, the Regional Entity (i) will notify NERC and the Registered Entity of the acceptance of the Mitigation Plan and (ii) will provide the accepted Mitigation Plan to NERC. NERC will review the accepted Mitigation Plan and, within thirty (30) days following its receipt of the Mitigation Plan from the Regional Entity, will notify the Regional Entity and the Registered Entity, on a contemporaneous basis, as to whether the Mitigation Plan is approved or disapproved by NERC. If NERC disapproves a Mitigation Plan that was accepted by the Regional Entity, NERC shall state its reasons for the rejection, and may state the changes to the Mitigation Plan that would result in approval by NERC. The Registered Entity shall not be subject to findings of violations of the specific Requirements of Reliability Standards that are the subject of the Mitigation Plan or to imposition of Penalties or sanctions for such violations with respect to the period of time the Mitigation Plan was under consideration by NERC and for a reasonable period following NERC's disapproval of the Mitigation Plan, so long as the Registered Entity promptly submits a modified Mitigation Plan that addresses the concerns identified by NERC.

If a Registered Entity submits a Mitigation Plan prior to issuance of a ~~Notice~~notification of Confirmed Violation or entry into a settlement, such as with a Self-Report or in response to a Notice of Possible Violation, the Regional Entity may provisionally accept the proposed Mitigation Plan. If the Regional Entity subsequently determines, upon completing its assessment of the Possible Violation, that the facts and circumstances are different than those on which the accepted Mitigation Plan was based, the Regional Entity may, by notice to the Registered Entity and to NERC, require the Registered Entity to submit a revised Mitigation Plan that fully addresses the facts and circumstances of the violation. The Regional Entity's notice shall state the additional or different facts and circumstances that need to be addressed in the revised Mitigation Plan. The Registered Entity shall submit a revised Mitigation Plan in response to the notice within thirty (30) days following the date of the notice, unless the Regional Entity specifies or allows a longer time period. The Registered Entity's revised Mitigation Plan shall be subject to review and acceptance or rejection by the Regional Entity and by NERC in accordance with this Section 6.5. If the Regional Entity issues a notification~~Notice~~ of Confirmed Violation or enters into a settlement with the Registered Entity and does not identify a need to request modifications to the provisionally-accepted Mitigation Plan based on additional or different facts and circumstances, the Regional Entity shall issue a notice to the Registered Entity, with a copy to NERC, stating that the "provisional" nature of the acceptance is terminated and the acceptance is final. The Regional Entity shall issue such notice within five (5) business days of issuance of the Notice of Confirmed Violation or entry into the settlement.

NERC will submit to FERC, as non-public information, an approved Mitigation Plan relating to violations of Reliability Standards within seven (7) business days after NERC approves the Mitigation Plan. NERC shall publicly post the approved Mitigation Plan as part of the public posting of the related Notice of Penalty in accordance with Section 8.0 or settlement in accordance with Section 5.6.

### 6.6 Completion/Confirmation of Implementation of Mitigation Plans

The Registered Entity shall provide updates at least quarterly to the Compliance Enforcement Authority on the progress of the Mitigation Plan. The Compliance Enforcement Authority will track the Mitigation Plan to completion and may conduct on-site visits and review status during Compliance Audit to monitor Mitigation Plan implementation.

Upon completion of the Mitigation Plan, the Registered Entity shall provide to the Compliance Enforcement Authority certification, signed by an officer, employee, attorney or other authorized representative of the Registered Entity, that all required actions described in the Mitigation Plan have been completed and shall include data or information sufficient for the Compliance Enforcement Authority to verify completion. The Compliance Enforcement Authority shall request such data or information and conduct follow-up assessments, on-site or other Spot Check~~sing~~, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed ~~and the Registered Entity is in compliance with the subject Reliability Standard Requirement(s)~~.

In the event all required actions in the Mitigation Plan are not completed within the applicable deadline including any extensions of the original deadline granted under Section 6.3, any violation(s) of a Reliability Standard subject to the Mitigation Plan that occurred during the originally scheduled time period for completion will be enforced immediately and a new Mitigation Plan must be submitted for acceptance by the Compliance Enforcement Authority. In addition, the Compliance Enforcement Authority may conduct a Compliance Audit of, or issue a Remedial Action Directive to, the Registered Entity.

Upon request by NERC, the Regional Entity~~ies~~ will provide to NERC the quarterly status reports and such other information as NERC requests~~,~~ ~~and~~ The Regional Entity will notify NERC when each Mitigation Plan is verified to have been completed.

### 6.7 Recordkeeping

The Compliance Enforcement Authority will maintain a record containing the following information for each Mitigation Plan:

- Name of Registered Entity.
- The date of the violation.
- Monitoring method by which the violation was detected, i.e., Self-Certification, Self-Report~~ing~~, Compliance Audit, Compliance Investigation, Complaint, etc.
- Date(s) of Notice of Possible Violation and ~~Notice~~notification of Alleged Violation (if applicable).
- Expected and actual completion date of the Mitigation Plan and major milestones.
- Expected and actual completion date for each required action.
- Accepted changes to milestones, completion dates, or scope of Mitigation Plan.
- Registered Entity's completion notice and data submitted as evidence of completion.

## 7.0 REMEDIAL ACTION DIRECTIVES

The Compliance Enforcement Authority may issue a Remedial Action Directive when such action is immediately necessary to protect the reliability of the Bulk Power System from an imminent or actual threat. A Remedial Action Directive may include, but is not limited to, any of the following: specifying operating or planning criteria, limits, or limitations; requiring specific system studies; defining operating practices or guidelines; requiring confirmation of data, practices, or procedures through inspection testing or other methods; requiring specific training for personnel; requiring development of specific operating plans; directing a Registered Entity to develop and comply with a plan to remediate a violation; imposing increased auditing or additional training requirements; and requiring a Registered Entity to cease an activity that may constitute a violation of a Reliability Standard.

A Remedial Action Directive may be issued to a Registered Entity at any time, including during any procedures relating to a Possible Violation or an Alleged Violation of a Reliability Standard. The Compliance Enforcement Authority will specify ~~if~~whether a Remedial Action Directive obviates the need for a Mitigation Plan.

Prior to issuing a Remedial Action Directive, the ~~Regional Entity~~Compliance Enforcement Authority shall consult the Reliability Coordinator for the Registered Entity~~, if applicable, to ensure that the Remedial Action Directive is not in conflict with directives issued by the Reliability Coordinator~~.

Any Remedial Action Directive must be provided in a notice to the Registered Entity and shall include: (i) a list of the Possible Violation(s) or Alleged Violation(s) of Reliability Standards that are the basis for issuance of the Remedial Action Directive; (ii) a discussion of the factual basis for the Remedial Action Directive; (iii) the requirements the Compliance Enforcement Authority is imposing to remove the imminent or actual threat to the reliability of the Bulk Power System; (iv) a deadline for compliance and a schedule for specific periodic updates to the Compliance Enforcement Authority; and (~~i~~v) notice to the Registered Entity that failure to comply with the directive by the Required Date may result in further Remedial Action Directives or significantly increased sanctions.

The Compliance Enforcement Authority will cause the notice of the Remedial Action Directive to be delivered to the Registered Entity by (i) electronic mail~~means~~ to the Registered Entity's CEO or equivalent and copied to the Registered Entity's designated contact person for reliability matters and (ii) by a recognized express courier service that provides tracking and verification of delivery to the recipient. The notice will be deemed received on the earlier of the actual date of receipt of the electronic submission or receipt of the express courier ~~date of~~ delivery as specified by the express courier service's verification of delivery~~ shall be the date of actual receipt of the Remedial Action Directive~~. The Compliance Enforcement Authority will monitor implementation of Remedial Action Directives as necessary to verify compliance.

The ~~Regional Entity~~Compliance Enforcement Authority will notify NERC within two (2) business days after issuing a Remedial Action Directive and will copy NERC on all correspondence sent to the Registered Entity.

Once the Compliance Enforcement Authority has given the Registered Entity notice of the Remedial Action Directive, the Registered Entity may contest the Remedial Action Directive by giving written notice to the Compliance Enforcement Authority within two (2) business days

following the date of actual receipt of notice of the Remedial Action Directive. Due to the urgency of resolving any objections to a Remedial Action Directive, the hearing shall be conducted under the expedited hearing process set forth in Section 1.9 of **Attachment 2, Hearing Procedures**. Notice to contest the Remedial Action Directive and participation in the hearing process set forth in Section 1.9 of **Attachment 2, Hearing Procedures** shall constitute the Registered Entity's right to appeal the Remedial Action Directive. The Registered Entity may elect not to implement the Remedial Action Directive until the hearing process is completed, or may proceed with implementing the Remedial Action Directive even if it is contesting the Remedial Action Directive.

## 8.0 REPORTING AND DISCLOSURE

### 8.1 Information to be Reported

Regional Entities shall ~~prepare and~~promptly submit to NERC electronic ~~all required~~ reports~~,~~ containing current information concerning the information listed below. NERC will work with Regional Entities to specify form, content, timing, and method of submitting reports and notices.

(1) The status of the review and assessment of ~~Registered Entity compliance with Reliability Standards, (2)~~ all Possible Violations, Alleged Violations and Confirmed Violations of Reliability Standards by Registered Entities~~, (3) the status of Possible Violations and Alleged Violations~~,

(2) The potential impact of any Alleged Violation or Confirmed Violation on the reliability of the Bulk Power System,

(4~~3~~) ~~s~~Sanctions and Penalties,

(~~5~~4) Remedial Action Directives imposed, ~~and~~

(~~6~~5) Mitigation Plan(s~~) accepted including dates for all required actions and for completion.~~, and

(6) The name of a Regional Entity staff person knowledgeable about the information to serve as a point of contact.

### 8.2 Reporting to Applicable Governmental Authorities and Public Disclosure

~~Regional Entities shall report all Possible Violations, Alleged Violations and Confirmed Violations to NERC by promptly entering the Possible Violation, Alleged Violation or Confirmed Violation into the NERC compliance reporting and tracking system.~~Within two (2) business days of receiving a report from a Regional Entity of a Possible Violation, Alleged Violation, or Confirmed Violation, ~~-~~NERC shall notify FERC of the Possible Violation, Alleged Violation or Confirmed Violation. ~~and,~~

~~w~~Where the report pertains to a Registered Entity or to a portion of the Bulk Power System over which another Applicable Governmental Authority has jurisdiction, NERC shall ~~also~~ notify such other Applicable Governmental Authority, within two (2) business days of receiving a report of a

Possible Violation, Alleged Violation or Confirmed Violation from the Regional Entity; provided, that NERC will not disclose any non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to an Applicable Governmental Authority other than FERC without first obtaining permission from FERC for such disclosure and subject to any limitations placed by FERC on such disclosure., and Likewise, NERC will not disclose non-public non-U.S. compliance information to an Applicable Governmental Authority (including FERC) without first obtaining permission from the Applicable Governmental Authority that has jurisdiction over the Registered Entity or portion of the Bulk Power System to which the non-public information pertains and subject to any limitations placed on such disclosure by such Applicable Governmental Authority or by other law of the applicable jurisdiction.

In any notice to, and request for permission to disclose compliance information from, FERC or another Applicable Governmental Authority pursuant to any provision of this Compliance Program, NERC will identify each Applicable Governmental Authority to which it proposes to disclose the information and the specific procedures that will be used for protecting from public disclosure any non-public compliance information that will be transferred to the other Applicable Governmental Authority or Authorities. The provisions of this paragraph do not apply to the provision by NERC to an Applicable Governmental Authority of information that is not directly related to a specific Registered Entity's compliance with a requirement of a Reliability Standard. Such reports shall include information regarding the nature of the Possible Violation, Alleged Violation or Confirmed Violation, the name of the Registered Entity involved, the status of any ongoing review and assessment of the Possible Violation, Alleged Violation, or Confirmed Violation, the name of a Regional Entity staff person knowledgeable about the information to serve as a point of contact, as required by 18 C.F.R. §39.7(b), and, in the case of an Alleged Violation or Confirmed Violation, its potential impact on the reliability of the Bulk Power System.

Regional Entities shall report to NERC, through the NERC compliance reporting and tracking system, the status of Possible Violations and Alleged Violations, regardless of significance, that have not yet resulted in a Notice of Confirmed Violation or have not completed the hearing process, or for which mitigation activities (including activities being carried out pursuant to a settlement agreement) have not been completed. Regional Entities will ensure the information is current when these reports are provided.

Regional Entities shall report a Confirmed Violation to NERC at the same time the Notice of Confirmed Violation is issued to the Registered Entity. NERC will publicly post on its website each Notice of Penalty, with any Critical Energy Infrastructure Information or other Confidential Information redacted (unless posting of the Critical Energy Infrastructure Information or Confidential Information has been determined to be permissible in accordance with Section 1500 of the Rules of Procedure) with the identify of the violator, together with any statement submitted by the Registered Entity, when NERC files the Notice of Penalty with FERC pursuant to Section 5.9.

NERC will provide reports quarterly to FERC and, where a report contains information pertaining to a Registered Entity or to a portion of the Bulk Power System over which another Applicable Governmental Authority has jurisdiction, to such other Applicable Governmental Authority, on the status of all Possible, Alleged and Confirmed Violations for which mitigation activities have not been completed. All such reports to FERC and to other Applicable

Governmental Authorities shall be provided in accordance with this Section.~~; provided, that NERC will not disclose any non-public U.S. compliance information that is subject to 18 C.F.R. §39.7(b)(4) to an Applicable Governmental Authority other than FERC without first obtaining permission from FERC for such disclosure and subject to any limitations placed by FERC on such disclosure, and NERC will not disclose non-public non-U.S. compliance information to an Applicable Governmental Authority (including FERC) without first obtaining permission from the Applicable Governmental Authority that has jurisdiction over the Registered Entity or portion of the Bulk Power System to which the non-public information pertains and subject to any limitations placed on such disclosure by such Applicable Governmental Authority or by other law of the applicable jurisdiction.~~

## 9.0 DATA RETENTION AND CONFIDENTIALITY

### 9.1 Records Management

The Compliance Enforcement Authority records management policy shall provide for a routine and orderly process for the retention and disposal of electronic and paper records related to the Compliance Program, ensure verification of compliance with appropriate business, regulatory, and legal requirements and at a minimum conform to the data retention requirements of the Reliability Standards. The policy shall allow for the maintenance of records as required to implement the Compliance Program.

### 9.2 Retention Requirements

The Compliance Enforcement Authority records management policy will require that information and data generated or received pursuant to Compliance Program activities, including Compliance Audits, Self-Certifications, Spot Check~~s~~ing, Compliance Investigations, Self-Report~~s~~ing, Periodic Data Submittals, Exception Reporting, and Complaints, as well as a hearing process, will be retained for the longer of (i) five (5) years or (ii) any retention period specified in a Reliability Standard or by FERC or another Applicable Governmental Authority. The obligation to retain information and data commences upon the initiation of the Compliance Program activity that produces the data or information. If the information or data is material to the resolution of a controversy, the retention period for such data shall not commence until after the controversy is resolved.

Upon request from NERC, Regional Entities will provide to NERC copies of such information and data. NERC will retain the information and data in order to maintain a record of activity under the Compliance Program. In providing the information and data to NERC, the Regional Entity shall preserve any mark of confidentiality.

### 9.3 Confidentiality and Critical Energy Infrastructure Information

#### 9.3.1 Definitions

Information or data generated or received pursuant to Compliance Program activities, including a hearing process, shall be treated in a confidential manner pursuant to the provisions of Section 1500 of the NERC Rules of Procedure. The terms "Confidential Information," "Confidential

Business and Market Information," "Critical Energy Infrastructure Information," and "Critical Infrastructure" shall have the meanings stated in Appendix 2 to the NERC Rules of Procedure.

### 9.3.2 Protection of Confidential Information

The Compliance Enforcement Authority personnel (including any contractors, consultants and industry subject matter experts) and committee members, and participants in Compliance Program activities shall be informed of, and agree to comply with, Section 1500 of the NERC Rules of Procedure concerning Confidential Information.

### 9.3.3 Critical Energy Infrastructure Information

The Compliance Enforcement Authority will keep confidential all Critical Energy Infrastructure Information in accordance with Section 1500 of the NERC Rules of Procedures. Information deemed to be Critical Energy Infrastructure Information shall be redacted, in accordance with Section 1500 of the NERC Rules of Procedure, and shall not be released publicly.

## ATTACHMENT 1

## PROCESS FOR NON-SUBMITTAL OF REQUESTED DATA

FERC's regulations at 18 C.F.R §39.2(d) provide that each user, owner or operator of the Bulk Power System within the United States (other than Alaska and Hawaii) shall provide FERC, the ERO and the applicable Regional Entity such information as is necessary to implement section 215 of the Federal Power Act as determined by FERC and set out in the rules of the ERO and each Regional Entity. In order to enforce this requirement, ~~I~~if data, information, or other reports (including Mitigation Plans) requested from a Registered Entity in connection with a compliance monitoring process or enforcement process are not received by the Required Date, the Compliance Enforcement Authority may sequentially execute the following steps for each Reliability Standard Requirement for which the Compliance Enforcement Authority has requested data, information, or other reports. However, upon a request from the Registered Entity submitted prior to the Required Date stating in reasonable detail the basis for the Registered Entity's need for additional time, the Compliance Enforcement Authority may afford the Registered Entity reasonable additional time to submit the data, information or report due to the scope or difficulty of the request or requirement for data, information or reports, the amount of the data, information or reports requested or required, or the form in which the data, information, or other reports has been requested or is required to be provided.~~The Compliance Enforcement Authority however will afford the Registered Entity reasonable opportunity to resolve a difficulty submitting data due to time or format issues.~~

Step 1: The Compliance Enforcement Authority will issue a ~~follow-up~~ notification to the Registered Entity's designated contact for reliability matters, identifying the data, information or report that were requested or required and the Required Date and stating that the Required Date has passed and the Registered Entity should, within five (5) business days, either provide the data, information or report, or contact the Compliance Enforcement Authority with a proposed date by which the Registered Entity will provide the data, information or report. If the Compliance Enforcement Authority agrees with the Registered Entity on a revised date by which the Registered Entity will provide the data, information or report, the agreed revised date shall become the Revised Required Date.

~~Step 2:~~ ~~The Compliance Enforcement Authority will issue a follow-up notification to the Registered Entity's vice president or equivalent responsible for compliance (with a copy to NERC and the Registered Entity's designated contact).~~

Step ~~3~~2: If the Registered Entity does not provide a response to the notification in, and in accordance with, Step 1, within five (5) business days, or by a revised date as agreed to in Step 1, ~~T~~the Compliance Enforcement Authority will issue a ~~follow-up~~ notification to the Registered Entity's designated contact for reliability matters, with a copy to the Registered Entity's chief executive officer or equivalent, stating that if the data, information or report is not received within ten (10) business days, the

Compliance Enforcement Authority may (i) implement a compliance monitoring process directed to the Registered Entity, or (ii) issue a Notice or other notification of Alleged Violation and Proposed Penalty or Sanction at the Severe Violation Severity Level to the Registered Entity for the Reliability Standard Requirement to which the requested or required data, information or report relates ~~(with a copy to NERC, the Registered Entity's vice president or equivalent responsible for compliance and the Registered Entity's designated contact)~~.

~~A full Compliance Audit may be scheduled at this step.~~

Step 43: If the Registered Entity fails to produce the requested or required data, information or report in response to the notification in Step 2 within the ~~Thirty (30)~~ten (10) business day~~s~~ cure period set forth in the Step 2 notification, the Compliance Enforcement Authority may take any action of which the Registered Entity was notified in the Step 2 notification, including issuing a Notice or other notification of Alleged Violation and Proposed Penalty or Sanction~~after the Required Date, a Reliability Standard violation may be applied~~ at the ~~s~~Severe Violation Severity Level for the Reliability Standard Requirement to which the requested or required data, information or report relates.

~~Step 4 does not apply to Compliance Audits and Mitigation Plan tracking requests.~~

The process described in this Attachment 1 is intended to be applied where a Registered Entity does not respond by the Required Date to an initial request for data, information or reports in connection with a compliance monitoring and enforcement process and does not respond to subsequent requests (Steps 1 and 2 above) by the stated deadline. This process is not intended to apply where the Registered Entity responds, prior to the Required Date, to the initial request or requirement for data, information or reports with requests for clarification, definition of scope, or similar questions concerning the request or requirement for data, information or reports, or requests, prior to the Required Date, additional time to respond based on the scope or difficulty of the request or requirement for data, information or reports, the amount or extent of the data, information or reports requested or required, or the form in which the data, information or report is to be provided, and works with the Compliance Enforcement Authority in good faith to respond to the request or requirement for data, information or reports, as modified if appropriate by the Compliance Enforcement Authority based on questions raised by the Registered Entity.

## ATTACHMENT 2 - HEARING PROCEDURES

## TABLE OF CONTENTS


**1.1 Applicability, Definitions and Interpretation ..... 1**
**1.1.1 Procedure Governed ..... 1**
**1.1.2 Deviation ..... 1**
**1.1.3 Standards for Discretion ..... 1**
**1.1.4 Interpretation ..... 2**
**1.1.5 Definitions ..... 2**
**1.2 General Provisions including Filing, Service, Transcription and Participation 5**
**1.2.1 Contents of Filings ..... 5**
**1.2.2 Form of Filings ..... 5**
**1.2.3 Submission of Documents ..... 5**
**1.2.4 Service ..... 7**
**1.2.5 Computation of Time ..... 7**
**1.2.6 Extensions of Time ..... 8**
**1.2.7 Amendments ..... 8**
**1.2.8 Transcripts ..... 8**
**1.2.9 Rulings, Notices, Orders and Other Issuances ..... 9**
**1.2.10 Location of Hearings and Conferences ..... 9**
**1.2.11 Participant Participation ..... 9**
**1.2.12 Interventions ..... 9**
**1.2.13 Proceedings Closed to the Public ..... 11**
**1.2.14 Docketing System ..... 11**
**1.2.15 Representations Deemed to be Made in All Pleadings ..... 11**
**1.2.16 Hold Harmless ..... 12**
**1.3 Initiation of the Hearing Process ..... 12**
**1.3.1 Registered Entity's Option to Request a Hearing ..... 12**
**1.3.2 Compliance Staff's Response to Request for Hearing ..... 14**
**1.3.3 Notice of Hearing ..... 14**
**1.3.4 Shortened Hearing Procedure ..... 15**
**1.4 General Hearing Procedure ..... 16**
**1.4.1 [Intentionally Left Blank] ..... 16**
**1.4.2 Hearing Officer ..... 16**
**1.4.3 Hearing Body ..... 18**
**1.4.4 Interlocutory Review ..... 19**
**1.4.5 Disqualification ..... 20**
**1.4.6 Technical Advisor ..... 20**
**1.4.7 No Ex Parte Communications ..... 21**
**1.4.8 Appearances ..... 22**
**1.4.9 Failure to Appear or Exercise Diligence ..... 22**
**1.4.10 Consolidation of Proceedings ..... 23**
**1.5 Prehearing Procedure ..... 23**
**1.5.1 [Intentionally Left Blank] ..... 23**
**1.5.2 Prehearing Conference ..... 23**
**1.5.3 Summary Disposition ..... 24**
**1.5.4 Status Hearings ..... 25**

**1.5.5 Motions and Responses....25**
**1.5.6 Experts....25**
**1.5.7 Inspection and Copying of Documents in Possession of Staff....26**
**1.5.8 Other Discovery Procedures....29**
**1.5.9 Pre-Evidentiary Hearing Submission of Testimony and Evidence....31**
**1.5.10 Protective Orders....32**
**1.5.11 Pre-Evidentiary Hearing Memorandum....34**
**1.5.12 Certification of Questions to the NERC Board of Trustees....34**
**1.6 Procedure at Evidentiary Hearing....35**
**1.6.1 Purpose of Evidentiary Hearing....35**
**1.6.2 Order of Receiving Evidence....35**
**1.6.3 Opening and Closing Statements....35**
**1.6.4 Right of Participant to Present Evidence....35**
**1.6.5 Exhibits....35**
**1.6.6 Witness Attendance at Testimonial Hearing....36**
**1.6.7 Admission of Evidence....36**
**1.6.8 Evidence that is Part of a Book, Paper or Document....37**
**1.6.9 Stipulations....37**
**1.6.10 Official Notice....37**
**1.6.11 Admissibility of Evidence....38**
**1.6.12 Offer of Proof....38**
**1.6.13 Reservation of Evidentiary Ruling....38**
**1.6.14 Cross-Examination....39**
**1.6.15 Redirect Examination....39**
**1.6.16 Examination of Adverse Participant....39**
**1.6.17 Close of the Evidentiary Record....39**
**1.7 Post-Evidentiary Hearing Procedure....40**
**1.7.1 Briefs....40**
**1.7.2 Other Pleadings....40**
**1.7.3 Draft Initial Opinions....40**
**1.7.4 Hearing Officer's Initial Opinion....40**
**1.7.5 Exceptions....41**
**1.7.6 Oral Argument....42**
**1.7.7 Additional Hearings....42**
**1.7.8 Hearing Body Final Order....42**
**1.7.9 The Record....43**
**1.7.10 Appeal....44**
**1.8 Settlement....44**
**1.9 Remedial Action Directives....44**
**1.9.1 Initiation of Remedial Action Directive Hearing....44**
**1.9.2 Remedial Action Directive Hearing Procedure....45**

## ATTACHMENT 2 - HEARING PROCEDURES

### 1.1 Applicability, Definitions and Interpretation

#### 1.1.1 Procedure Governed

(a) The provisions set forth in this **Attachment 2** ("Hearing Procedures") shall apply to and govern practice and procedure before the Compliance Enforcement Authority in hearings in the United States conducted into:

(~~i~~1) whether Registered Entities within the Compliance Enforcement Authority's Area of Responsibility have violated Reliability Standards, and

(~~ii~~2) if so, to determine the appropriate Mitigation Plans as well as any ~~r~~Remedial ~~a~~Action Directives, Penalties and/or sanctions in accordance with the NERC *Sanction Guidelines* and other applicable Penalty guidelines approved by FERC pursuant to 18 C.F.R. Section 39.7(g)(2).

(b) Any hearing conducted pursuant to these Hearing Procedures shall be conducted before a Hearing Officer and a Hearing Body established by the Compliance Enforcement Authority. Where the Hearing Body is comprised, in whole or in part, of industry stakeholders, ~~T~~the composition of the Hearing Body, after any recusals or disqualifications, shall be such that no two industry segments may control, and no single industry segment may veto, any decision by the Hearing Body on any matter brought before it for decision. Where the Hearing Body is comprised solely of independent members and an independent hearing Officer, decisions shall require a majority vote.

(c) The standard of proof in any proceeding under these Hearing Procedures shall be by a preponderance of the evidence. The burden of persuasion on the merits of the proceedings shall rest upon the Compliance Staff alleging noncompliance with a Reliability Standard, proposing a Penalty, opposing a Registered Entity's Mitigation Plan, or requiring compliance with a Remedial Action Directive.

(d) If a final order has been entered by the Hearing Body, or the Hearing Body has issued a ruling determining that there are no issues to be decided regarding the Alleged Violation, proposed Penalty amount, proposed Mitigation Plan or proposed Remedial Action Directive, or the Registered Entity and the Compliance Enforcement Authority have entered into a settlement agreement resolving the matters that are the subject of the hearing, the hearing shall be terminated by the Hearing Body and no further proceedings shall be conducted before the Hearing Body.

#### 1.1.2 Deviation

To the extent permitted by law, any provision in these Hearing Procedures may be waived, suspended or modified by the Hearing Officer~~, as defined in Paragraph 1.1.5,~~ or the Hearing Body, for good cause shown, either upon the Hearing Officer's or the Hearing Body's own motion or upon the motion of any Participant.

#### 1.1.3 Standards for Discretion

The Compliance Enforcement Authority's discretion under these Hearing Procedures shall be exercised to accomplish the following goals:

(a) Integrity of the Fact-Finding Process - The principal goal of the hearing process is to assemble a complete factual record to serve as a basis for a correct and legally sustainable ruling, decision or order.

(b) Fairness - Persons appearing in Compliance Enforcement Authority proceedings should be treated fairly. To this end, Participants should be given fair notice and opportunity to present explanations, factual information, documentation and legal argument. Action shall be taken as necessary to eliminate any disadvantage or prejudice to a Participant that would otherwise result from another Participant's failure to act diligently and in good faith.

(c) Independence - The hearing process should be tailored to protect against undue influence from any Person, Participant or interest group.

(d) Balanced Decision-Making - Decisions should be based solely on the facts and arguments of record in a proceeding and by individuals who satisfy the Compliance Enforcement Authority's conflict of interest policy.

(e) Impartiality - Persons appearing before the Hearing Body should not be subject to discriminatory or preferential treatment. Registered Entities should be treated consistently unless a reasonable basis is shown in any particular proceeding to depart from prior rulings, decisions or orders.

(f) Expedition - Proceedings shall be brought to a conclusion as swiftly as is possible in keeping with the other goals of the hearing process.

### 1.1.4 Interpretation

(a) These Hearing Procedures shall be interpreted in such a manner as will aid in effectuating the Standards for Discretion set forth in ~~Paragraph~~Section 1.1.3, and so as to require that all practices in connection with the hearings shall be just and reasonable.

(b) Any ruling, order or decision of the Hearing Officer referenced in these Hearing Procedures shall be made by the Hearing Body where the composition of the Hearing Body consists of independent members and an independent Hearing Officer.

(~~b~~c) Unless the context otherwise requires, the singular of a term used herein shall include the plural and the plural of a term shall include the singular.

(~~c~~d) To the extent that the text of a rule is inconsistent with its caption, the text of the rule shall control.

### 1.1.5 Definitions

Unless otherwise defined, as used in these Hearing Procedures, definitions in Appendix 2 of the NERC Rules of Procedure shall apply. For ease of reference, the following defined terms used in these Hearing Procedures are also set forth below:

"Clerk" shall means an individual assigned by the Compliance Enforcement Authority to perform administrative tasks relating to the conduct of hearings asduties described in these Hearing Procedures.

"Compliance Enforcement Authority's Area of Responsibility" means the Compliance Enforcement Authority's Region. If a Regional Entity is the Compliance Enforcement Authority, the Compliance Enforcement Authority's Area of Responsibility is shown in Exhibit A to the delegation agreement between the Regional Entity and NERC.

"Critical Energy Infrastructure Information" means specific engineering, vulnerability, or detailed design information about proposed or existing Critical Infrastructure that: (i) relates details about the production, generation, transportation, transmission, or distribution of energy; (ii) could be useful to a person in planning an attack on Critical Infrastructure; and (iii) does not simply give the location of the Critical Infrastructure.

"Critical Infrastructure" means existing and proposed systems and assets, whether physical or virtual, the incapacity or destruction of which would negatively affect security, economic security, public health or safety, or any combination of those matters.

"Cyber Security Incident" means any malicious act or suspicious event that disrupts, or was an attempt to disrupt, the operation of those programmable electronic devices and communications networks including hardware, software and data that are essential to the Reliable Operation of the Bulk Power System.

"Director of Compliance" means the Director of Compliance of NERC or of the Compliance Enforcement Authority, as applicable, or other individual designated by the Compliance Enforcement Authority, who is responsible for the management and supervision of Compliance Staff, or his or her designee.

"Document" means, in addition to the commonly understood meaning of the term as information written or printed on paper, any electronically stored information, including writings, drawings, graphs, charts, photographs, sound recordings, images and other data or data compilations stored in any medium from which information can be obtained, and shall be translated by the producing party into reasonably usable form.

"ERO" ormeans the "Electric Reliability Organization," means the organization that is certified by the Commission under Section 39.3 of its regulations, the purpose of which is to establish and enforce Reliability Standards for the Bulk Power System in the United States, subject to Commission review. The organization may also have received recognition by Applicable Governmental Authorities in Canada and Mexico to establish and enforce Reliability Standards for the Bulk Power Systems of the respective countries.

"Evidentiary Hearing" means a hearing at which one or more Participants submits evidence for the record. A Testimonial Hearing is an Evidentiary Hearing, but an

Evidentiary Hearing does not necessarily include the presentation of testimony by witnesses in person.

"FERC" means the Federal Energy Regulatory Commission.

"Hearing Body" means the body established or designated by the Compliance Enforcement Authority to conduct hearings and issue decisions concerning disputed compliance matters in accordance with these Hearing Procedures.

"Hearing Officer" means an individual employed or contracted by the Compliance Enforcement Authority and designated by the Compliance Enforcement Authority to preside over hearings conducted pursuant to these Hearing Procedures.

"Participant" means a Respondent and any other Person who is allowed or required by the Hearing Body or by FERC to participate as an intervenor in a proceeding conducted pursuant to these Hearing Procedures, and as used in these Hearing Procedures shall include the members of the Compliance Staff of the Compliance Enforcement Authority that participate in a proceeding.

"Penalty" means and includes all penalties and sanctions, including but not limited to a monetary or non-monetary penalty; a limitation on an activity, function, operation or other appropriate sanction; or the addition of the Registered Entity or Respondent to a reliability watch list composed of major violators. Penalties must be within the range set forth in the NERC *Sanction Guidelines* approved by FERC pursuant to 18 C.F.R. Section 39.7(g)(2), and shall bear a reasonable relation to the seriousness of a Registered Entity's or Respondent's violation and take into consideration any timely efforts made by the Registered Entity or Respondent to remedy the violation.

"Person" means any individual, partnership, corporation, limited liability company, governmental body, association, joint stock company, public trust, organized group of persons, whether incorporated or not, or any other legal entity.

"Respondent" means the Registered Entity who is the subject of the Notice of Alleged Violation, contested Mitigation Plan or contested Remedial Action Directive that is the basis for the proceeding, whichever is applicable.

"Staff" or "Compliance Staff" means individuals employed or contracted by NERC or the Compliance Enforcement Authority who have the authority to make initial determinations of compliance or violation with Reliability Standards by Registered Entities and associated Penalties and Mitigation Plans.

"Technical Advisor" means any Staff member, third-party contractor, or industry stakeholder who satisfies the Compliance Enforcement Authority's conflict of interest policy and is selected to assist in a proceeding by providing technical advice to the Hearing Officer and/or the Hearing Body.

"Testimonial Hearing" means an Evidentiary Hearing at which the witness or witnesses on behalf of one or more Participants appears in person to present testimony and be subject to cross-examination.

## 1.2 General Provisions including Filing, Service, Transcription and Participation

### 1.2.1 Contents of Filings

All filings made with the Hearing Body must contain:

(a) A caption that sets forth the title of the proceeding and the designated docket number or, if the filing initiates a proceeding, a space for the docket number;

(b) A heading that describes the filing and the Participant on whose behalf the filing is made;

(c) The full name, address, telephone number and email address of the Participant or the representative of the Participant making the filing;

(d) A plain and concise statement of any facts upon which the filing is based, which facts shall be supported by citations to the record of the hearing, if available, or other evidence~~documents~~; and

(e) The specific relief sought, which may be in the alternative, and the authority that provides for or otherwise allows the relief sought.

### 1.2.2 Form of Filings

(a) All filings shall be typewritten, printed, reproduced or prepared using a computer or other word or data processing equipment on white paper 8½ inches by 11 inches with inside text margins of not less than one inch. Page numbers shall be centered and have a bottom margin of not less than ½ inch. Line numbers, if any, shall have a left-hand margin of not less than ½ inch. The impression shall be on one side of the paper only and shall be double spaced; footnotes may be single spaced and quotations may be single spaced and indented.

(b) All pleadings shall be composed in either Arial or Times New Roman font, black type on white background. The text of pleadings or documents shall be at least 12-point. Footnotes shall be at least 10-point. Other material not in the body of the text, such as schedules, attachments and exhibits, shall be at least 8-point.

(c) Reproductions may be by any process provided that all copies are clear and permanently legible.

(d) Testimony prepared for the purpose of being entered into evidence shall include line numbers on the left-hand side of each page of text. Line numbers shall be continuous.

(e) Filings may include schedules, attachments or exhibits of a numerical or documentary nature which shall, whenever practical, conform to these requirements; however, any log, graph, map, drawing, chart or other such document will be accepted on paper larger than prescribed in subparagraph (a) if it cannot be provided legibly on letter size paper.

### 1.2.3 Submission of Documents

**(a) Where to File**

Filings shall be made with the Clerk of the Compliance Enforcement Authority located at its principal office. The office will be open during the Compliance Enforcement Authority's regular business hours ~~from [*Compliance Enforcement Authority business hours*] local time~~ each day except Saturday, Sunday, legal holidays and any other day declared by the Compliance Enforcement Authority.

**(b) When to File**

Filings shall be made within the time limits set forth in these Hearing Procedures or as otherwise directed by the Hearing Officer or the Hearing Body. Filings will be considered made when they are date stamped received by the Clerk. To be timely, filings must be received no later 5:00 P.M.~~than [*Compliance Enforcement Authority close of business*]~~ local time on the date specified.

**(c) How to File**

Filings may be made by personal delivery, mailing documents that are properly addressed with first class postage prepaid, or depositing properly addressed documents with a private express courier service with charges prepaid or payment arrangements made. Alternatively, filing by electronic means will be acceptable upon implementation of a suitable and secure system by the Compliance Enforcement Authority.

**(d) Number of Copies to File**

One original and five exact copies of any document shall be filed. The Clerk will provide each member of the Hearing Body with a copy of each filing.

**(e) Signature**

The original of every filing shall be signed by the Participant on whose behalf the filing is made, either by an attorney of the Participant or, by the individual if the Participant is an individual, by an officer of the Participant if the Participant is not an individual, or if the Participant is Staff, by a designee authorized to act on behalf of Staff. ~~The signature on a filing constitutes a certificate that the signer has read the filing and knows its contents, and that the contents are true to the best of the signer's knowledge and belief.~~

**(f) Verification**

The facts alleged in a filing need not be verified unless required by these Hearing Procedures, the Hearing Officer or the Hearing Body. If verification is required, it must be under oath by a person having knowledge of the matters set forth in the filing. If any verification is made by an individual other than the signer, a statement must be included in or attached to the verification explaining why a person other than the signer is providing verification.

**(g) Certificate of Service**

Filings shall be accompanied by a certificate of service stating the name of the individuals served, the Participants whose interests the served individuals represent, the date on which

service is made, the method of service and the addresses to which service is made. The certificate shall be executed by the individual who caused the service to be made.

### 1.2.4 Service

**(a) Service List**

For each proceeding, the Clerk shall prepare and maintain a list showing the name, address, telephone number, and facsimile number and email address, if available, of each individual designated for service. The Hearing Officer, Director of Compliance and the Registered Entity's compliance contact~~designated agent for service [~~as registered with the Compliance Enforcement Authority~~],~~ shall automatically be included on the service list. Participants shall identify all other individuals whom they would like to designate for service in a particular proceeding in their appearances or other filings. Participants may change the individuals designated for service in any proceeding by filing a notice of change in service list in the proceeding. Participants are required to update their service lists to ensure accurate service throughout the course of the proceeding. Copies of the service list may be obtained from the Clerk.

**b) By Participants**

Subject to the provisions of Section 1.5.10, ~~A~~any Participant filing a Document in a proceeding must serve a copy of the Document on each individual whose name is on the service list for the proceeding. Unless otherwise provided, service may be made by personal delivery, email, deposit in the United States mail properly addressed with first class postage prepaid, registered mail properly addressed with postage prepaid or deposit with a private express courier service properly addressed with charges prepaid or payment arrangements made.

**(c) By the Clerk**

The Clerk shall serve all issuances of the Hearing Officer and Hearing Body upon the members of the Hearing Body and each individual whose name is on the service list for the proceeding. Service may be made by personal delivery, email, deposit in the United States mail properly addressed with first class postage prepaid, registered mail properly addressed with postage prepaid or deposit with a private express courier service properly addressed with charges prepaid or payment arrangements made. The Clerk shall transmit a copy of the record of a proceeding to the ERO at the time ~~it serves~~ the Compliance Enforcement Authority transmits to the ERO ~~with~~ either (1) a Notice of Penalty, or (2) a Hearing Body final order that includes a Notice of Penalty.

**(d) Effective Date of Service**

Service by personal delivery or email is effective immediately. Service by mail or registered mail is effective upon mailing; service by a private express courier service is effective upon delivery to the private express courier service. Unless otherwise provided, whenever a Participant has the right or is required to do some act within a prescribed period after the service of a document upon the Participant, four (4) days shall be added to the prescribed period when the document is served upon the Participant by mail or registered mail.

### 1.2.5 Computation of Time

The time in which any action is required to be done shall be computed by excluding the day of the act or event from which the time period begins to run, and by including the last day of the time period, unless the last day is a Saturday, Sunday, legal holiday or any other day upon which the office of the Compliance Enforcement Authority is closed, in which event it also shall be excluded and the date upon which the action is required shall be the first succeeding day that is not a Saturday, Sunday, legal holiday, or day upon which the office of the Compliance Enforcement Authority is closed.

### 1.2.6 Extensions of Time

Except as otherwise provided by law, the time by which a Participant is required or allowed to act may be extended by the Hearing Officer or Hearing Body for good cause upon a motion made before the expiration of the period prescribed. If any motion for extension of time is made after the expiration of the period prescribed, the Hearing Officer or Hearing Body may permit performance of the act if the movant shows circumstances sufficient to justify the failure to act in a timely manner.

### 1.2.7 Amendments

Amendments to any documents filed in a proceeding may be allowed by the Hearing Officer or the Hearing Body upon motion made at any time on such terms and conditions as are deemed to be just and reasonable.

### 1.2.8 Transcripts

(a) A full and complete record of all hearings, including any oral argument, shall be transcribed verbatim by a certified court reporter, except that the Hearing Officer may allow off-the-record discussion of any matter provided the Hearing Officer states the ruling on any such matter, and the Participants state their positions or agreement in relation thereto, on the record. The court reporter shall file a copy of each transcript with the Clerk. Upon receipt of a transcript from the court reporter, the Clerk shall send notice to the Participants stating that a transcript has been filed by the court reporter, the date or dates of the hearing that the transcript records, and the date the transcript was filed with the Clerk.

(b) Unless otherwise prescribed by the Hearing Officer, a Participant may file and serve suggested corrections to any portion of a~~the~~ transcript within fourteen (14)~~thirty-five (35)~~ days from the date of the Clerk's notice that the transcript has been filed with the Clerk~~on which the relevant portion of the transcript was taken~~, and any responses shall be filed within ten (10) days after service of the suggested corrections. The Hearing Officer shall determine what changes, if any, shall be made, and shall only allow changes that conform the transcript to the ~~truth~~statements being transcribed and ensure the accuracy of the record.

(c) The Compliance Enforcement Authority will pay for transcription services, for a copy of the transcript for the record and for a copy of the transcript for Staff. Any other Participant shall pay for its own copy of the transcript if it chooses to obtain one and,

should any Participant seek to obtain a copy of the transcript on an expedited basis, it shall pay for the expedited transcription services.

### 1.2.9 Rulings, Notices, Orders and Other Issuances

Any action taken by the Hearing Officer or the Hearing Body shall be recorded in a ruling, notice, order or other applicable issuance, or stated on the record for recordation in the transcript, and is effective upon the date of issuance unless otherwise specified by the Hearing Officer or the Hearing Body. All notices of hearings shall set forth the date, time and place of hearing.

### 1.2.10 Location of Hearings and Conferences

All hearings and oral arguments shall be held at the principal office of the Compliance Enforcement Authority unless the Hearing Officer or Hearing Body designates a different location.

### 1.2.11 Participant Participation

Participants may appear at any hearing via teleconference subject to the approval of the Hearing Officer and, in the event of oral argument, the Hearing Body, except ~~that~~ as~~witnesses shall personally appear at the evidentiary hearing if~~ required by ~~Paragraph~~Section 1.6.6. Staff may participate and be represented by counsel in hearings, and shall have the rights and duties of any Participant.

### 1.2.12 Interventions ~~Are Not Permitted~~

(a) The Respondent(s) and Staff shall be Participants to the proceeding. Unless otherwise authorized by the Hearing Body or by FERC, no other Persons shall be permitted to intervene or otherwise become a Participant to the proceeding.

(b) The Hearing Body may allow a Person to intervene only if the Hearing Body determines that the Person seeking intervention has a direct and substantial interest in the outcome of the Alleged Violation, proposed Penalty or sanction, Mitigation Plan, or Remedial Action Directive that is the subject of the proceeding. Examples of a direct and substantial interest in the outcome shall include

(1) that the Person seeking intervention has received a Notice of Alleged Violation or a Remedial Action Directive involving the same Reliability Standard requirement(s) and arising out of the same event or occurrence as the existing Respondent(s) that is the subject of the proceeding, or

(2) that the Person seeking intervention will or may be contractually or legally liable to the original Respondent(s) for payment of all or a portion of the proposed Penalty or sanction that is the subject of the proceeding, provided, that after the Person seeking intervention sufficiently demonstrates it will or may be contractually or legally liable for payment of all or a portion of the proposed Penalty or sanction to be granted intervention, the Person granted intervention and the existing Respondents will not be allowed to litigate in the proceeding whether the Person granted intervention is contractually or legally liable for payment of all

or a portion of the proposed Penalty or sanction or the amount of the proposed Penalty or Sanction for which the Person granted intervention is or may be liable.

That the Person seeking intervention has received a Notice of Alleged Violation for the same Reliability Standard Requirement(s) as the original Respondent(s) but arising out of a different event or occurrence; or seeks to intervene to advocate an interpretation of the Reliability Standard Requirement(s) or provision(s) of the *Sanction Guidelines*, that are at issue in the proceeding, without more, shall not constitute a direct and substantial interest in the outcome and shall not be grounds on which the Hearing Body may allow the Person to intervene.

(c) A Person seeking intervention shall do so by filing a motion to intervene with the Clerk. The motion shall state the Person's interest in sufficient factual detail to demonstrate that the Person should be allowed to intervene pursuant to Section 1.2.12(b). The motion to intervene shall also state the Person's agreement to maintain the confidential and non-public nature of the hearing, including all pleadings and other Documents filed or exchanged in connection with the request for intervention. Any facts alleged in, or offers of proof made in, the motion to intervene shall be supported by affidavit or verification.

(d) The Clerk shall promptly provide copies of the motion to intervene to the Hearing Officer and the Participants. The Hearing Officer shall promptly set a time period, not to exceed seven (7) days, within which the Participants may file responses to the motion to intervene. Within seven (7) days following the end of the response period, the Hearing Officer shall issue a recommendation to the Hearing Body as to whether or not the motion to intervene should be granted.

(e) The Hearing Body may, within seven (7) days following the date of the Hearing Officer's recommendation, issue a decision granting or denying the motion to intervene. If the Hearing Body does not issue a decision granting or denying the motion to intervene within seven (7) days following the date of the Hearing Officer's recommendation, the Hearing Officer's recommendation shall become the decision of the Hearing Body and the motion to intervene shall be deemed granted or denied by the Hearing Body in accordance with the Hearing Officer's recommendation.

(f) The Hearing Officer, on motion of a Participant or on his or her own motion, or the Hearing Body, on recommendation by the Hearing Officer or its own motion, may stay or suspend the proceeding while a request to intervene, including a request to intervene filed directly with FERC, and including any appeal of the grant or denial of the request to intervene, is being resolved.

(g) A Person allowed to intervene and become a Participant to a proceeding shall be designated as a Respondent and deemed to be aligned with the existing Respondent(s), unless the Hearing Body, in the decision granting intervention, states that the Person allowed to intervene shall be deemed to be aligned with another Participant to the proceeding.

(h) A Person allowed to intervene and become a Participant to a proceeding is required to take the record and the procedural status of the proceeding as it stands on the date the Person's motion to intervene is granted by the Hearing Body.

(i) A Person may appeal a decision of the Hearing Body denying the Person's motion to intervene, and the Compliance Staff, the Respondent or any other Participant may appeal a decision granting or denying a motion to intervene, in accordance with Section 414 of the NERC Rules of Procedure. A notice of appeal shall be filed with the NERC director of enforcement no later than seven (7) days following the date of the decision of the Hearing Body granting or denying the motion to intervene.

### 1.2.13 Proceedings Closed to the Public

No hearing, oral argument or meeting of the Hearing Body shall be open to the public, and no notice, ruling, order or any other issuance of the Hearing Officer or Hearing Body, or any transcript, made in any proceeding shall be publicly released unless the ERO (within the U.S., in accordance with the authorization previously granted by FERC to release information about a non-public proceeding) or FERC (in the case of U.S.-related information) or another Applicable Governmental Authority (in the case of non-U.S.-related information) determine that public release is appropriate. Only the members of the Hearing Body, the Participants, the Hearing Officer and the Technical Advisors, if any, shall be allowed to participate in or obtain information relating to a proceeding.

### 1.2.14 Docketing System

The Clerk shall maintain a system for docketing proceedings. A docketed proceeding shall be created upon the filing of a request for a hearing~~issuance of a Notice of Alleged Violation~~. Unless NERC provides a different docketing system that will be used uniformly by the Compliance Enforcement Authorities, docket numbers shall be assigned sequentially beginning with a two digit number that relates to the last two digits of the year in which the docket is initiated, followed by a dash ("-"), followed by the letters "[RE]", followed by a dash ("-"), followed by a four digit number that will be "0001" on January 1 of each calendar year and ascend sequentially until December 31 of the same calendar year.

### 1.2.15 Representations Deemed to be Made in All Pleadings

A Participant presenting any pleading to the Hearing Officer or Hearing Body shall be deemed to certify that to the best of the Participant's knowledge, information and belief, formed after and based on an inquiry that is reasonable under the circumstances:

(a) the factual allegations set forth in the pleading have or will have support in the evidence or the Participant believes they will have support in the evidence after reasonable opportunity for further investigation or discovery;

(b) the denials in the pleading of factual allegations made by another Participant are warranted by or will be warranted by the evidence or, if specifically so identified, are reasonably based on belief or on a lack of information;

(c) the claims, defenses and other contentions set forth in the pleading are warranted based on the applicable Reliability Standard Requirement(s) or Rules of Procedure provisions; and

(d) the pleading is not being presented for any improper purpose, such as to harass, cause unnecessary delay, or needlessly increase the cost of the hearing or the cost incurred by any Participant.

#### 1.2.165 Hold Harmless

A condition of a Participant invoking these Hearing Procedures and participating in a hearing is that the Participant agrees that the Compliance Enforcement Authority, including without limitation its members, board of directors or trustees, compliance committee, any other committees or subcommittees, Staff, contracted employees, Hearing Body members, Hearing Officers and Technical Advisors, shall not be liable, and shall be held harmless against the consequences of, or any action or inaction arising out of, the hearing process, or of any agreement reached in resolution of a dispute or any failure to reach agreement as a result of a proceeding. This "hold harmless" provision does not extend to matters constituting gross negligence, intentional misconduct or breach of confidentiality.

### 1.3 Initiation of the Hearing Process

#### 1.3.1 Registered Entity's Option to Request a Hearing

(a) Except when contesting a Remedial Action Directive pursuant to sSection 1.9 of these Hearing Procedures, a Registered Entity may file a statement, in accordance with Section 1.3.1(e), with the Compliance Enforcement Authority requesting a hearing if either:

(a1) The Registered Entity files a response to a Notice of Alleged Violation that contests either the Alleged Violation, the proposed Penalty, or both; or

(b2) The Compliance Staff submits to the Registered Entity a statement rejecting the Registered Entity's proposed revised Mitigation Plan submitted after Compliance Staff rejected the Registered Entity's initial proposed Mitigation Plan.

(b) A Registered Entity must file its hearing request within forty (40) days after

(i1) the Registered Entity files its response to the Notice of Alleged Violation; or

(2) (ii) the Compliance Staff submits to the Registered Entity its statement identifying a disagreement with the Registered Entity's proposed Mitigation Plan, whichever is applicable.

(c) If the Registered Entity does not file a hearing request within the time period set forth in this SectionParagraph, then the Registered Entity will be deemed to have agreed and waived any objection to the proposed Penalty, the Alleged Violation or the Compliance Staff's rejection of the revised Mitigation Plan, whichever is applicable.

(d) In accordance with Section 5.3 of the Compliance Program, Either a Notice of Alleged Violation issued to a Registered Entity or a Staff statement setting forth its rejection of a Registered Entity's proposed revised Mitigation Plan shall clearly state that the Registered Entity has the option to contest the Alleged Violation, proposed Penalty, or both, or the Compliance Staff's rejection of the proposed revised Mitigation Plan, using either the shortened hearing

procedure pursuant to Section 1.3.4~~Paragraph 1.3.2~~ or the general~~full~~ hearing procedure described in Sections 1.4 to 1.7. ~~If the Registered Entity files a hearing request within the requisite time period, it shall state within its hearing request whether it requests the shortened hearing procedure pursuant to Paragraph 1.3.2 or the full hearing procedure described in Sections 1.4 to 1.7. If the Registered Entity (or any Respondent if there are more than one Respondent) requests the full hearing procedure, the full hearing procedure shall apply. If the Registered Entity (or all Respondents if there are more than one Respondent) requests the shortened hearing procedure, Compliance Staff and any other Participant shall submit a filing within five (5) days of the Registered Entity's hearing request that states whether Staff or such other Participant agrees to use the shortened hearing procedure. If Staff or another Participant makes a filing requesting the full hearing procedure, then the full hearing procedure shall apply; otherwise the shortened hearing procedure requested by the Registered Entity or Entities shall be used. Once either the full or shortened hearing procedure has been selected, the Participants shall not be allowed to revert to the non-selected hearing procedure unless the Participants mutually agree.~~

(e) The Registered Entity's statement requesting a hearing shall:

(1) contain a plain and concise statement of the facts and arguments supporting the Registered Entity's position, as applicable, that it did not violate the Reliability Standard Requirement(s) set forth in the Notice of Alleged Violation, that the proposed Penalty or sanction is too high and should be reduced, or that the Registered Entity's proposed Mitigation Plan should be approved;

(2) state the relief that the Registered Entity requests the Hearing Body to grant; and

(3) state whether the Registered Entity requests the shortened hearing procedure or the general hearing procedure.

The Registered Entity's statement may set forth two or more alternative grounds on which the Registered Entity bases its position, as applicable, that it did not violate the Reliability Standard Requirement(s) set forth in the Notice of Alleged Violation, that the proposed Penalty or sanction is too high and should be reduced, or that the Registered Entity's proposed Mitigation Plan should be approved.

(f) If the Registered Entity (or any Respondent if there are more than one Respondent) requests the general hearing procedure, the general hearing procedure shall apply. If the Registered Entity (or all Respondents if there are more than one Respondent) requests the shortened hearing procedure, Compliance Staff and any other Participants shall submit a filing within five (5) days of the Registered Entity's hearing request that states whether Staff or such other Participant agrees to use the shortened hearing procedure. If Staff or another Participant makes a filing requesting the general hearing procedure, then the general hearing procedure shall apply; otherwise the shortened hearing procedure requested by the Registered Entity or Entities shall be used. Once either the general or shortened hearing procedure has been selected, the Participants shall not be allowed to revert to the non-selected hearing procedure unless the Participants mutually agree.

(g) A Registered Entity shall attach to a request for hearing whichever of the following are applicable:

(~~a~~1) The Registered Entity's Self-Report~~ing~~ of a violation;

(~~b~~2) The Notice of Alleged Violation and the Registered Entity's response thereto; and/or

(~~c~~3) The Registered Entity's proposed revised Mitigation Plan and the Compliance Staff's statement rejecting the proposed revised Mitigation Plan.

### 1.3.2 Compliance Staff's Response to Request for Hearing

(a) If the Registered Entity's request for hearing requests that the shortened hearing procedure be used, the Compliance Staff shall file a response stating whether it agrees to the use of the shortened hearing procedure.

(b) If the Registered Entity's request for hearing requests that the Registered Entity's proposed revised Mitigation Plan should be approved, the Compliance Staff shall file a response stating the Compliance Staff's position as to why the Registered Entity's proposed revised Mitigation Plan should not be approved and setting forth any additional terms that the Compliance Staff believes should be included in the Mitigation Plan.

(c) If the Registered Entity's request for hearing does not request that the shortened hearing procedure be used and does not request that the Registered Entity's proposed revised Mitigation Plan should be approved, the Compliance Staff may, but is not required to, file a response stating, as applicable, the basis for the Compliance Staff's position that the Registered Entity violated the Reliability Standard Requirement(s) specified in the Notice of Alleged Violation or that the proposed Penalty or sanction is appropriate under the *Sanction Guidelines* and should not be reduced.

(d) Any response by the Compliance Staff required or permitted by this Section shall be filed within fifteen (15) days after the date the request for hearing was filed, unless the Hearing Officer or Hearing Body allows a longer time to file the response.

### 1.3.3 Notice of Hearing

(a) The Clerk shall issue a notice of hearing not less than sixteen (16) days, and not more than twenty-one (21) days, after the Registered Entity files its request for hearing.

(b) The notice of hearing shall state whether the shortened hearing procedure or the general hearing procedure will be used.

(c) The notice of hearing shall identify the Hearing Officer and the date, time and place for the initial prehearing conference.

(1) If the shortened hearing procedure is to be used, the initial prehearing conference shall be set for a date within seven (7) days following the date of the notice of hearing.

(2) If the general hearing procedure is to be used, the initial prehearing conference shall be set for a date within fourteen (14) days following the date of the notice of hearing.

### 1.3.42 Shortened Hearing Procedure

The shortened hearing procedure shall be as set forth in this SectionParagraph. The rules applicable to the generalfull hearing procedure shall apply to the shortened hearing procedure unless the context of such a rule is inconsistent with the procedure set forth in this SectionParagraph or otherwise renders it inapplicable to the shortened hearing procedure. The rules concerning ex parte communications in SectionParagraph 1.4.7 are hereby expressly made applicable to the shortened hearing procedure under this SectionParagraph.

The Hearing Body shallmay utilize a Hearing Officer to preside over the shortened hearing procedure in accordance with SectionParagraph 1.4.2. But, no evidentiaryTestimonial hHearing will be held in the shortened hearing procedure and the Participants will not present witness testimony or file briefs, except that briefs on exceptions and briefs in reply to exceptions may be allowed pursuant to Subparagraphsubsection (g). Instead, the following events shall take place within the following periods:

a) The initial prehearing conference shall be held within seven (7) days after the date on which the notice of hearing is issued. In addition to any other matters set forth in ParagraphSection 1.5.2 that may apply, the initial prehearing conference will be used to develop a schedule for the preparation and submission of comments in accordance with Subparagraphssubsections (c) through (e).

b) Within five (5)ten (10) days after the date on which the notice of hearing is issued, Staff shall make Documents available to the Registered Entity for inspection and copying pursuant to SectionParagraph 1.5.7.

c) Within twenty-one (21) days after the initial prehearing conference, the Staff shall file:

(1) initial comments stating Staff's position on all issues and the rationale in support of its position, including all factual and legal argument;

(2) all Documents that Staff seeks to introduce in support of its position that have not already been submitted in the proceeding; and

(3) a verification attesting to the truthfulness of the facts alleged in the filing.

d) Within fourteen (14) days of Staff's initial comment filing pursuant to Subparagraphsubsection (c), the Registered Entity shall file:

(1) responsive comments stating the Registered Entity's position on all issues and the rationale in support of its position, including all factual and legal argument, which comment also may respond to Staff's initial comments;

(2) all Documents that the Registered Entity seeks to introduce in support of its position that have not already been submitted in the proceeding; and

(3) a verification attesting to the truthfulness of the facts alleged in the filing.

(e) Within seven (7) days after the Registered Entity's responsive comment filing pursuant to ~~Subparagraph~~subsection (d), Staff shall file reply comments that shall be limited in scope to responding to the Registered Entity's responsive comments and be supported by a verification attesting to the truthfulness of the facts alleged in the filing. Staff shall not submit any additional Documents in support of its position as part of this filing except upon motion and good cause shown. If Staff is allowed to file additional Documents in support of its position based upon such a motion, the Registered Entity shall have the right to file additional Documents in support of its position that are responsive to the additional Documents that Staff is allowed to file provided that any additional Registered Entity filing also shall be verified.

(f) The Hearing Officer shall issue an initial opinion within twenty-one (21) days after the Staff's reply comments filing or any additional filing by the Registered Entity pursuant to ~~Subparagraph~~subsection (e).

(g) If either Participant requests, the Hearing Officer shall allow each Participant to file, within seven (7) days after the Hearing Officer's initial opinion, exceptions to the Hearing Officer's initial opinion in a brief designated "brief on exceptions" in accordance with ~~Paragraph~~Section 1.7.5 and within seven (7) days thereafter, a reply brief designated "brief in reply to exceptions."

(h) The Hearing Body shall strive, but is not required, to issue a final order within ~~ninety (90)~~one hundred twenty (120) days of the notice of hearing.

The Hearing Officer or Hearing Body may modify any time period set forth within this Paragraph as warranted by the circumstances but it will be the objective of the Hearing Body to issue the final order within ~~ninety (90)~~one hundred twenty (120) days of the notice of hearing.

### 1.4 General Hearing Procedure

#### 1.4.1 ~~Notice of Hearing~~[Intentionally Left Blank]

[Blank.]~~Within seven (7) days of a Registered Entity requesting a hearing pursuant to Paragraph 1.3, the Clerk shall issue a notice of hearing in the docket. The notice of hearing shall identify the Hearing Officer, if designated at that time, and the date, time, and place for the prehearing conference, which should occur no later than fourteen (14) days after the notice of hearing is issued.~~

#### 1.4.2 Hearing Officer

(a) The Compliance Enforcement Authority shall~~may~~ utilize a Hearing Officer to preside over each hearing conducted pursuant to these Hearing Procedures, provided that the Hearing

Officer's actions shall be subject to the authority of the Hearing Body as set forth in SectionParagraph 1.4.3. Members of the Hearing Body may attend any aspect of the hearing.

(b) The Hearing Body may delegate to the Hearing Officer is responsible forauthority over the conduct of the hearing, including administering the hearing from the initial prehearing conference through the issuance of the Hearing Officer's initial opinion, and any administrative hearing functions thereafter, and the responsibility for submission of the matter to the Hearing Body for final decision through the presentation to the Hearing Body of an initial opinion. The Hearing Officer shall have those duties and powers necessary to those ends, consistent with and as further enumerated in these Hearing Procedures, including the following:

(1) To administer oaths and affirmations;

(2) To schedule and otherwise regulate the course of the hearing, including the ability to call to recess, reconvene, postpone or adjourn a hearing;

(3) Consistent with any timing or deadline requirements imposed by these Hearing Procedures or by applicable law, to separate any issue or group of issues from other issues in a proceeding and treat such issue(s) as a separate phase of the proceeding;

(4) Consistent with any timing or deadline requirements imposed by these Hearing Procedures or by applicable law, to modify any time period, if such modification is in the interest of justice and will result in no undue prejudice to any other Participant;

(5) To supervise and issue orders concerning discovery;

(6) To conduct prehearing conferences, status hearings and eEvidentiary hHearings;

(7) To hear argument on all objections, motions and other requests, and to rule upon all objections, motions and other requests that do not result in the final determination of the proceeding;

(8) To rule on and receive evidence;

(9) To call upon a Participant to produce further evidence that is material and relevant to any issue;

(10) To issue protective orders pursuant to SectionParagraph 1.5.10;

(11) To issue initial opinions; and

(12) To ensure that hearings are conducted in a full, fair and impartial manner, that order is maintained and that unnecessary delay is avoided in the disposition of the proceedings.

(c) If the Hearing Body uses a Hearing Officer to preside over a hearing, the Hearing Body The Compliance Enforcement Authority shall disclose the identity, employment history and

professional affiliations of the Hearing Officer within two (2) days of the Hearing Officer's assignment to the proceeding, and Participants to the hearing may raise objections to the Hearing Officer's participation in accordance with SectionParagraph 1.4.5.

### 1.4.3 Hearing Body

(a) The composition of the Hearing Body, after any recusals or disqualifications, shall be such that no two industry segments may control, and no single industry segment may veto, any decision of the Hearing Body on any matter brought before it for decision.

(b) The Hearing Body is vested with the authority to issue a final order resolving the issue(s) in all cases. To that end:

(1) Upon receiving a filing by a Participant, the Clerk shall promptly send a notice to the members of Tthe Hearing Body identifying the date of the filing and the Participant making the filing and briefly describing the nature of the filing. Any member of the Hearing Body may request of, and shall receive from, the Clerk, a copy of any filing by a Participant.shall receive all filings in a hearing, including but not limited to all issuances of the Hearing Officer, all motions and responses thereto, and all written comments, testimony and evidence. The Hearing Body shall not receive Documents made available by Staff for inspection and copying by the Respondent, or other responses to discovery between the Participants, unless such Documents are placed into the record pursuant to SectionParagraph 1.6.7.

(2) The Clerk shall send all issuances of the Hearing Officer to the members of the Hearing Body.

(23) The Hearing Body or any individual member thereof may, but is not required to, attend any prehearing conference, status hearing or eEvidentiary hHearing, and/or to submit questions to the Hearing Officer to submit to a Participant or any witness at any such hearing. At any prehearing conference or hearing attended by a member of the Hearing Body, any member of the Hearing Body may ask questions directly of any Participant or witness.

(34) The Hearing Body shall have the same authority as the Hearing Officer, as set forth in these Hearing Procedures, to require the Participants or any individual Participant to: (i) address a specific issue in testimony, evidence or briefs; (ii) present oral argument on an issue; (iii) file pre-eEvidentiary hHearing memorandums; or (iv) produce further evidence that is material and relevant to any issue. To this end, the Hearing Body shall be entitled to issue questions or requests for information to any Participant or any witness at any time until the issuance of a final order.

(45) To the extent that the Hearing Body disagrees with any issuance or ruling of the Hearing Officer, it may, on its own motion or upon petition for interlocutory review meeting the requirements of SectionParagraph 1.4.4, reverse or modify the

issuance or ruling in whole or in part, or take any other action as may be appropriate.

(~~5~~6) The Hearing Body shall resolve the issue(s) in every hearing through the issuance of a final order. In issuing a final order, the Hearing Body shall consider the Hearing Officer's initial opinion but shall have the authority to reject, modify or approve the initial opinion in whole or in part.

### 1.4.4 Interlocutory Review

(a) A Participant shall be allowed to seek interlocutory review by the Hearing Body of any ruling of the Hearing Officer where the ruling for which interlocutory review is sought presents an extraordinary circumstance which makes prompt review necessary to prevent prejudice to a Participant's ability to present its position in the proceeding. Failure to seek such review shall not operate as a waiver of any objection to such ruling.

(b) Unless good cause is shown or unless otherwise ordered by the Hearing Officer or the Hearing Body, the Participant seeking review shall file a petition for interlocutory review within fourteen (14) days after the date of the action that is the subject of the petition. The petition shall contain, in a separately identified section, a demonstration that the ruling for which interlocutory review is sought presents an extraordinary circumstance which makes prompt review necessary to prevent prejudice to the Participant's ability to present its position in the proceeding. The petition shall be filed with any offer of proof and supported by references to the record, or by affidavit if based on facts that do not appear in the~~of~~ record. Responses to petitions for interlocutory review shall be filed within seven (7) days after service of the petition. No replies to responses shall be~~are~~ allowed.

(c) The Hearing Officer shall file a report to the Hearing Body within fourteen (14) days from the filing of the petition. The Hearing Officer's report shall set forth the relevant facts and other background information relating to the ruling on which interlocutory review is sought, the basis for the Hearing Officer's ruling, a summary of the Participants' arguments on the petition for interlocutory review, and the recommendation of the Hearing Officer for the disposition of the petition by the Hearing Body.

(d) On review of a Hearing Officer's ruling, the Hearing Body may affirm or reverse the ruling in whole or in part, and may take any other just and reasonable action with respect to the ruling, such as declining to act on an interlocutory basis. The Hearing Body may reject the petition for interlocutory review on the grounds that the ruling for which review is sought does not present an extraordinary circumstance which makes prompt review necessary to prevent prejudice to a Participant's ability to present its position in the proceeding, without considering or ruling on the substance of the petitioner's arguments.

(e) Issuance of a ruling on a petition for interlocutory review shall require (i) a quorum (as defined in Section~~Paragraph~~ 1.7.8) of the Hearing Body, and (ii) majority vote of the members of the Hearing Body voting on the final order (which number of members voting shall not be less than a quorum). Petitions to rehear or reconsider the Hearing Body's action taken on interlocutory review shall not be allowed. Filing and disposition of a petition for interlocutory review of a ruling of the Hearing Officer shall not suspend or otherwise delay a hearing or any

other scheduled dates in the proceeding except as authorized by the Hearing Officer or the Hearing Body based on a finding of exceptional circumstances.

(f) A non-Participant that has been ordered by the Hearing Officer pursuant to Section~~paragraph~~ 1.5.8 to produce or provide Documents, information or testimony, and has failed to obtain the relief sought from the Hearing Officer through filing objections to or a motion to quash the order, shall also be entitled to seek interlocutory review by the Hearing Body of the Hearing Officer's order, with respect to (i) whether the non-Participant is within the class of Persons subject to such orders pursuant to Section~~paragraph~~ 1.5.8, and (ii) the reasonableness of the Hearing Officer's order to produce or provide Documents, information or testimony.

### 1.4.5 Disqualification

(a) A Hearing Officer, Technical Advisor or member of the Hearing Body shall recuse himself or herself from a proceeding if participation would violate the Compliance Enforcement Authority's applicable conflict of interest policy.

(b) Any Participant may file a motion to disqualify or for recusal of a Hearing Officer, Technical Advisor or member of the Hearing Body from a proceeding on grounds of a conflict of interest, an ex parte communication prohibited by section 1.4.7, or the existence of other circumstances that could interfere with the impartial performance of his or her duties. The Participant shall set forth and support its alleged grounds for disqualification by affidavit. A motion for disqualification shall be filed within fifteen (15) days after the later of: (1) the time when the Participant learns of the facts believed to constitute the basis for disqualification; or (2) the time when the Participant is notified of the assignment of the Hearing Officer or Technical Advisor.

(c) The Hearing Officer shall issue a proposed ruling for the Hearing Body's consideration upon the filing of a motion for disqualification unless the Hearing Officer is the subject of the motion. The Hearing Body, without the participation of any member who is the subject of the motion, shall issue a final ruling on the motion. If the Hearing Officer recuses himself or herself or is ~~recused or~~ disqualified, the Hearing Body will appoint a replacement Hearing Officer. To ensure fairness to the Participants and expedite completion of the proceeding when a replacement Hearing Officer is appointed after a hearing has commenced, the replacement Hearing Officer may recall any witness or may take other steps necessary to ensure ~~certify~~ familiarity with any part or all of the record.

(d) If a quorum (as defined in Section~~Paragraph~~ 1.7.8) of the Hearing Body does not remain after any recusals and rulings on motions for disqualification, then the Compliance Enforcement Authority shall appoint at least the number of new member~~(s)~~ to the Hearing Body necessary to create a quorum~~, which~~. The new member(s) shall serve on the Hearing Body through the conclusion of the proceeding but not thereafter. ~~The Compliance Enforcement Authority shall only appoint the number of new members as are necessary to create a quorum.~~ Any new member of the Hearing Body shall be subject to the provisions applicable herein to all Hearing Body members.

### 1.4.6 Technical Advisor

(a) The Hearing Officer and/or the Hearing Body may elect to use one or more Technical Advisors to assist in any proceeding. Such an election may be made at any time during the course of a proceeding. Any Staff member who serves as a Technical Advisor shall not have been involved in or consulted at any time in regard to any Compliance Staff investigation, determination of a Possible Violation, Alleged Violation or Penalty, or assessment of a Registered Entity's proposed Mitigation Plan that resulted in the proceeding in which technical advice would be rendered, and shall not be a member of Staff participating in the proceeding on which such technical advice would be rendered.

(b) If the Hearing Officer or Hearing Body uses a Technical Advisor to assist in any hearing, the Hearing Officer or Hearing Body shall disclose the identity, employment history and professional affiliations of the Technical Advisor within two (2) days of the Technical Advisor's assignment to the proceeding, and Participants to the hearing may raise objections to the Technical Advisor's participation in accordance with Section~~Paragraph~~ 1.4.5.

### 1.4.7 No Ex Parte Communications

(a) Once a Registered Entity requests a hearing pursuant to Section~~Paragraph~~ 1.3.1:

(1) neither the Hearing Body, the Hearing Officer, nor the Technical Advisor(s), if any, may communicate either directly or indirectly with any Person concerning any issue in the proceeding outside of the hearing process; except that

(2) the Hearing Body, the Hearing Officer, and the Technical Advisor(s), if any, may communicate outside of the hearing process either directly or indirectly with a Participant or a Participant's representative:

(A) in writing if the writing is simultaneously provided to all Participants; or

(B) orally if a representative for every Participant is present in person or by telephone;

(C) subject to the requirement that the substance of any ruling on any issue discussed shall be memorialized on the record or by the issuance of a notice or ruling, and that any Participant objecting to the ruling shall have the opportunity to state its objection on the record.

(b) Exceptions

(1) The proscription in ~~Subparagraph~~subsection (a)(1) does not prohibit members of the Compliance Staff from communicating with the Registered Entity, and representatives, agents or employees thereof on any topic, provided that any member of the Compliance Staff involved in any such communication relating to the subject matter of the proceeding may not be, and may not subsequently serve as, a Technical Advisor.

(~~c~~2) The proscription in ~~Subparagraph~~subsection (a)(1) ~~also~~ does not prohibit communications between or among members of the Hearing Body, the Hearing Officer and any Technical Advisor.

(3) The proscription in subsection (a)(1) does not prohibit communications between the Hearing Officer or members of the Hearing Body to the Clerk for the purpose of transmitting documents, giving instructions to the Clerk, or discussing scheduling and other procedural matters relating to the proceeding.

(4) The proscription in subsection (a)(1) does not prohibit communications between or among the Clerk, the Hearing Body and representatives of the Compliance Enforcement Authority for purposes of establishing the hearing forum.

(~~d~~c) Any member of the Hearing Body, the Hearing Officer or any Technical Advisor who receives or who makes or knowingly allows~~causes to be made~~ a communication prohibited by this Section~~Paragraph~~ shall, within seven (7) days of the communication, file and serve on the Participants in the proceeding a notice of ex parte communication setting forth the date, time and place of communication, a summary of the substance and nature of the communication and all responses thereto, and a list of each Person who made or received the communication and, if the communication or any response thereto was in writing, a copy of the written communication shall be attached.

### 1.4.8 Appearances

(a) Participants shall file written appearances within seven (7) days after the notice of hearing is issued. A Participant's written appearance shall identify the name(s) of each individual authorized to represent the Participant in the proceeding exclusive of witnesses. An individual may appear on his or her own behalf. A corporation, limited liability company, association, partnership or governmental body may appear by any bona fide officer or designee who has the authority to act on behalf of the Participant. A Participant also may appear by an attorney.

(b) A Participant's written appearance shall state, with respect to each individual that the Participant identifies for service, the individual's name, address, telephone number, and facsimile number and email address, if available, where service shall be made.

A Participant may withdraw any individual from the Participant's representation or otherwise change the identity of individuals authorized to represent the Participant in a proceeding by filing a notice of a change in service list.

(c) Any attorney appearing on behalf of a Participant shall be licensed to practice law and in good standing before the Supreme Court of the United States or the highest court of any State, territory of the United States or the District of Columbia. All representatives appearing before the Hearing Body or Hearing Officer shall conform to the standards of ethical conduct required of practitioners before the courts of the United States.

(d) Individuals representing Participants in any hearing also shall enter their appearances at the beginning of the hearing by stating their names, addresses, telephone numbers and email addresses orally on the record.

### 1.4.9 Failure to Appear or Exercise Diligence

The failure of any Participant to appear during any hearing without good cause and without notification may be grounds for dismissal or deciding against the interests of such Participant.

#### 1.4.10 Consolidation of Proceedings

(a) In the event that more than one Registered Entity receives a Notice of Alleged Violation for the same event or occurrence~~transaction~~, and each Registered Entity selects the ~~full~~general hearing procedure described in Sections 1.4 to 1.7, the Hearing Body on its own motion or on motion of a Participant may exercise its discretion to examine the actions of all such Registered Entities in a single proceeding as long as an initial opinion has not been rendered by the Hearing Officer pursuant to Section 1.7.4 in any proceeding to be consolidated.

(b) A Participant may file a motion ~~pursuant to Paragraph 1.5.5~~ to consolidate into a single proceeding Alleged Violations of different Reliability Standards against a single Respondent, and related contests of Penalties or Mitigation Plans, arising out of the same event or occurrence~~transaction~~. Such consolidation may be allowed in the discretion of the Hearing Officer or Hearing Body, as applicable.

### 1.5 Prehearing Procedure

#### 1.5.1 [Intentionally left blank]

#### 1.5.2 Prehearing Conference

(a) The Hearing Officer shall hold at least one ~~The purpose of the~~ prehearing conference, which may be the initial prehearing conference or a subsequently scheduled prehearing conference, for the following purposes ~~shall be to~~:

(1) Preliminarily identify the issues and discuss the anticipated form of the hearing;

(2) Discuss a schedule for any discovery to be conducted and address any discovery issues that are raised at that time;

(3) Explore the possibility of obtaining admissions of fact and of the ~~genuineness~~authenticity of Documents that would avoid unnecessary proof;

(4) Develop a schedule for the preparation and submission of evidence and witness testimony, including the disclosure of witnesses and exhibits and whether the use of pre-filed testimony may not be appropriate, in advance of the ~~e~~Evidentiary ~~h~~Hearing;

(5) Develop a schedule or schedules for any anticipated motions;

(~~5~~6) Schedule a date(s) for the ~~e~~Evidentiary ~~h~~Hearing, which shall be within ninety (90) days of the prehearing conference described in this subsection, unless a different date or dates is specified by the Hearing Officer or the Hearing Body and with the consent of all Participants or for good cause shown; and

(~~6~~7) Address such other matters as may aid in the simplification of the evidence and disposition of the proceeding.

(b) The Hearing Officer shall also hold a final prehearing conference prior to the Evidentiary Hearing, for the purpose of discussing:

(1) the anticipated duration of the hearing;

(2) the scheduling of witnesses' appearances to testify;

(3) the issues anticipated to be presented at the hearing;

(4) whether prehearing memoranda should be filed and if so, the schedule; and

(5) any other matters identified by the Hearing Officer for the management of the Evidentiary Hearing.

Participants may submit to the Hearing Officer, at least ten (10) days prior to the scheduled date of the final prehearing conference, a proposed list or lists of matters to be discussed at the final prehearing conference.

### 1.5.3 Summary Disposition

**(a) Availability**

A Hearing Officer, on the Hearing Officer's own motion or on the motion of a Participant, may issue an initial opinion granting, in whole or in part, summary disposition if it appears that there are no issues of material fact and a Participant is entitled to issuance of a final order in its favor. ~~If the Hearing Officer is considering summary disposition in the absence of a Participant motion, the Hearing Officer shall request the Participants to identify in writing any issues of material fact and to comment on the proposed disposition. Factual information in the Participants' comments shall be supported by affidavit. Following review of the Participants' comments, if it still appears to the Hearing Officer that there are no genuine issues of material fact, the Hearing Officer may proceed without an evidentiary hearing. The Hearing Officer shall, however, allow the Participants the opportunity to file briefs.~~

**(b) Motion for Summary Disposition and Responses**

(1) A Participant moving for summary disposition must clearly identify the material facts that are not in dispute, demonstrate that there are no other material facts in dispute, and demonstrate that on the basis of the undisputed material facts, the Participant is entitled to issuance of a final order in its favor.

(2) A Participant opposing a motion for summary disposition must clearly identify in its response to the motion the material facts that the Participant contends remain in dispute, and/or explain why the moving Participant is not entitled to issuance of a final order in its favor even though there are no disputed issues of material fact.

**(c) Summary Disposition on the Hearing Officer's Own Motion**

If the Hearing Officer is considering summary disposition in the absence of a Participant motion, the Hearing Officer shall request the Participants to identify in writing any issues of material fact and to comment on the proposed disposition. Factual information in the Participants' comments shall be supported by affidavit. Following review of the Participants' comments, if it still appears to the Hearing Officer that there are no genuine issues of material fact, the Hearing Officer may proceed without an Evidentiary Hearing. The Hearing Officer shall, however, allow the Participants the opportunity to file briefs.

**(d) Hearing Officer's Initial Opinion Granting Summary Disposition**

When the Hearing Officer issues an initial opinion granting ~~a motion for~~ summary disposition in whole or in part, the ruling shall set forth the rationale for the grant. An initial opinion of the Hearing Officer granting summary disposition shall be confirmed, rejected or modified in a final order issued by the Hearing Body.

### 1.5.4 Status Hearings

Any Participant may request, and the Hearing Officer may call, a status hearing at any time subsequent to the initial prehearing conference to address issues that have arisen between the Participants or other matters relevant to the conduct of the hearing. Such issues may include, but are not limited to, discovery disputes and scheduling matters. A Participant requesting a status hearing to resolve a dispute shall include in its request a certification that it has made a good faith effort to resolve the dispute with the other Participant(s) before requesting the status hearing. The Hearing Officer shall direct the Clerk to issue a notice of status hearing that sets forth the date, time and place for the hearing, and identifies the matters to be addressed at the hearing.

### 1.5.5 Motions and Responses

(a) Unless otherwise provided in these Hearing Procedures or by the procedural schedule established by the Hearing Officer or Hearing Body, a Participant may file a motion at any time requesting any relief as may be appropriate. Unless ~~a~~the Hearing Officer allows a motion to be made orally on the record, motions shall be filed in writing. Motions based on facts that do not appear of record shall be supported by affidavit.

(b) Unless otherwise specified by the Hearing Officer or Hearing Body, responses to motions shall be filed within fourteen (14) days after service of the motion, and replies to responses shall be filed within seven (7) days after service of the responses.~~; however, a~~A Hearing Officer or Hearing Body may deny dilatory, repetitive, or frivolous motions without awaiting a response. Unless otherwise ordered by a Hearing Officer or Hearing Body, the filing of a motion does not stay the proceeding or extend any scheduled dates in the proceeding.

### 1.5.6 Experts

(a) A Participant may employ an expert(s) to testify or consult in a proceeding. Any expert utilized in either capacity shall sign an agreement evidencing the expert's understanding and acknowledgement of the non-public nature of the proceeding and that unauthorized public

disclosure of information obtained in connection with the expert's participation in the proceeding is prohibited.

(b) The Participant employing the expert shall propose the agreement for approval by~~via~~ a motion, and its approval shall be subject, in addition to consideration of any objections by other Participants, to ensuring that appropriate safeguards are maintained to protect the confidentiality of the proceeding and the information disclosed therein.

### 1.5.7 Inspection and Copying of Documents in Possession of Staff

**(a) Documents to be Available for Inspection and Copying**

(1) Within twenty-five (25) days after the date the~~ issuance of the notice of~~ request for hearing is filed, Staff shall make available for inspection and copying by the ~~Respondent~~other Participants, all Documents prepared or obtained by Staff through or in connection with any compliance monitoring process~~(es)~~ that led to the institution of proceedings. Such Documents shall include but are not limited to:

(A) requests for information to the Respondent;

(B) every written request, including e-mail, directed to persons not employed by the Compliance Enforcement Authority to provide information or Documents or to be interviewed;

(C) the Documents provided in response to any such requests described in (A) and (B) above;

(D) all transcripts of testimony recorded during the Staff investigation and all exhibits to the transcript;

(E) all other Documents obtained from the Respondent; and

(F) all other Documents obtained from persons not employed by the Compliance Enforcement Authority.

The sole grounds on~~bases pursuant to~~ which Staff is~~shall be~~ authorized to withhold Documents from inspection and copying are~~shall be~~ the bases set forth in subsection~~Paragraph~~ 1.5.7(b); provided, however, that the Documents made available for inspection and copying need not include (i) exact copies of Documents the Respondent previously provided to Staff, and (ii) any Documents provided to the Respondent with or as part of the Notice of Alleged Violation, Notice of Penalty, assessment of proposed Mitigation Plan or Remedial Action Directive.

(2) Where there are Participants in a proceeding in addition to a single Respondent and Compliance Staff, the Hearing Officer or Hearing Body shall oversee the Staff's designation of Documents to be produced to such other Participants and

the development, execution and enforcement of any protective order deemed necessary.

(3) Staff shall promptly inform the Hearing Officer and each other Participant~~Respondent~~ if, after the issuance of a notice of hearing, requests for information are issued by Staff related to the same compliance monitoring process(es) that led to the institution of the proceeding. If Staff receives Documents pursuant to a request for information after Staff has made Documents ~~have been made~~ available ~~to a Respondent~~ for inspection and copying as set forth in subsection~~Subparagraph~~ (a)(1), the additional Documents shall be made available to the Participants~~Respondent~~ not later than fourteen (14) days after Staff receives such Documents. If a date for the ~~e~~Evidentiary ~~h~~Hearing has been scheduled, Staff shall make the additional Documents available to the other Participants~~Respondent~~ not less than ten (10) days before the Evidentiary ~~h~~Hearing. If Staff receives such Documents ten or fewer days before the Evidentiary ~~h~~Hearing is scheduled to begin or after the Evidentiary ~~h~~Hearing begins, Staff shall make the additional Documents available immediately to the ~~Respondent~~other Participants.

(4) Nothing in subsection~~paragraph~~ (a)(1) shall limit the discretion of the Compliance Enforcement Authority to make any other Document available to the Participants~~Respondent~~ or the authority of the Hearing Officer to order the production of any other Documents or information by any Participant.

**(b) Documents That May Be Withheld by Staff**

(1) Staff may withhold a Document from inspection and copying by a Participant~~the Respondent~~ if:

(A) the Document is privileged to the Compliance Enforcement Authority~~Staff~~ or constitutes attorney work product of ~~Staff's~~ counsel for the Compliance Enforcement Authority (in applying this provision, the attorney-client privilege shall be recognized as absolute and any demand for production of attorney work product shall be granted only after a showing of substantial need by the Respondent or other Participant);

(B) the Document is an examination or inspection report, an internal memorandum, or other note or writing prepared by a Staff member that ~~shall~~will not be offered in evidence or otherwise relied on by Staff in the hearing;

(C) the Document would disclose

(i) an examination, investigatory or enforcement technique or guideline not otherwise made public of the Compliance Enforcement Authority, a federal, state, or foreign regulatory authority, or a self-regulatory organization;

(ii) the identity of a source, including a federal, state, or foreign regulatory authority or a self-regulatory organization, that furnished information or was furnished information on a confidential basis regarding an investigation, an examination, an enforcement proceeding, or any other type of civil or criminal enforcement action; or

(iii) an examination, an investigation, an enforcement proceeding, or any other type of civil or criminal enforcement action under consideration by, or initiated by, the Compliance Enforcement Authority, a federal, state, or foreign regulatory authority, or a self-regulatory organization; or

(D) the Hearing Officer grants leave to withhold a Document or category of Documents as not relevant to the subject matter of the proceeding, or for other good cause shown.

Provided, that where a Document contains information of the type listed in subsections~~Subparagraphs~~ (A), (B), (C) or (D) that is capable of being redacted, Staff shall make the Document available for inspection and copying by the other Participants~~Respondent~~ in redacted form.

(2) Nothing in subsections~~Subparagraph~~ (b)(1)(B), (C) or (D) authorizes Staff to withhold a Document, or a part thereof, that contains exculpatory evidence. Nothing in subsection~~Subparagraph~~ (b)(1) requires Staff to withhold a Document from disclosure.

**(c) Withheld Document List**

At the time it is required to make Documents available for inspection and copying, Staff shall also provide to the Hearing Officer, the Respondent and any other Participant to which Documents are being made available, a list of Documents withheld by Staff pursuant to subsection~~Subparagraph~~ (b)(1), with a statement of the grounds that support withholding the Document. Upon review, for good cause shown, the Hearing Officer may order Staff to make any Document withheld, other than a Document that is subject to the attorney-client privilege, available to the ~~Respondent(s)~~other Participants for inspection and copying.

**(d) Timing of Inspection and Copying**

Except as set forth in this Section~~Paragraph~~, the Hearing Officer shall determine the schedule of production of Documents for inspection and copying, provided that the Hearing Officer may modify any time period for production set forth in this Section~~Paragraph~~ as warranted by the circumstances.

**(e) Place and Time of Inspection and Copying**

Documents subject to inspection and copying pursuant to this ~~Paragraph~~Section shall be made available to the Respondent and other Participants for inspection and copying at the Compliance Enforcement Authority office where the Documents are ordinarily maintained, or at such other office as the Hearing Officer, in his or her discretion, shall designate, or as the Participants otherwise agree. A Participant~~Respondent~~ shall be given access to the Documents at the Compliance Enforcement Authority's offices during normal business hours. A Participant~~Respondent~~ shall not be given custody of the Documents or be permitted to remove the Documents from the Compliance Enforcement Authority's offices, other than copies of Documents made available by the Compliance Enforcement Authority for that purpose.

**(f) Copying Costs**

A Participant~~Respondent~~ may obtain a photocopy of all Documents made available for inspection. A Participant~~Respondent~~ shall be responsible for the cost of photocopying. Unless otherwise ordered by the Hearing Officer, charges for copies made at the request of a Participant~~Respondent~~ shall be at a rate to be established by the Compliance Enforcement Authority.

**(g) Failure to Make Documents Available — Harmless Error**

In the event that a Document required to be made available to a Participant~~Respondent~~ pursuant to this Section~~Paragraph~~ is not made available by Staff, no rehearing or amended decision of a proceeding already heard or decided shall be required where the failure to make the Document available was harmless error. Should a dispute arise as to whether a rehearing or amended decision is required due to the failure of Staff to produce a Document, the burden shall be on Staff to show that such failure was harmless error. The Hearing Officer, or, upon review, the Hearing Body shall determine whether the failure to make the Document available was harmless error.

### 1.5.8 Other Discovery Procedures

(a) In addition to the production of Documents by Staff for inspection and copying by Respondent and other Participants pursuant to Section~~Paragraph~~ 1.5.7, the Participants shall be entitled to utilize all other discovery methods provided for in Rules 402 through 409 of the FERC Rules of Practice and Procedure, 18 C.F.R. §385.402 through 385.409, including data requests, written interrogatories and requests for production of Documents or things, depositions by oral examination, requests for inspection of Documents and other property, requests for admissions, and requests for issuance of orders to one or more Registered Entities to produce Documents for inspection and copying or at the hearing or to provide testimony by an authorized representative in deposition or at the hearing.

(b) Unless otherwise directed by the Hearing Officer or Hearing Body upon motion by a Participant, or by the Hearing Officer, or by the Hearing Body on its own motion, such discovery, and the resolution of any disputes concerning such discovery, shall be conducted in accordance with the provisions of Rules 402 through 410 and 510(e) of the FERC Rules of Practice and Procedure, 18 C.F.R. §385.402 through 385.410 and 385.510(e), which are hereby

incorporated by reference into these Hearing Procedures, subject to the following limitations and modifications to such Rules:

~~(a)~~(1) The provisions of subsections~~Subparagraphs~~ (d), (e) and (f) of Section~~Paragraph~~ 1.5.7 shall apply to any such discovery.

~~(b)~~(2) Rule 403(b)(2) (18 C.F.R. §385.403(b)(2)) and Rule 410(d)(2) (18 C.F.R. §385.410(~~b~~d)(2)) shall not be applicable.

~~(c)~~(3) The Hearing Officer and the Hearing Body have the authority to issue orders to compel the appearance by or production of Documents or information by, only a Person that (i) is a Participant or (ii) is a Registered Entity (including an authorized representative thereof) that is not a Participant. The Hearing Officer and the Hearing Body do not have authority to require a United States marshal or deputy marshal to serve an order to produce or provide Documents, information or testimony.

~~(d)~~(4) References to "subpoena" in Rules 404, 409, 410 and 510(e) shall be deemed to be to an order to a non-Participant Registered Entity to produce or provide Documents, information or testimony.

(~~e~~5) References to the "Commission" in Rules 402 through 410 and 510(e) shall be to FERC except as follows:

(i) ~~(i)~~ the references in Rules 402(a), 404(b)(1) and 405(b), the second reference in Rule 410(d), and the references in Rule 510(e)(1) and (2) shall be deemed to be to the Hearing Body,

(ii) the reference in Rule 385.406(b)(4) to "Commission trial staff" shall be deemed to be to Compliance Staff, and

(iii) the reference in Rule 510(e)(3) shall be deemed to be to the Hearing Officer or Hearing Body.

(~~f~~6) Unless otherwise ordered by the Hearing Officer or Hearing Body, a data request, set of interrogatories, request for production of Documents or things, request for inspection of Documents or other property, request for admissions, or order to produce or provide Documents, information or testimony, shall not specify a due date or response date that is fewer than 21 days from the date of service of the request or date of the order.

~~(g)~~(7) A list of withheld Documents, if any, shall be provided by any Participant required to produce Documents, at the time the Documents are required to be produced, to the Hearing Officer and to each Participant entitled to receive production of the Documents. Upon review, for good cause shown, the Hearing Officer may order the Participant to make any Document withheld available to any other Participant or Participants for inspection and copying.

(h)(8) In the event a Document or information required to be produced or provided by a Participant pursuant to discovery is not produced or provided by the Participant, no rehearing or amended decision of a proceeding already heard or decided shall be required where the failure to produce or provide the Document or information was harmless error. Should a dispute arise as to whether a rehearing or amended decision is required due to the failure of a Participant to produce or provide a Document or information, the burden shall be on the Participant that failed to produce or provide the Document or information to show that such failure was harmless error. The Hearing Officer or, upon review, the Hearing Body shall determine whether the failure to make the Document available was harmless error.

(i9) Unless otherwise ordered by the Hearing Officer or Hearing Body, all such discovery shall be requested, scheduled and conducted so as to be completed within six (6) months following the date of the request for hearing was filedinitial prehearing conference held pursuant to Paragraphs 1.4.1 and 1.5.2.

(j10) Notwithstanding (f)subsections (b)(6) and (i)(b)(9), however, if the shortened hearing procedure in Section 1.3.4Paragraph 1.3.2 is used in a proceeding, the Hearing Officer, on his or her own motion or on motion of a Participant, shall establish a schedule for discovery, including response periods for responding to discovery requests, that are consistent with the expedited nature of the proceeding contemplated by the shortened hearing procedure.

(c) The Hearing Officer's ruling on all motions relating to disputes concerning such discovery shall consider the following objectives:

(i1) full disclosure of all relevant Documents and information;

(ii2) the exercise of due diligence in the conduct of discovery by a Participant; and

(iii3) disallowing use of discovery as a means to delay the proceeding or to harass or burden any other Participant.

### 1.5.9 Pre-Evidentiary Hearing Submission of Testimony and Evidence

(a) Unless the Hearing Officer orders otherwise and with the exception of (i) any adverse Participant examination pursuant to SectionParagraph 1.6.16 and (ii) the testimony and Documents of a non-Participant provided pursuant to an order to produce or provide Documents, information or testimony, all witness direct testimony to be submitted in an Evidentiary hHearing must be prepared in written form, may have exhibits, schedules and attachments thereto, and shall be filed in advance of the eEvidentiary hHearing pursuant to a schedule determined by the Hearing Officer, as it may be amended.

(b) Where a Participant intends to use a Document or other demonstrative evidence that has not been filed as part of written testimony in the conduct of cross-examination (other than

Documents that are to be produced by a non-Participant at the hearing pursuant to an order to produce Documents), the Participant intending to use such Document or demonstrative evidence shall provide it to the other Participants and the Hearing Officer at least three (3) business days prior to the date at which the witness will be cross-examined at a ~~the evidentiary~~Testimonial ~~h~~Hearing.

(c) Compliance Staff shall file the Documents it intends to offer into evidence as its direct case, including the written testimony of its witnesses along with exhibits, schedules and attachments thereto, first. The Registered Entity shall file the Documents it intends to offer into evidence as its direct case, which also may be responsive to Staff's direct case, including the written testimony of its witnesses along with exhibits, schedules and attachments thereto, second. Staff shall file as its rebuttal case the Documents it intends to offer into evidence in response to the Registered Entity's direct case, including the written testimony of its witnesses along with exhibits, schedules and attachments thereto, third.

(d) If appropriate due to the number and/or complexity of the issues, the Hearing Officer may allow for the Registered Entity to submit a rebuttal case that responds to Staff's rebuttal case, in which event the Hearing Officer shall also allow Staff to submit a surrebuttal case that responds to the Registered Entity's rebuttal case.

(e) Each round of evidence shall be limited in scope to responding to the preceding round of evidence, except that the Registered Entity's direct case may exceed the scope of Staff's direct case if necessary for the Registered Entity to set forth its direct case fully.

(f) The Participants shall file the Documents they intend to offer into evidence in accordance with the Hearing Officer's schedule, as it may be amended. Such filings of written testimony and other evidence in advance of the ~~e~~Evidentiary ~~h~~Hearing shall not entitle the Documents to be admitted into the evidentiary record. The Participants must offer their witnesses' testimony and other proposed evidence for admission into the evidentiary record during the ~~e~~Evidentiary ~~h~~Hearing.

(g) Any Participant who fails, without good cause shown, to comply with the Hearing Officer's schedule for the filing of written testimony and other evidence in advance of the ~~e~~Evidentiary ~~h~~Hearing may be limited in the presentation of its evidence during the ~~e~~Evidentiary ~~h~~Hearing or have its participation in the ~~e~~Evidentiary ~~h~~Hearing otherwise restricted by the Hearing Officer to avoid undue prejudice and delay.

### 1.5.10 Protective Orders

(a) All proceedings conducted pursuant to these Hearing Procedures, and any written testimony, exhibits, other evidence, transcripts, comments, briefs, rulings and other issuances, shall be non-public and shall be held in confidence by all Participants, except as the ERO (within the U.S., in accordance with the authorization previously granted by FERC to release information about a non-public proceeding) or FERC (in the case of U.S.-related information) or another Applicable Governmental Authority (in the case of non-U.S.-related information) authorizes or directs public disclosure of any portion of the record. In addition to this general proscription, at any time during a proceeding, the Hearing Officer, on his or her own motion or on the motion of any Participant or of any non-Participant ordered to produce Documents,

information or testimony, may enter a protective order to designate as proprietary and protect the confidential, proprietary or trade secret nature of any data, information or studies, or any other information the public release of which may cause a security risk or harm to a Participant.

(b) The following types of information will be considered entitled to protection through a protective order:

(~~i~~1) Confidential Business and Market Information, including information that is proprietary, commercially valuable, or competitively sensitive;

(ii) Critical Energy Infrastructure Information;

(iii) information related to a Cyber Security Incident;

(iv) personnel information that identifies or could be used to identify a specific individual, or that reveals personnel, financial, medical or other personal information;

(v) audit work papers;

(vi) investigative files or Documents that would disclose investigative techniques of Staff, any Compliance Enforcement Authority, the ERO or any federal, state or foreign regulatory authority.

Nothing in this ~~Subparagraph~~subsection 1.5.10(b) shall require Staff to produce any Documents it is entitled to withhold under subsection~~Subparagraph~~ 1.5.7(b).

(c) A motion for a protective order shall specify the proposed expiration date for the proprietary status of the data, Documents or information, if any, and shall propose requirements or safeguards to be met for individuals participating in the proceeding to review the protected information while maintaining its proprietary status.

(d) A Document submitted and marked as proprietary, or a statement made at a hearing and identified as proprietary, shall be afforded proprietary treatment pending the timely submission of a motion to protect the confidential, proprietary or trade secret nature of that Document or statement and a ruling on such a motion by the Hearing Officer.

(e) The protective order shall identify the data, Documents or information that will be accorded proprietary treatment; the individuals participating in the proceeding, by category or otherwise, entitled to view the proprietary information; and the requirements, conditions or safeguards that must be met before an individual may view the information.

(f) A public redacted version of each Document and transcript that contains information that is protected pursuant to this Section~~Paragraph~~ must be filed with the proprietary version and must be served on each Participant for distribution to those individuals participating in the proceeding who are not entitled to view the proprietary information.

(g) Should it be necessary to address proprietary information during a hearing, the Hearing Officer shall, while the information is being addressed, close the hearing to all individuals other

than those entitled to view or hear the proprietary information in accordance with the protective order.

### 1.5.11 Pre-Evidentiary Hearing Memorandum

(a) The Hearing Officer or the Hearing Body may request~~, as needed on a case by case basis due to the number or complexity of the issue(s),~~ the submission of memoranda prior to the ~~e~~Evidentiary ~~h~~Hearing that set forth~~outline~~ each Participant's position on the issue(s) in dispute, the key facts and arguments, ~~and~~ the applicable Reliability Standard, rules, orders or other authority, and such other matters as may be directed by the Hearing Officer or the Hearing Body.

(b) The purpose of such memoranda will be to aid the Hearing Officer and Hearing Body in preparation for the ~~e~~Evidentiary ~~h~~Hearing. A Participant will not be deemed to have waived any issue, fact or argument that is not set forth in a pre-~~e~~Evidentiary ~~h~~Hearing memorandum.

(c) The Hearing Officer may establish ~~page~~word limitations on such submissions.

### 1.5.12 Certification of Questions to the NERC Board of Trustees

(a) Should a hearing present a significant question of law, policy or procedure the resolution of which may be determinative of the issues in the proceeding in whole or in part, and as to which there are other extraordinary circumstances that make prompt consideration of the question by the NERC Board of Trustees appropriate, the Hearing Officer, on his or her own motion or on motion of a Participant, may recommend to the Hearing Body that it certify, or the Hearing Body on its own motion may decide to certify, the question to the Board of Trustees for determination pursuant to Section 412 of the Rules of Procedure.

(b) If the Hearing Officer, on his or her own motion, or the Hearing Body, on its own motion, wishes to present a question to the Hearing Body for certification to the NERC Board of Trustees, the Hearing Officer shall first provide the Participants the opportunity to submit memoranda addressing whether the question should be certified and the precise terms of the question to be certified.

(c) If a Participant files a motion requesting, or the Hearing Officer determines on his or her own motion, that a question should be certified to the Board of Trustees, the Hearing Officer shall submit a written recommendation on the matter to the Hearing Body. If the request for certification is based on the motion of a Participant, the Hearing Officer shall also submit to the Hearing Body the motion and any answers to the motion that were filed. If the request for certification is on the Hearing Officer's own motion, the Hearing Officer shall also submit to the Hearing Body the Participants' memoranda that were filed pursuant to subsection (b).

(d) Questions of fact presented by the particular matter in dispute in a hearing shall not be the subject of a certification to the Board of Trustees.

(e) The Hearing Body shall determine, based on the criteria specified in subsection (a), whether the proposed question shall be certified to the Board of Trustees for determination. To certify the proposed question, the Hearing Body must determine that the question is a significant question of law, policy or procedure the resolution of which may be determinative of the issues in the proceeding, in whole or in part, and that there are extraordinary circumstances that make

prompt consideration of the question by the Board of Trustees appropriate. If the Hearing Body determines that the proposed question should be certified to the Board of Trustees, the Hearing Body shall also determine whether the hearing should be suspended, in whole or in part, while the question is pending before the Board of Trustees for determination.

(f) As provided in Rule of Procedure Section 412, the Board of Trustees may decide to reject a proposed certification from a Hearing Body.

(f) If the Board of Trustees accepts certification of a question and issues a determination on the question, the hearing shall proceed following the determination in accordance with the Board of Trustees' decision.

### 1.6 Procedure at Evidentiary Hearing ~~Procedure~~

#### 1.6.1 Purpose of Evidentiary Hearings~~s~~

The purpose of the ~~e~~Evidentiary ~~h~~Hearing shall be to admit the Participants' evidence into the record, and for each Participant to have the opportunity to cross-examine the other Participant's witnesses. A schedule for briefs, unless waived by the Participants, shall be set at the conclusion of the ~~e~~Evidentiary ~~h~~Hearing. ~~The evidentiary hearing also may be used to address any other issue pending between the Participants.~~

#### 1.6.2 Order of Receiving Evidence

In all proceedings Compliance Staff shall open and close.

#### 1.6.3 Opening and Closing Statements

Opening and closing statements will not be made during the ~~e~~Evidentiary ~~h~~Hearing as a matter of course except that such statements may be allowed when requested by a Participant, and shall be required when requested by the Hearing Officer or the Hearing Body. Any Participant's request for such statements, or a Hearing Officer or Hearing Body notice requiring such statements, shall be made at least ten (10) days in advance of the start of the ~~e~~Evidentiary ~~h~~Hearing.

#### 1.6.4 Right of Participant to Present Evidence

Subject to compliance with the requirements of these Hearing Procedures concerning the timing of submission of written testimony and other evidence, a Participant has the right to present such evidence, to make such objections and arguments, and to conduct such cross-examination as may be necessary to assure the true and full disclosure of the facts.

#### 1.6.5 Exhibits

(a) All material offered in evidence, except oral testimony allowed by the Hearing Officer or the testimony of a non-Participant pursuant to an order to produce or provide Documents, information or testimony, shall be offered in the form of an exhibit.

(B) Each exhibit must be marked for identification. A Participant must provide the court reporter with two (2) copies of every exhibit that the Participant offers into evidence, and will provide copies of any exhibit not served in advance of the ~~e~~evidentiary ~~h~~hearing to the Participants and the Hearing Officer.

### 1.6.6 Witness Attendance at Testimonial~~Evidentiary~~ Hearing

(a) Each witness shall attend the ~~evidentiary~~Testimonial ~~h~~Hearing in person unless a Participant has been informed in advance of the ~~evidentiary~~Testimonial ~~h~~Hearing that all other Participants waive cross-examination of the witness and neither the Hearing Officer nor the members of the Hearing Body have any questions for the witness, in which event the witness does need not be present at the ~~evidentiary~~Testimonial ~~h~~Hearing.

(b) A person compelled to appear, voluntarily testifying, or making a statement may be accompanied, represented and advised by an attorney.

(c) All testimony offered at a~~the~~ ~~evidentiary~~Testimonial ~~h~~Hearing is to be under oath or affirmation. If a witness is not required to attend the ~~evidentiary~~Testimonial ~~h~~Hearing, then the Participant on whose behalf the witness prepared testimony shall submit an affidavit of the witness attesting to the veracity of the witness' testimony, and the Participant shall be allowed to introduce the witness' testimony, and the exhibits, schedules and attachments thereto, into the evidentiary record based on such affidavit.

### 1.6.7 Admission of Evidence

(a) Compliance Staff shall offer its exhibits into evidence first and the Registered Entity second, unless the Participants agree otherwise.

(b) Except for witnesses who are not required to attend the ~~evidentiary~~Testimonial ~~h~~Hearing, the Participants shall call each witness in turn. Following the witness' swearing in, the witness shall attest to the veracity of his or her written testimony. The witness may identify any language and/or figures in his or her written testimony or exhibits that the witness would like to change or correct. Subject to objection, such changes or corrections may be allowed at the Hearing Officer's discretion for the purpose of obtaining a full, accurate and complete record without imposing undue delay or prejudice on any Participant. The Participant whose witness has made changes or written corrections to written testimony and exhibits shall file corrected copies with the Clerk and provide corrected copies to the Hearing Officer and other Participant.

(c) Once a witness has attested to the veracity of his or her testimony, the Participant on whose behalf the witness is testifying shall move for admission of the witness' testimony, including all exhibits, schedules and attachments thereto, into evidence. Other Participants may object to the introduction of the witness' testimony, or any part thereof, as set forth in Section~~Paragraph~~ 1.6.11. Subject to the Hearing Officer's ruling on the objection, the witness' testimony shall be admitted into evidence.

(d) The witness shall then be turned over for cross-examination by other Participants, and for any questions by the Hearing Officer or any member of the Hearing Body, in accordance with Section~~Paragraph~~ 1.6.14, and then for redirect examination in accordance with Section~~Paragraph~~

1.6.15. Witnesses shall be cross-examined on all previously-served testimony (direct, rebuttal or surrebuttal) when they first take the witness stand.

(e) Except (i) in exceptional cases and upon a showing of good cause and (ii) witnesses testifying pursuant to an order to produce or provide Documents, information or testimony issued to a non-Participant, no witness shall be allowed to testify ~~during the evidentiary hearing~~ unless a Participant has served the witness' written testimony in advance of the ~~evidentiary~~Testimonial ~~h~~Hearing in accordance with the schedule established by the Hearing Officer. Due to the undue prejudice such surprise witness testimony would impose on other Participants, it is the Compliance Enforcement Authority's policy to discourage witness testimony at a~~n~~ ~~evidentiary~~Testimonial ~~h~~Hearing when a Participant has not served the witness' written testimony in advance of the ~~evidentiary~~Testimonial ~~h~~Hearing. If such testimony is allowed, sufficient procedural steps shall be taken by the Hearing Officer to provide the other Participants with a fair opportunity for response and cross-examination.

### 1.6.8 Evidence that is Part of a Book, Paper or Document

(a) When relevant and material matter offered in evidence is embraced in a book, paper or Document containing other matter that is not material or relevant, the Participant offering the same must plainly designate the matter offered as evidence, and segregate and exclude the material not offered to the extent practicable.

(b) If the material not offered is in such volume as would unnecessarily encumber the record, such book, papers or Document will not be received in evidence but may be marked for identification and, if properly authenticated, the relevant or material matter may be read into the record, or, if the Hearing Officer so directs, a separate copy of such matter in proper form shall be offered as an exhibit.

(c) All other Participants shall be afforded an opportunity to examine the book, paper or Document and to offer in evidence in like manner other portions thereof if found to be material and relevant.

### 1.6.9 Stipulations

The Participants may stipulate to any relevant fact or the authenticity of any relevant Document. Stipulations may be made in writing or entered orally in the record. Notwithstanding stipulation, the Hearing Officer may require evidence of the facts stipulated in order to provide a complete evidentiary record on which to base the final order.

### 1.6.10 Official Notice

(a) Where relevant and material to the subject matter of the proceeding, the Hearing Officer may, upon request of a Participant, take official notice of any of the following:

(1) Rules, regulations, administrative rulings and orders, written policies of governmental bodies, and rulings and orders of other Compliance Enforcement Authorities.

(2) The orders, transcripts, exhibits, pleadings or any other matter contained in the record of other docketed proceedings of the Compliance Enforcement Authority.

(3) State, provincial and federal statutes and municipal and local ordinances.

(4) The decisions of state, provincial and federal courts.

(5) Generally recognized scientific or technical facts within the specialized knowledge of the Compliance Enforcement Authority.

(6) All other matters of which the courts of the United States may take judicial notice.

(b) All requests to take official notice shall be submitted in advance of the ~~e~~Evidentiary ~~h~~Hearing in accordance with a schedule established by the Hearing Officer. Before ruling on a request to take official notice, the Hearing Officer shall afford the other Participant opportunity to object or to show the contrary to the matter for which official notice is requested.

(c) An accurate copy of any item officially noticed shall be introduced into the record in the form of an exhibit presented by the Participant requesting official notice unless waived by the Participants and approved by the Hearing Officer. Any information officially noticed and not presented as an exhibit shall be set forth in a statement on the record.

### 1.6.11 Admissibility of Evidence

(a) Any evidence offered, including that included in a book, paper or Document pursuant to Section~~Paragraph~~ 1.6.8, shall be subject to appropriate and timely objections. Any Participant objecting to the admission or exclusion of evidence must state the grounds for objection.

(b) The admission of evidence shall not be limited by the generally recognized rules of evidence as applied in the courts of the United States or of the states, although the Hearing Officer may take such rules of evidence into consideration in ruling on the admissibility of evidence. The Hearing Officer will exercise discretion in the admission of evidence based upon arguments advanced by the Participants, and shall admit evidence if it is of a type commonly relied upon by reasonably prudent persons in the conduct of their affairs. The Hearing Officer may only exclude material from the record in response to a motion or objection by a Participant.

(c) Formal exception to a ruling on admissibility of evidence need not be taken to be preserved.

### 1.6.12 Offer of Proof

Any Participant who has had evidence excluded may make an offer of proof on the record. The offer of proof may consist of a statement made on the record of the substance of the evidence that the Participant claims would have been adduced, or any written or documentary exhibit that the Participant sought to introduce. Any such exhibit shall be retained as part of the record.

### 1.6.13 Reservation of Evidentiary Ruling

(a) The Hearing Officer shall rule upon any objection to the admissibility of evidence at the time the objection is made; provided that the Hearing Officer has discretion to reserve such a ruling or to require the Participants to file written arguments in relation thereto.

(b) If the Hearing Officer reserves the ruling, appropriate steps shall be taken during the ~~e~~Evidentiary ~~h~~Hearing to ensure a full, complete and accurate record in relation to the objected to evidence in the event the objection to the evidence's admissibility is overruled.

### 1.6.14 Cross-Examination

(a) Each witness shall be tendered for cross-examination subsequent to the admission of the witness' testimony into the evidentiary record. Each Participant shall have the right to cross-examine each witness of any other Participants. A Participant may waive cross-examination of any witness. Leading questions are permitted on cross-examination.

(b) The credibility of a witness may be attacked by any Participant, including the Participant calling the witness.

(c) The Hearing Officer and any member of the Hearing Body may ask the witness questions following the conclusion of the witness' cross-examination by the other Participant, and prior to the witness' redirect examination pursuant to Section~~Paragraph~~ 1.6.15. ~~If a member of the Hearing Body seeks to ask a witness questions, the member shall do so by submitting the question in writing to the Hearing Officer, and the Hearing Officer shall ask the question of the witness.~~

### 1.6.15 Redirect Examination

A Participant shall be entitled to conduct redirect examination of each of the Participant's witnesses who are subject to cross-examination or questions of the Hearing Officer or a member of the Hearing Body. Any redirect examination shall be limited in scope to the witness' cross-examination and questions of the Hearing Officer and members of the Hearing Body. ~~If a member of the Hearing Body seeks to ask a witness questions, the member shall do so by submitting the question in written form to the Hearing Officer, and the Hearing Officer shall ask the question of the witness.~~

### 1.6.16 Examination of Adverse Participant

(a) Any Participant may call any adverse Participant, or any employee or agent thereof, during the ~~evidentiary~~Testimonial ~~h~~Hearing to provide oral testimony on the Participant's behalf, and may conduct such oral examination as though the witness were under cross-examination.

(b) If a Participant intends to call an adverse Participant for examination, it shall give notice to the Hearing Officer and all other Participants setting forth the grounds for such examination at least fourteen (14) days in advance of the ~~evidentiary~~Testimonial ~~h~~Hearing, and the Participant who, or whose employee or agent, is sought to be called shall file any objection at least seven (7) days in advance of the ~~evidentiary~~Testimonial ~~h~~Hearing.

(c) Any Participant may conduct oral examination of a witness testifying pursuant to an order to produce or provide Documents, information or testimony issued to a non-Participant, as though the witness were under cross-examination.

#### 1.6.17 Close of the Evidentiary Record

(a) The Hearing Officer shall designate the time at which the evidentiary record will be closed, which will typically be at the conclusion of the ~~e~~Evidentiary ~~h~~Hearing.

(b) Evidence may not be added to the evidentiary record after it is closed, provided that, prior to issuance of the Hearing Body's final order, the Hearing Officer may reopen the evidentiary record for good cause shown by any Participant. For the purpose of reopening the evidentiary record, newly discovered evidence that is material to the issues in dispute and could not, by due diligence, have been discovered prior to or during the Evidentiary Hearing, shall constitute good cause.

### 1.7 Post- Evidentiary Hearing Procedure

#### 1.7.1 Briefs

(a) At the close of the ~~e~~Evidentiary ~~h~~Hearing, Participants may file initial and reply briefs.

(b) Briefs shall be concise, and, if in excess of twenty (20) pages, excluding appendices, shall contain a table of contents. Statements of fact should be supported by record citations.

(c) The Hearing Officer will prescribe the time for filing briefs, giving due regard to the nature of the proceeding, the extent of the record, the number and complexity of the issues, and the objective of expedition.

(d) Unless the Hearing Officer prescribes otherwise, all Participants shall file initial and reply briefs simultaneously.

(e) Participants' reply briefs shall be limited in scope to responding to arguments and issues raised in other Participants' initial briefs.

(f) The Hearing Officer may~~, with the agreement of the Participants,~~ allow oral closing statements to be made on the record in lieu of briefs.

(g) The Hearing Officer may establish reasonable word~~page~~ limitations applicable to briefs.

#### 1.7.2 Other Pleadings

Post-hearing pleadings other than briefs are permitted, but, absent good cause shown, such pleadings may not seek to introduce additional evidence into the record.

#### 1.7.3 Draft Initial Opinions

The Hearing Officer may permit or require Participants to file draft initial opinions that set forth the Participants' proposed findings of fact and conclusions.

### 1.7.4 Hearing Officer's Initial Opinion

(a) ~~Except as otherwise ordered by the Hearing Body, a~~At the conclusion of the ~~e~~Evidentiary ~~h~~Hearing, and following the submission of initial and reply briefs and draft orders, if any, the Hearing Officer shall prepare an initial opinion for the Hearing Body's review and consideration.

(b) The initial opinion shall include a statement of each finding and conclusion, and the reasons or basis therefore, for all material issues ~~of fact, law or discretion~~ presented on the record. The initial opinion also shall contain the appropriate orders to dispose of the proceeding, including any Penalty, Mitigation Plan or Remedial Action Directive that the Hearing Officer proposes the Hearing Body require. ~~If the initial opinion proposes a Penalty, the initial opinion shall include a proposed Notice of Penalty.~~

(c) The initial opinion shall note if the subject of the proceeding has been deemed to involve a Cyber Security Incident, if any information in the proceeding was deemed to be Critical Energy Infrastructure Information, or if any information in the proceeding is the subject of a protective order pursuant to Section ~~Paragraph~~ 1.5.10.

### 1.7.5 Exceptions

(a) Within twenty-one (21) days after service of the initial opinion, or such other time as is fixed by the Hearing Officer, any Participant may file exceptions to the initial opinion in a brief designated "brief on exceptions" and, within fourteen (14) days after the time for filing briefs on exceptions or such other time as is set by the Hearing Officer, any Participant may file as a reply, a "brief in reply to exceptions."

(b) Exceptions and replies thereto with respect to statements, findings of fact or conclusion in the initial opinion must be specific and must be stated and numbered separately in the brief. With regard to each exception, the Participant must specify each error asserted, and include a concise discussion of any policy considerations applicable and any other evidence and arguments in support of the Participant's position. Suggested replacement language for all statements to which exception is taken must be provided. Exceptions and arguments may be filed (1) together in one brief; or (2) in two separate documents, one designated as the brief containing arguments, and the other designated "Exceptions," containing the suggested replacement language.

(c) Arguments in briefs on exceptions and replies thereto shall be concise and, if in excess of twenty (20) pages, shall contain a table of contents.

(d) Participants shall not raise arguments in their briefs in reply to exceptions that are not responsive to any argument raised in any other Participant's brief on exceptions.

(e) Statements of fact should be supported by citation to the record.

(f) The Hearing Officer may establish reasonable word~~page~~ limitations applicable to arguments included in briefs on exception and briefs in reply to exceptions. Such word~~page~~ limitations shall not apply to a Participant's proposed replacement language.

(g) Unless good cause is shown, if a Participant does not file a brief on exceptions, or if a Participant filed a brief on exceptions that does not object to a part of the initial opinion, the Participant shall be deemed to have waived any objection to the initial opinion in its entirety, or to the part of the initial opinion to which the Participant did not object, whichever applies. This provision shall not prohibit the Participant, in its brief in reply to exceptions, from responding to another Participant's exceptions to such part of the initial opinion or from proposing alternative replacement language to the replacement language proposed by the other Participant for such part of the initial opinion.

### 1.7.6 Oral Argument

(a) The Hearing Body may elect to hear oral argument. If oral argument is held without briefs having been filed, Participants will be given the opportunity to present argument on all issues.

(b) If oral argument is held where briefs have been filed, argument may be limited to issues identified by the Hearing Body. The Hearing Body will direct the Clerk to issue a notice of oral argument that identifies the date, time, place and issues for the argument.

(c) The presentation of written materials or visual aids is permitted at oral argument. To the extent such materials or aids contain factual information, they shall be supported by the record, and ~~shall~~ contain accurate ~~record~~ citations to the record. Such materials or aids may not contain new calculations or quantitative analyses not presented in the record, unless they are based on underlying data contained in the record. Copies of all written materials or visual aids to be presented at oral argument shall be served on all Participants not less than forty-eight (48) hours prior to the time and date of oral argument.

### 1.7.7 Additional Hearings

After the evidentiary record has been closed but before issuance of the Hearing Body's final order~~an initial opinion~~, the Hearing Officer may reopen the evidentiary record and hold additional hearings. Such action may be taken on the Hearing Officer's or the Hearing Body's own motion if there is reason to believe that reopening is warranted by any changes in conditions, or by the need to compile a complete evidentiary record on which to base the final order. Any Participant may file a motion to reopen the record, which shall contain the reasons for reopening, including material changes in conditions or the identification of additional evidence that should be included in the record, and a brief statement of proposed additional evidence and an explanation why such evidence was not previously adduced.

### 1.7.8 Hearing Body Final Order

(a) Following the receipt of the initial opinion, any exceptions and replies thereto, and oral argument, if any, the Hearing Body shall issue its final order.

(b) Issuance of a final order shall require (i) a quorum of the Hearing Body, which shall be (after any recusals, disqualifications and appointments of replacement members) at least fifty (50) percent of the number of members normally assigned to the Hearing Body, and (ii) majority

vote of the members of the Hearing Body voting on the final order (which number of members voting shall not be less than a quorum).

(c) The Hearing Body shall strive, but shall not be required, to issue its final order within thirty (30) days following the last to occur of the initial opinion, exceptions or replies thereto, or oral argument. The final order may adopt, modify, amend or reject the initial opinion in its entirety or in part. The final order shall include a statement of each finding and conclusion, and the reasons or basis therefore, for all material issues ~~of fact, law or discretion~~ presented on the record.

(d) The Hearing Body will base its determinations in the final order on the record. The final order also shall contain the appropriate orders to dispose of the proceeding, including any Penalty, ~~sanction,~~ Remedial Action Directive or Mitigation Plan required. ~~If the final order imposes a Penalty, it shall be entitled "Final Order and Notice of Penalty".~~

(e) The final order shall note if the subject of the proceeding has been deemed to involve a Cyber security Incident, if any information in the proceeding was deemed to be Critical Energy Infrastructure Information, or if any information in the proceeding is the subject of a protective order issued pursuant to Section~~Paragraph~~ 1.5.10.

(f) ~~The Hearing Body shall direct the Clerk to serve the final order on the Participants.~~ The service of the final order shall include a notice informing the Participants of their appeal rights to the ERO or to FERC, as applicable.

### 1.7.9 The Record

The Clerk shall maintain the record for all dockets. The record shall include any of the following, including all attachments thereto and Documents filed therewith, that exist in any docket:

(1) Notice of Alleged Violation and Registered Entity's response thereto;

(2) Registered Entity's proposed Mitigation Plan and Staff's statement identifying its disagreement(s) therewith;

(3) Remedial Action Directives and the Registered Entity's notice contesting the Remedial Action Directive;

(4) Registered Entity's request for a hearing;

(5) Participant filings, motions, and responses;

(6) Notices, rulings, orders and other issuances of the Hearing Officer and Hearing Body;

(7) Transcripts;

(8) Evidence received;

(9) Written comments submitted in lieu of written testimony;

(10) Matters officially noticed;

(11) Offers of proof, objections and rulings thereon, and any written or documentary evidence excluded from the evidentiary record;

(12) ~~Briefs, p~~Pre-~~e~~Evidentiary ~~h~~Hearing memorandums, briefs, and draft opinions;

(13) Post-hearing pleadings other than briefs;

(14) The Hearing Officer's initial opinion;

(15) Exceptions to the Hearing Officer's initial opinion, and any replies thereto;

(16) The Hearing Body's final order~~, any Notice of Penalty issued therewith,~~ and the Clerk's notice transmitting the final order to the Participants;

(17) All notices of ex parte communications; and

(18) Any notifications of recusal and motions for disqualification of a member of the Hearing Body or Hearing Officer or Technical Advisor and any responses or replies thereto.

#### 1.7.10 Appeal

A Participant or a Regional Entity acting as the Compliance Enforcement Authority, may appeal a final order of the Hearing Body ~~may be appealed~~ to NERC in accordance with ~~NERC's~~ Rule~~s~~ of Procedure~~,~~ Section 409. ~~The Clerk shall transmit to NERC the record of any docket that is the subject of an appealed final order.~~

### 1.8 Settlement

Settlements may be entered into at any time pursuant to Section 5.6 of the NERC Compliance Monitoring and Enforcement Program and the Compliance Enforcement Authority's settlement procedures, provided, that (i) the Compliance Enforcement Authority may decline to engage in or continue settlement negotiations after a Possible Violation or Alleged Violation becomes a Confirmed Violation, and (ii) the Compliance Enforcement Authority, the Registered Entity or any other Participant may terminate settlement negotiations at any time.

### 1.9 Remedial Action Directives

#### 1.9.1 Initiation of Remedial Action Directive Hearing

(a) Staff~~,~~ may issue a Remedial Action Directive to a Registered Entity at any time, including during any proceeding related to an Alleged Violation of a Reliability Standard. The Remedial Action Directive shall be delivered to the Registered Entity in accordance with Section 7.0 of the NERC Compliance Monitoring and Enforcement Program. The Compliance

Enforcement Authority will notify NERC within two (2) business days after its Staff issues a Remedial Action Directive.

(b) The Registered Entity may contest the Remedial Action Directive by filing a written notice with the Clerk of the Compliance Enforcement Authority that states that the Registered Entity contests the Remedial Action Directive and that the Registered Entity requests a Remedial Action Directive hearing. The Registered Entity shall attach a copy of the Remedial Action Directive to its written notice. The Registered Entity must provide such notice within two (2) business days following the date of actual receipt (as defined in Section 7.0 of the NERC Compliance Monitoring and Enforcement Program) of the Remedial Action Directive. If the Registered Entity does not give written notice to the Compliance Enforcement Authority within the required time period, the Registered Entity shall be deemed to have waived its right to contest the Remedial Action Directive.

(c) The Clerk shall assign a docket number, and issue a notice of hearing that sets forth the date, time and place at which the hearing will convene ~~pursuant to Paragraph 1.4.1~~.

### 1.9.2 Remedial Action Directive Hearing Procedure

(a) Hearings to address Remedial Action Directives shall be conducted only under the expedited hearing process set forth in this Section~~Paragraph~~ 1.9.2. The ~~full~~general hearing procedures described in Sections 1.4 to 1.7 are applicable to the Remedial Action Directive hearing unless the context of a provision is inconsistent with or otherwise renders it inapplicable to the procedures set forth in this Section~~Paragraph~~.

(b) The Remedial Action Directive hearing ~~may~~shall be presided over by a Hearing Officer and will be conducted according to the following guidelines:

~~a)~~(1) The Hearing Officer or the Hearing Body will hold a prehearing conference within two (2) business days after receipt of the Registered Entity's request for a hearing.

~~b)~~(2) A~~n evidentiary~~Testimonial H~~h~~earing will be conducted on the matter, in person or by teleconference, within seven (7) business days after the prehearing conference.

~~c)~~(3) At the Testimonial~~evidentiary h~~Hearing, Staff shall present oral witness testimony and evidence to show why the Remedial Action Directive should be complied with, and the Registered Entity shall present oral witness testimony and evidence to show why the Remedial Action Directive is not necessary or should be modified. All witness testimony shall be rendered under oath.

~~d)~~(4) At the Testimonial~~evidentiary h~~Hearing, the Participants shall have the opportunity to make opening statements. In addition, the Participants shall have the opportunity to make closing arguments, and Staff shall have the opportunity to make a rebuttal to the Registered Entity's closing argument.

~~e)~~(5) The Participants may file initial briefs and reply briefs, and/or draft opinions, on an expedited schedule set by the Hearing Officer or the Hearing Body. Oral argument shall not be held.

~~f)~~(c) The Hearing Body shall issue a summary written decision within ten (10) days following submission of the last brief~~the hearing~~, stating whether the Registered Entity shall or shall not be required to comply with the Remedial Action Directive and identifying any modifications to the Remedial Action Directive that ~~it~~the Hearing Body finds appropriate. Upon issuance of the summary written decision, the Registered Entity is required to comply with the Remedial Action Directive as specified in the summary written decision.

(d) Within thirty (30) days following issuance of its summary written decision, the Hearing Body shall issue a full written decision. The written decision shall state the conclusions of the Hearing Body with respect to the Remedial Action Directive, and shall explain the reasons for the Hearing Body's conclusions.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

**Proposed Revisions 3-05-2012**

# Appendix 5A

# Organization Registration and Certification Manual

**Effective: January 31, 2012**

116 -390 Village Boulevard, Princeton, New Jersey 08540-5721

Phone: 609.452.8030 · Fax: 609.452.9550 · www.nerc.com

# Table of Contents

**Section I — Executive Summary** ..... **1**
**Overview** ..... 1
To Whom Does This Document Apply? ..... 1
When did These Processes Begin? ..... 2
Where to Access and Submit Form(s)? ..... 2
Roles and Responsibilities ..... 2
**Section II — Introduction to Organization Registration and Organization Certification Processes** ..... **4**
Organization Registration — Entities Required to Register ..... 4
Organization Certification ..... 4
**Section III — Organization Registration Process** ..... **6**
Purpose and Scope ..... 6
Overview ..... 6
Organization Registration Process ..... 6
**Section IV — Organization Certification Process** ..... **10**
Purpose and Scope ..... 10
Overview ..... 10
Organization Certification Process ..... 10
**Section V — NERC Organization Registration Appeals Process** ..... **16**
Purpose and Scope ..... 16
Overview ..... 16
Organization Registration Appeals Procedure ..... 16
**Section VI — NERC Organization Certification Appeals Process** ..... **20**
Purpose and Scope ..... 20
Overview ..... 20
Organization Certification Appeals Procedure ..... 20
**Definitions** ..... **23**

# Section I — Executive Summary

## Overview

The purpose of this document is twofold: (1) to define the process utilized in the Organization Registration Program by identifying which functional entities must register as owners, operators, and users of the Bulk Power System for compliance with Reliability Standards; and (2) to define the process utilized in the Organization Certification Program for certifying the following entities: Reliability Coordinator (RC), Balancing Authority (BA), and Transmission Operator (TOP). The NERC Compliance and Certification Committee (CCC) is responsible for approving and forwarding these processes to the NERC Board of Trustees for its approval. Where a proposal for revisions to these processes comes to the Board of Trustees from sources other than the CCC, the Board of Trustees will seek the concurrence of the CCC before taking action on the proposal.

## To Whom Does This Document Apply?

All industry participants responsible for or intending to be responsible for, the following functions must register with NERC through the Organization Registration process. The entities are defined in the *Glossary of Terms Used In NERC Reliability Standards* (Glossary of Terms) with responsibilities designated by the individual Reliability Standards.

| | **Entities that Must Register** | **Entities that Need to be Certified** |
|---|---|---|
| Reliability Coordinator (RC) | √ | √ |
| Transmission Operator (TOP) | √ | √ |
| Balancing Authority (BA) | √ | √ |
| Planning Authority (PA) | √ | |
| Transmission Planner (TP) | √ | |
| Transmission Service Provider (TSP) | √ | |
| Transmission Owner (TO) | √ | |
| Resource Planner (RP) | √ | |
| Distribution Provider (DP) | √ | |
| Generator Owner (GO) | √ | |
| Generator Operator (GOP) | √ | |
| Load-Serving Entity (LSE) | √ | |
| Purchasing-Selling Entity (PSE) | √ | |
| Interchange Authority (IA) | √ | |
| Reserve Sharing Group (RSG) | √ | |

## When did These Processes Begin?

The initial Registration process began in January of 2006. Registration of ~~new~~ entities is an ongoing process. If a Registered Entity's information changes, these changes must be submitted to the applicable Regional Entity(s).

Certification is ongoing for ~~new~~ entities in accordance with Section IV of this manual.

## Where to Access and Submit Form(s)?

Application forms for Registration and Certification ~~forms~~ are provided on each Regional Entity's website. Completed forms are to be sent electronically to the ~~Compliance and Certification Manager~~website location and/or individual(s) responsible for Registration and/or Certification of the applicable Regional Entity(ies). It is desirable that entities operate within a single Regional Entity Region; however, if an entity operates in more than one Region, separate Registration applications must completed and submitted to each of the Regional Entities.

## Roles and Responsibilities

The following is a high-level overview of the roles and responsibilities in the Registration and Certification processes:

**NERC**

1. Oversight of entity processes performed by the Regional Entities, including:
   a. Governance per the Regional Entity's delegation agreement with NERC.
   b. Coordination of process execution when an entity is registering and/or certifying with multiple Regional Entities.
2. Manage each entity's NERC Compliance Registry identification number (NERC ID) including:
   a. Sending a Registration or Certification letter that identifies the new or changed Registration and contains the NERC ID to the applicable Regional Entity(ies) for review and approval. If the Regional Entity(ies) agrees with all the information provided, it will notify NERC to issue the NERC ID to the Registered Entity. ~~and~~ NERC will ~~send a~~ copy ~~of the notification being provided to~~ the Regional Entity(ies) when sending Registration notification letters.
   b. Ensuring each Registered Entity has only one NERC ID for all Regional Entities in which registered.
3. Make modeling changes based on Registration information.
4. Maintain accurate Registration and Certification records including granting Certification certificates for the Registered Entity(ies) responsible for compliance (including JRO/CFR).
5. Maintain published up-to-date list of Registered Entities (i.e. the NERC Compliance Registry) on the NERC website.

**Regional Entity**

**Registration**

1. Performs data collection and Mapping of Bulk Power System Facilities and those Facilities that have a material impact on the Bulk Power System within its Regional Entity defined reliability Region boundaries.
2. ~~Approves or disapproves~~Reviews entity Registration applications.
3. ~~Reviews entity Certification applications for completeness.~~

~~4.~~Notifies NERC of entities that should be registered ~~with the Regional Entity~~.

~~5.Approves or denies Certification Team (CT) recommendations and notifies the entity and NERC of the decision.~~

4. ~~Provides leadership to the CT throughout the Certification process.~~Notifies NERC of functional changes to Registered Entities in the Regional Entity's Region.

**Certification**

1. Reviews entity Certification applications for completeness.
2. Approves or denies Certification Team (CT) recommendations and notifies the entity and NERC of the decision.
3. Provides leadership to the CT through the Certification process.

**Entity Submitting the Application**

1. Completes and submits Registration and/or Certification application.
2. Submits updates to Registration and/or Certification information as necessary and/or requested.
3. Responds to Regional Entity and/or NERC questions pertaining to Registration and/or Certification.
4. Provides documentation or other evidence requested or required to verify compliance with Certification requirements.

# Section II — Introduction to Organization Registration and Organization Certification Processes

The processes utilized to implement the Organization Registration and Organization Certification Programs are administered by each Regional Entity. Pursuant to its delegation agreement with NERC, each Regional Entity is responsible for (i) identifying entities that should be registered~~ing~~ and (ii) certifying industry participants within its Regional Entity reliability Region boundaries. Each Regional Entity must use the following NERC processes.

## Organization Registration — Entities Required to Register

All industry participants responsible for one or more of the functions below must register for each function through the Organization Registration Program. These entities are defined in the Glossary of Terms with responsibilities designated by the individual Reliability Standards and the NERC *Statement of Compliance Registry Criteria* document.

- Reliability Coordinator
- Transmission Operator
- Balancing Authority
- Planning Authority
- Transmission Planner
- Transmission Service Provider
- Transmission Owner
- Resource Planner
- Distribution Provider
- Generator Owner
- Generator Operator
- Load-Serving Entity
- Purchasing-Selling Entity
- Interchange Authority
- Reserve Sharing Group

The Registration procedure is in Section III of this manual.

## Organization Certification

All Registered Entities registered in the NERC Compliance Registry (NCR) for the RC, BA, ~~TOP~~, and/or TOP~~BA~~ functions shall be certified. Certification of a RC, BA or TOP shall include evaluation of the competency of those entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted to perform the delegated, assigned or contracted reliability functions. Certification requires the

Registered Entity to start operation within 12 months of being NERC certified. This Certification process is described in Section IV of this manual.

# Section III — Organization Registration Process

## Purpose and Scope

The purpose and scope of this process is to provide guidance on how a user, owner, and/or operator of the Bulk Power System should be registered in the NCR.

## Overview

Section 39.2 of the Commission's regulations, and Title 18 of the C.F.R. § 39.2, requires each user, owner~~, and~~ operator~~, and user~~ of the Bulk Power System to be registered with NERC and to comply with approved Reliability Standards.

Users, ~~O~~owners~~, and~~ operators~~, and users~~ of the Bulk Power System will be registered by function(s) and are:

1. Responsible for compliance with all applicable Requirements/sub-Requirements within Reliability Standards approved by Applicable Governmental Authorities, for the applicable functions for which the Registered Entity is registered; and,
2. Subject to the compliance monitoring and enforcement requirements of Section 400 of the Rules of Procedure.

See Figure 1 *Organization Registration Process Overview.*

## Organization Registration Process

1. Applicable entities shall begin the Registration process by submitting a completed Registration application to the Regional Entity(ies)~~ of the reliability Region(s)~~ where the entity intends to perform its function(s) (Registration forms are provided on each Regional Entity's website).
    a. At any time an entity may recommend in writing, with supporting documentation, to the Regional Entity(ies) that an entity be added to or removed from the Compliance Registry.
    b. The Registration process for an entity may also be initiated by a Regional Entity, NERC, or Applicable Governmental Authority.
2. NERC shall coordinate Registration of entities that are required to register with multiple Regional Entities in order to ensure consistency of the Registration process.
3. For entities that are required to be certified, the applicable Regional Entity(ies) shall ensure that the Registration information provided is accurate for updating the NCR per items 4 through 12 below and notifies the entity to initiate the Certification process per Section IV of this manual.
4. Entities that have a NERC ID shall use it on the form.
    a. If an entity does not have a NERC ID, NERC shall assign one.
    b. An entity responsible for more than one function will use a single NERC ID, unless assignment of more than one NERC ID to the entity is approved by NERC.

5. Regional Entities shall evaluate the submitted information and determine if the information is complete and ~~/~~correct. If the information is not complete and ~~/~~correct, the entity will be notified to ~~complete/~~correct or clarify the Registration information.

6. A single entity must register for all functions that it performs itself. In addition, that entity may register as a Joint Registration Organization (JRO) on behalf of one or more of its members or related entities for one or more functions for which such members or related entities would otherwise be required to register and, thereby, accept on behalf of such members or related entities all compliance responsibility for all Requirements/sub-Requirements of Reliability Standards applicable to that function or those functions including reporting requirements.(Rules of Procedure Section 507).

7. Multiple entities may each register using a Coordinated Functional Registration (CFR) for one or more Reliability Standard(s) and/or for one or more Requirements/sub-Requirements within particular Reliability Standard(s) applicable to a specific function.(Rules of Procedure Section 508).

8. In completing the Regional Entity responsibilities for the Registration process, the following are key items the Regional Entity must verify:

   a. That Regional Entity registrations meet the geographical and electrical Registration boundaries requirements of the Rules of Procedure Section 501(1.4).

   b. The Registration submission includes all data requested by NERC that is necessary for accurately identifying and contacting the Registered Entity.

   If the Regional Entity determines that the entity does not need to be registered, or should not be registered, as requested in the Registration application, the Regional Entity will notify the entity.

9. The Regional Entity shall forward all Registration information to NERC:

   a. NERC forwards the proposed additions or changes to the NCR to the Regional Entity for review and comments.

   b. The Regional Entity has five (5) working Days to respond to the proposed changes.

   c. If NERC does not receive any comments, the NCR will be revised.

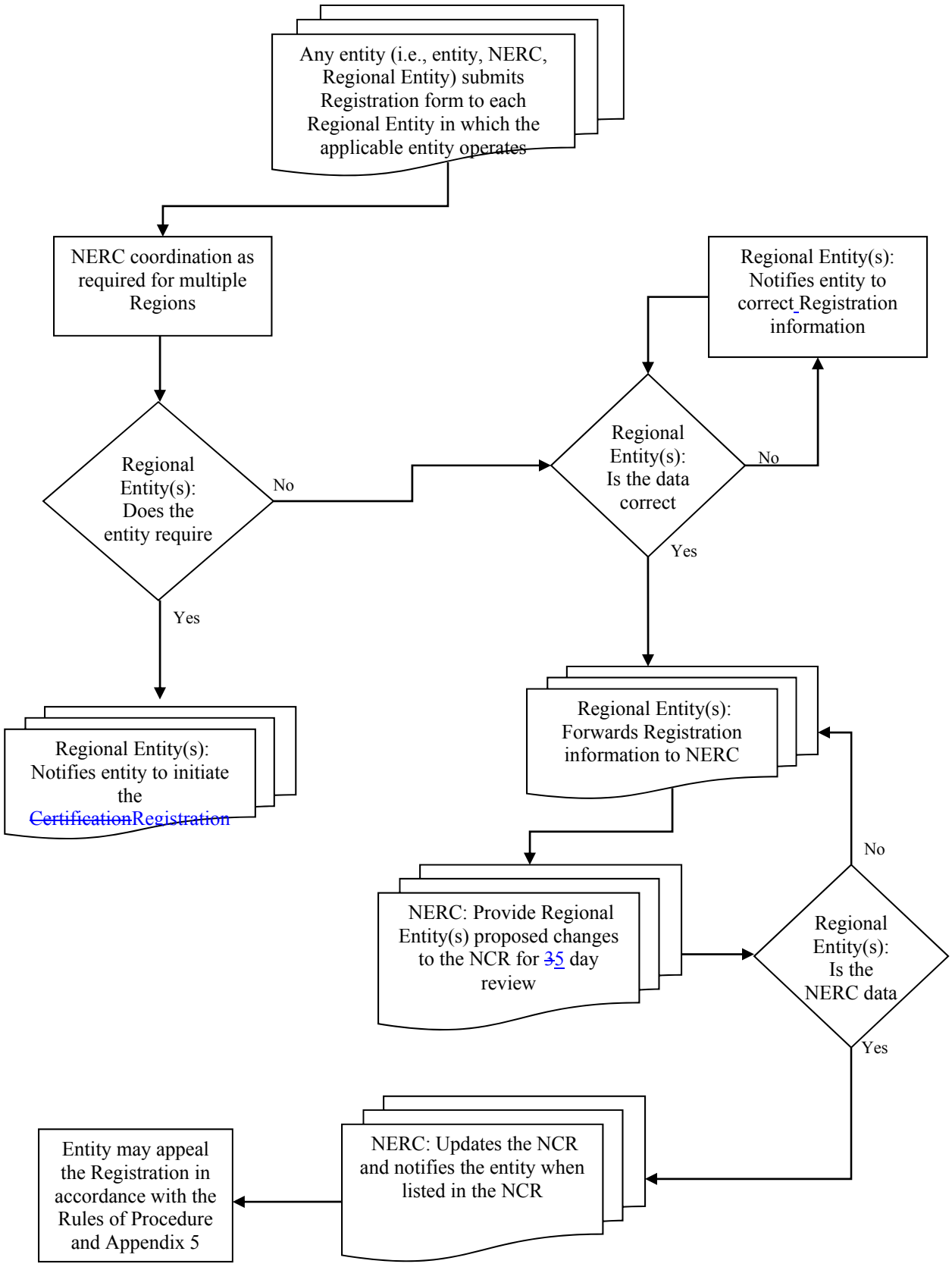
10. NERC updates the NCR and notifies the applicable Registered Entity(ies) within 5 Days of the update.

11. The Registered Entity may appeal the registration in accordance with the Rules of Procedure Section 500 and Section V of Appendix 5A.

12. The NCR shall be dynamic and will be revised as necessary to take account of changing circumstances such as corrections, revisions, and or deletions. Per the Regional Entity's delegation agreement, the Regional Entity will take any recommendation received under Section 1.a, and other applicable information, under advisement as it determines whether an entity should be ~~on the NCR~~registered, and, if so, advise NERC.
    a. Each Registered Entity identified in the NCR shall notify its corresponding Regional Entity and/or NERC of any corrections, revisions, deletions, changes in ownership, corporate structure, or similar matters that affect the Registered Entity's responsibilities with respect to the Reliability Standards. Failure to notify will not relieve the Registered Entity from any responsibility to comply with the Reliability

Standards or shield it from any Penalties or sanctions associated with failing to comply with the Reliability Standards. (Rules of Procedure Section 400).

**Figure 1: Organization Registration Process Overview**



# Section IV — Organization Certification Process

## Purpose and Scope

The purpose and scope of this process is to provide guidance for completing the Certification of a new entity that will become NERC certified and registered as an RC, BA or TOP~~, or BA~~. The Certification process steps described in this section will be conducted for the proposed RC, BA or TOP and, as applicable, for any entities to which performance of some or all of the reliability functions of the RC, BA or TOP have been delegated, assigned or contracted.

## Overview

See Figure 2 *Organization Certification Process Overview* for an overview of the Certification process.

## Organization Certification Process

1. Certification:
    a. An entity in a single ~~Regional Entity reliability~~ Region shall initiate the Certification process by completing a Certification application (Certification applications are provided on each Regional Entity's website) and sending it to the Regional Entity which will manage the Certification process.
    b. An entity in multiple ~~Regional Entity reliability~~ Regions shall initiate the Certification process by completing a Certification application (Certification applications are provided on each Regional Entity's website) and sending it to the Regional Entities in those ~~reliability~~ Regions. Each Regional Entity will inform NERC of the request. The Regional Entities will determine which Regional Entity will provide the leadership to manage the Certification process.

    ~~c.Provisional Certification Process - All Reliability Coordinators, Balancing Authorities, and/or Transmission Operators that were already registered and operating on June 18,2007 become "NERC Certified" upon completion of (1) a NERC readiness evaluation (on site activities completed by the evaluation team); and (2) a CMEP Compliance Audit (on site activities completed by the Compliance Audit team) after June 18, 2007. Recertification on a periodic basis of these Registered Entities will not be required. Demonstration of ongoing satisfactory performance of applicable RC, BA, and TOP functional Requirements shall be accomplished by completion of a CMEP Compliance Audit every three years per the requirements of the NERC Rules of Procedure.~~
2. For an entity that is not required to be certified, the Regional Entity(ies) shall reject the application and notify the entity that Certification is not required.
3. If the application is not complete or accurate, the Regional Entity will notify the entity to revise the application as needed. When the application is deemed complete and accurate, it will be accepted. The entity~~, and~~ the Regional Entity and NERC shall agree to a timeline including specific milestones for the Certification process.

4. The decision to certify changes to an already operating and certified Registered Entity is a collaborative decision between NERC and the affected Regional Entity(s) ~~and NERC~~. NERC has the final authority regarding this decision. Items to consider for this decision include one or more of the following:

    a. Changes to a Registered Entity's Footprint or operational challenges (i.e., TLRs) due to the changes

    b. Organizational restructuring that could impact the Bulk Power System reliability

    c. Relocation of the control center(s)

    d. Changes to Registered Entity ownership requiring major operating procedure changes

    e. Significant changes to JRO / CFR assignments or agreements changes

    f. Addition or removal of member JRO / CFR utilities or entities

    g. Complete replacement of a SCADA/EMS system

5. The Certification process shall be completed within nine months of the date of acceptance of the application by the Regional Entity unless agreed to by all parties involved in the process and approved by NERC.

6. The Regional Entity(ies) shall notify NERC that the Certification process has begun to enable NERC to carry out its roles and responsibilities.

7. The Regional Entity will send ~~a~~ questionsnaire with a submission deadline and a statement of expectations to all entities participating in the Certification process. These questionsnaires and other related documents are located on the NERC website. The Regional Entity shall distribute questionnaires and other related documents to the following entities, as required:

    a. Entity seeking Certification.

    b. Participating RCs, BAs, ~~RCs,~~ and TOPs in Footprints in which the entity intends to operate or with which the entity intends to interconnect transmission Facilities.

    c. Participating TOs, TSPs, PAs, GOs, IAs, GOPs, TPs, DPs, and/or other applicable entities.

8. The Regional Entity shall assemble a Certification Team (CT) that will be responsible for performing the activities included in the Certification process.

    a. The CT members shall adhere to NERC's confidentiality agreements for any data or information made available to the CT member through the Certification process. Team members shall not be employees of or have a direct financial interest in the entity or any of its affiliates.

    b. The Regional Entity, with concurrence of NERC, may increase or decrease the distribution of the questionnaires and other related documents based upon the complexity of the Certification.

    c. The Certification Team leader will complete the CT roster in accordance with 8.d below and will send the roster, along with biographical information on the CT members, to the entity seeking Certification. If the entity objects to any member of the CT, the entity must make that known, in writing, to the ~~Regional Entity~~Certification Team leader listing the reasons for the objection. The

Regional Entity will either replace the team member or respond with written justification for keeping the member on the team.

d. CT composition

i. The BA CT shall consist of representatives from an existing BA, the entity's proposed RC, TOP, each affected Regional Entity, and NERC.

ii. The RC CT shall consist of representatives from an existing RC, a BA and a TOP in the proposed RC Area, each affected Regional Entity, and NERC.

iii. The TOP CT shall consist of representatives from an existing TOP, the entity's proposed RC, each affected Regional Entity, and NERC.

iv. Additional CT members with expertise in the any of the NERC Compliance Registry functional areas can be added as necessary.

v. Additional CT members from NERC or Regional Entity staff may be added as necessary.

vi. Entities such as government representatives or other stakeholders may be observers in the Certification process.

e. CT composition – Existing certified entity seeking to expand Footprint

i. Where an existing certified, operating entity seeks to expand the Footprint in which it operates and seeks Certification for the expanded Footprint, the CT shall consist, at a minimum, of representatives from NERC and from the Regional Entity or Regional Entities in which the expanded Footprint area lies.

ii. The CT may also include one or more representatives of an existing BA, RC and/or TOP.

iii. NERC and the Regional Entity or Regional Entities will consult with the entity seeking Certification for an expanded Footprint and reach consensus on composition of the CT.

9. Each CT member must complete the NERC auditor training prior to participation.

10. The CT will review the entity's submitted documentation and address any issues prior to the site visit.

11. The CT shall inform the entity before the on-site visit of any documentation or clarification that is necessary to support the questionsnaires.

12. The entity shall identify to the CT prior to the on-site visit all Reliability Standards or Requirements/sub-Requirements which have been delegated to another entity.

a. The CT will review the entity's(ies) ability to perform those delegated Requirements/sub-Requirements or Reliability Standards.

13. The CT shall conduct at least one on-site visit to the entity's Facilities (unless only a minor change in the Footprint of an existing certified entity is under review, in which case the CT may determine based on consultation with NERC and the Regional Entity that an on-site visit is not necessary). At a minimum, the teamCT will:

a. Review with the entity the data collected through the questionsnaires, and such data that is available only onsite;

b. Interview the operations and management personnel;

c. Inspect the Facilities and equipment associated with the applicable Reliability Standards referenced in the questionsnaire;

d. Request demonstration of all tools identified in the Certification process;

e. Review documents and data including agreements, processes, and procedures identified in the Certification process;

f. Verify operating personnel NERC Certification documents and proposed work schedules; and,

g. Review any additional documentation resulting from inquiries arising during the site-visit.

14. The entity, in conjunction with the CT, shall attempt to resolve any deficiencies prior to issuance of the draft report.

15. The draft report is provided to the entity for review for fourteen (14) Days and any resulting comments will be given due considerationassessed by the CT for possible inclusion in the report.

16. The Regional Entity(ies) may grant a time extension, not to exceed 180 Days, to the entity to allow the entity to resolve any open Certification issues.

17. The CT shall provide a Certification recommendation and identification of audit deficiencies in the final written report. All members of the CT shall have an equal voice in the Certification recommendation. This allows for a minority opinion if the review team cannot reach a consensus. The final written Certification report is distributed to NERC, the entity, and the other affected Regional Entities, as applicable.

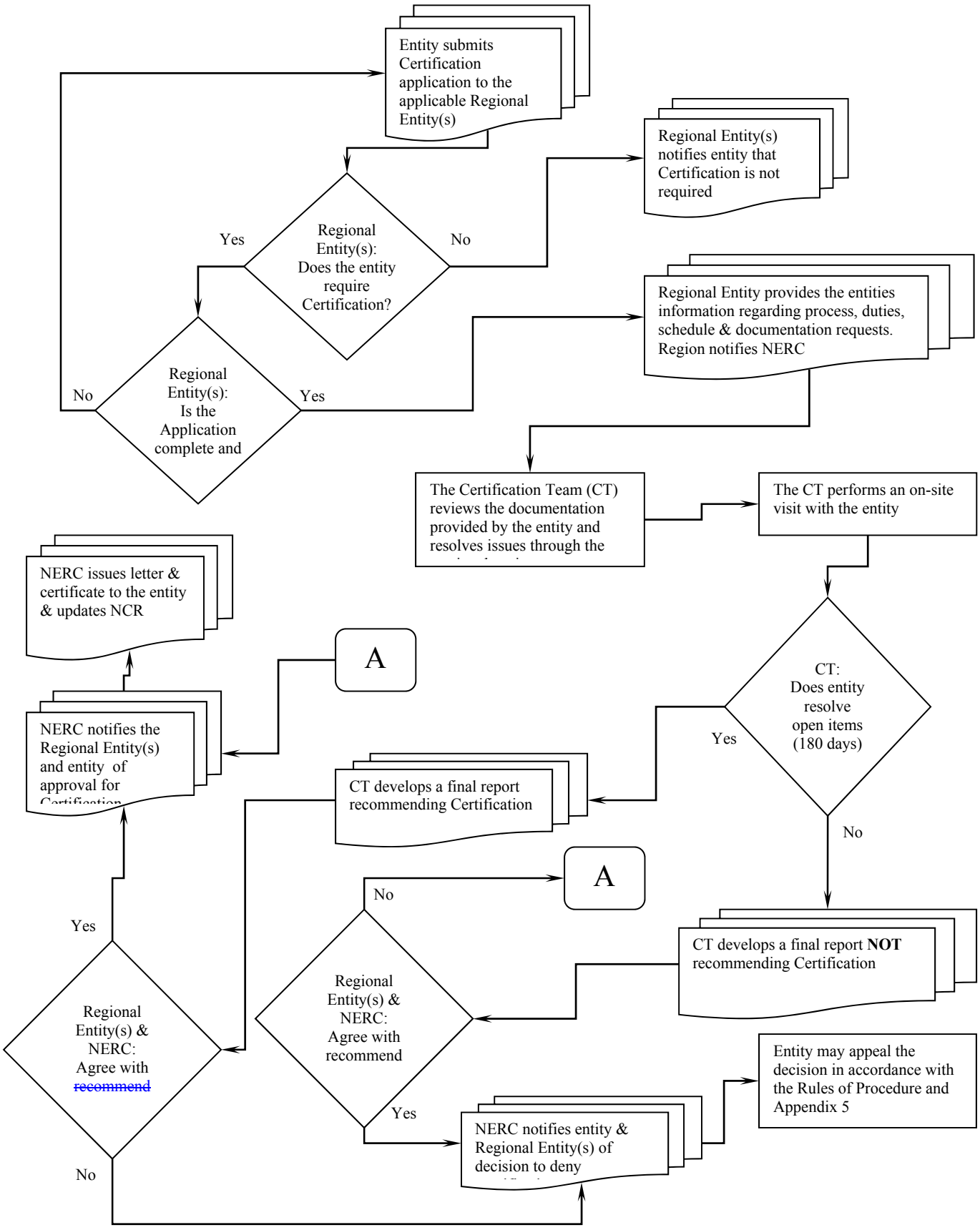
18. The following is the format for the final report:

- Title page
- Table of Contents
- Introduction – A brief discussion on the Regional Entity(ies) involved, the entity being certified, a description of the function the entity(ies) are being certified for, and a brief timeline of the Certification project.
- Certification Team (CT) – Provide the Certification Team makeup.
- Objective and Scope – Discussion on entity application (who, what, when, & how).
- Overall Conclusion – Recommendation being made by the CT.
- Certification Team Findings – Any item(s) needing to be closed prior to operation that do not hinder the Certification Team from making a recommendation.
- Positive Observations.
- Company History – Discussion on the applicant's company history.
- Company Details– Specific details regarding why the entity is being certified and its relationship with other entities (BAs, RCs, and TOPs etc).

- Documentation List – Provide a list of critical documentation reviewed by the CT used to make the CT's conclusion and the documentation retention requirements.
- Attachments – Describe those attachments that are for public viewing and those that are separated from the report due to confidentiality issues such as Critical Infrastructure documentation.

19. Certification recommendation and approval.
    a. If the entity intends to operate in a single Regional Entity's reliability Region, the CT shall make a Certification recommendation to that Regional Entity. The Regional Entity shall approve or disapprove the recommendation. The Regional Entity shall notify the entity and NERC of the Certification decision.
    b. If the entity intends to operate in multiple Regional Entities, the CT shall make a Certification recommendation to all applicable Regional Entities in a single report. Certification recommendation by the Regional Entities must be unanimous. The Regional Entities shall notify the entity and NERC of the Certification decision.
    c. NERC shall approve or disapprove all final Certification recommendations and notify the entity of the decision.
20. The entity may appeal the decision in accordance with the NERC Rules of Procedure and Section VI of this manual.
21. If the entity is approved for Certification, NERC shall provide the entity a Certification letter and a NERC certificate indicating that that entity is NERC certified as a BA, RC, and/or TOP as applicable. NERC will also provide a copy of the final report to the entity.
    a. For those CFR entities that agree upon a division of compliance responsibilities for one or more Reliability Standards or Requirements/sub-Requirements, NERC shall provide all entities responsible for BA, RC and/or TOP Requirements/sub-Requirements and approved for Certification as BA, RC and/or TOP a NERC certificate indicating that those entities are NERC certified as a BA, RC, and/or TOP, as well as a Certification letter and a copy of the final report.
    b. NERC shall update the Compliance Registry ~~prior to the entity(s) going operational~~in accordance with the Registration rules.
22. After the entity has been awarded Certification, the Regional Entity(ies) shall notify all applicable entities as to the date that the entity may begin its operation as a certified entity. The entity must commence operation within 12 months of Certification. Failure to begin operation within the 12-month period shall require the entity to reapply for Certification.

**Figure 2: Organization Certification Process Overview**



# Section V — NERC Organization Registration Appeals Process

## Purpose and Scope

This section describes the process that any organization may appeal its listing and functional assignment on the NCR.

## Overview

NERC has established documented procedures to ensure a fair and impartial appeals process. No one with a direct interest in a dispute may participate in the appeals process except as a party or witness. See Figure 3, *Organization Registration Appeals Process Overview*.

## Organization Registration Appeals Procedure

Any Registered Entity included on the NCR may challenge its listing and functional assignments with NERC.

1. All registration appeals must be filed in writing to NERC, via registered mail. Appeals are sent to:

   ~~Vice President and~~ Director of Compliance Operations
   North American Electric Reliability Corporation
   ~~116-390 Village Blvd.~~3353 Peachtree Road NE
   Suite 600, North Tower
   ~~Princeton, New Jersey, 08540~~Atlanta, GA 30326

2. Each party in the appeals process shall pay its own expenses for each step in the process.

3. A stipulation of invoking the appeals process is that the Regional Entity or Registered Entity requesting the appeal agrees that NERC (its Members, Board of Trustees, committees, subcommittees, and staff), any person assisting in the appeals process, and any company employing a person assisting in the appeals process, shall not be liable for, and shall be held harmless against the consequences of or any action or inaction or of any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the appeals proceeding. This "hold harmless" clause does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.

4. Parties retain the right to seek further review of a decision in whatever regulatory agency or court that may have jurisdiction.

5. All appeals must be received within 21 Days of receipt of the NERC letter informing the entity that it is listed on the NCR. The appeal must state why the Registered Entity believes it should not be registered based on the NERC Rules of Procedure and the *NERC Statement of Compliance Registry Criteria.*

6. After receipt of the appeal, the Registered Entity has a 30 day period to work with NERC~~the Regional Entity~~ to resolve the appeal, if possible. If the appeal is resolved, ~~the Regional Entity will notify NERC with the details of the resolution and~~ NERC will close the appeal.

7. At any time through this appeals process, a Registered Entity may agree with the decision and/or agree to close the appeal. NERC shall notify the involved parties and the NERC Board of Trustees Compliance Committee (BOTCC) that the appeal is resolved and update the NCR as applicable.

8. NERC will notify the Registered Entity and the applicable Regional Entity(ies) regarding the appeal with the following expectations:

    a. The Registered Entity will provide NERC and the applicable Regional Entity(ies) any additional data supporting its appeal within 10 Days of the date of the NERC appeal notification.

    b. The applicable Regional Entity(ies) will provide a copy of its assessment directly to the Registered Entity, as well as to NERC, within 20 Days of the date of the NERC appeal notification.

    c. The Registered Entity may submit a response to the Regional Entity(ies) assessment, with copies to the Regional Entity(ies) and NERC, within 30 Days of the date of the NERC appeal notification.

    d. To ensure there is no confusion with respect to the rights and responsibilities of the Registered Entity during the appeal process, the notification also confirms whether the Registered Entity will remain on the NERC Compliance Registry and will be responsible for compliance with approved Reliability Standards applicable to the function under appeal during the appeal.

9. Hearing and Ruling by the BOTCC
    a. The BOTCC will resolve Registration disputes.

    b. The BOTCC may request additional data from NERC, the relevant Regional Entity(ies) or the Registered Entity, and prescribe the timeframe for the submitting the requested data.

    c. The BOTCC will provide a written decision regarding any appeals, along with the basis for its decision.

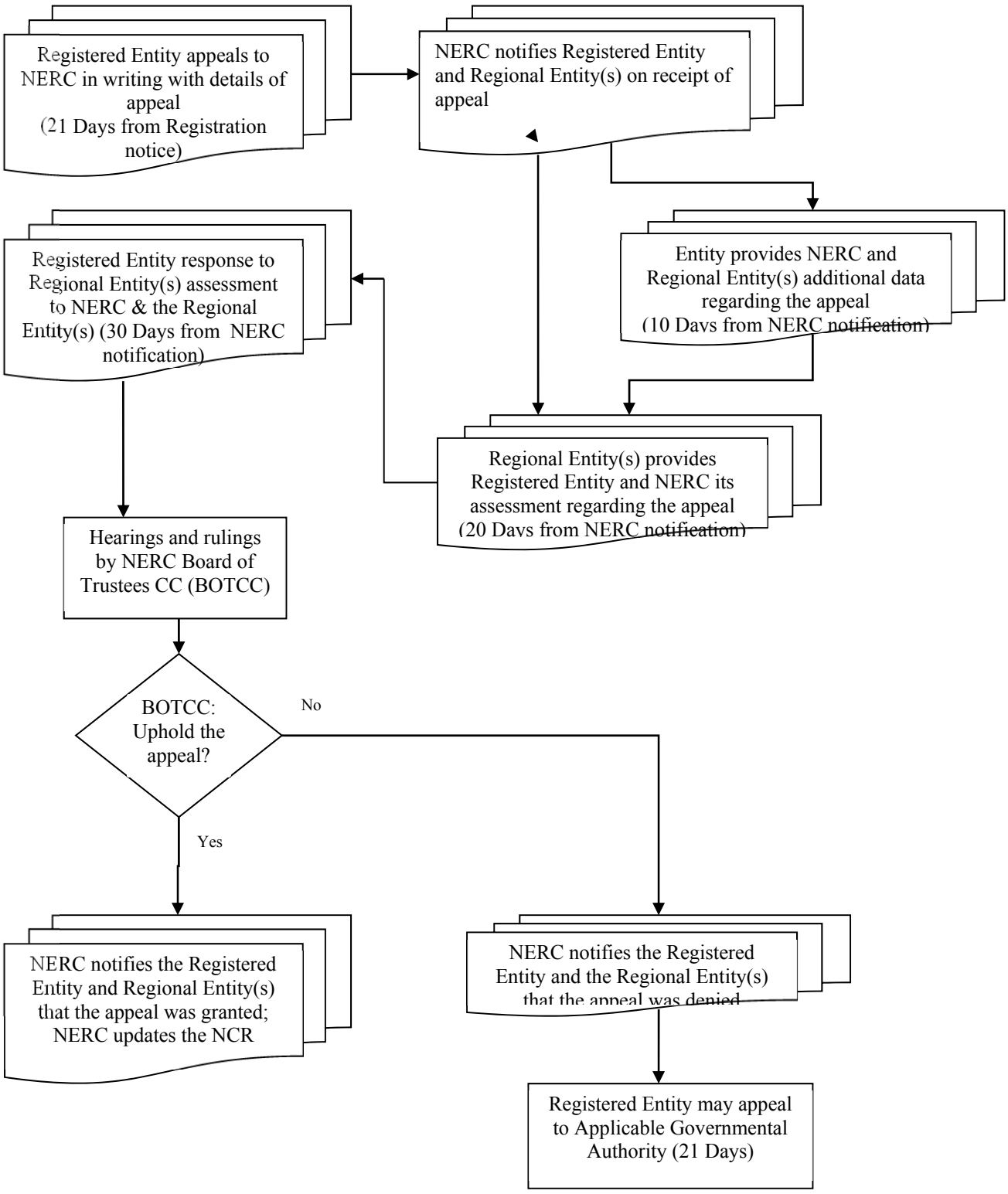
    d. If the BOTCC upholds the appeal, NERC will:
        - Notify the Registered Entity and Regional Entity(ies) that the appeal was granted.
        - Update the NCR.

    e. If the BOTCC does not uphold the appeal, NERC will:
        - Notify the Registered Entity and the Regional Entity(ies) that the appeal was denied.

- The Registered Entity may appeal to FERC or another Applicable Governmental Authority within 21 Days of the notification of the decision.

f. A record of the appeals process shall be maintained by NERC. Confidentiality of the record of the appeal will be based on the NERC Rules of Procedure Section 1500.

**Figure 3: Organization Registration Appeals Process Overview**



# Section VI — NERC Organization Certification Appeals Process

## Purpose and Scope

This section describes the process for an organization to appeal the Certification decision that was determined in the Certification process.

## Overview

The NERC Organization Certification Program provides a key means to fulfill NERC's mission. In conducting this program, NERC has established documented procedures to ensure a fair and impartial appeals process. No one with a direct interest in a dispute may participate in the appeals process except as a party or witness. See Figure 4 *Organization Certification Appeals Process Overview*.

## Organization Certification Appeals Procedure

1. Appeal for an Organization Certification Finding.

   Any entity can appeal an organization Certification decision issued as a result of the Certification process.

2. Requirements and Conditions for Appeals.

   a. For all appeals under the NERC Organization Certification Program, the appeals process begins when an entity notifies the NERC ~~Vice President and D~~director of ~~C~~compliance operations, in writing, that it wishes to use the NERC appeals process.

      - The ~~D~~director of ~~C~~compliance operations is the main contact for all parties in all steps of the appeals process.
      - If an appeal is not filed within twenty one (21) Days ~~of~~following (i) the date that the Certification report or finding is issued, or (ii) the date that a final ruling in a Regional Entity appeals process ~~ruling~~ is made, the finding shall be considered final and un-appealable.

   b. Each party in the appeals process shall pay its own expenses for each step in the process.

   c. A stipulation of invoking the appeals process is that the Regional Entity or entity requesting the appeal agrees that NERC (its Members, Board of Trustees, committees, subcommittees, and staff), any person assisting in the appeals process, and any company employing a person assisting in the appeals process, shall not be liable, and shall be held harmless against the consequences of or any action or inaction or of any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the appeals proceeding. This "hold harmless" clause does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.

d. Parties retain the right to seek further review of a decision in whatever regulatory agency or court that may have jurisdiction.

3. At any time through this appeals process, an entity may withdraw its appeal.

4. Hearing and Ruling by the Compliance and Certification Committee.

a. Within twenty-eight (28) Days of receiving notice from the NERC ~~D~~director of ~~C~~compliance operations, the CCC will conduct a hearing where all the parties or representatives of the disputing parties will present the issue in question, in accordance with CCC procedure CCCPP-005, *Hearing Procedures for Use in Appeals of Certification Matters*, which is incorporated in **Appendix 4E** of the Rules of Procedure.

b. If the appeal is upheld, NERC notifies the entity and Regional Entity(ies), updates the NCR, and issues any appropriate letter and certificate to the entity.

c. If the appeal is denied, NERC notifies the entity and Regional Entity(ies).

5. Hearings and Ruling by the BOTCC.

a. The BOTCC will be asked to resolve a dispute related to the NERC Organization Certification Program if any party to the appeal contests the CCC final order.

b. The BOTCC may request additional data from NERC, Regional Entity(ies) or the entity and prescribe the timeframe for the submitting the requested data.

c. At the next regularly scheduled BOTCC meeting, or at a special meeting if the Board determines it is necessary, the Chairman of the CCC will present a summary of the dispute and the actions taken to the BOTCC.

- Each party will have an opportunity to state its case.
- The BOTCC will then rule on the dispute.

d. Based on~~If~~ the BOTCC's ruling on ~~upholds~~ the dispute~~appeal~~, NERC will:

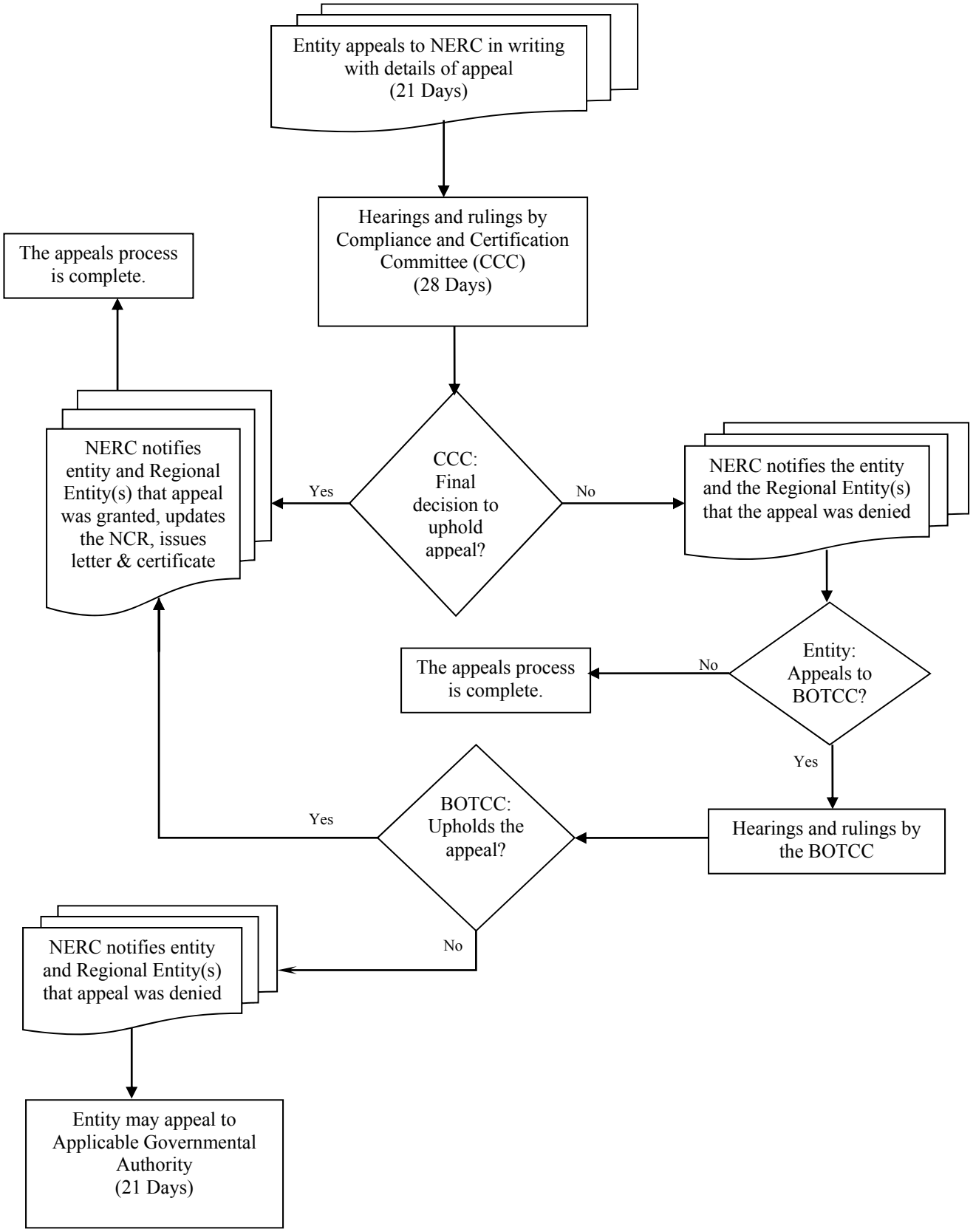
- Notify the entity and the Regional Entity(ies) as to the BOTCC's ruling and provide copies of the decision~~that the appeal was upheld~~.
- Update the NCR as necessary based on the BOTCC's decision.
- Issue a Certification letter and a certificate to the entity ~~as~~if applicable based on the BOTCC's decision.

~~□~~If the BOTCC denies an~~does not uphold the~~ appeal by an entity, ~~NERC will notify the entity and the Regional Entity(ies) that the appeal was denied.~~

~~□~~e.~~T~~the entity may appeal to the Applicable Governmental Authority~~ies~~ within 21 Days following~~of~~ the issuance of the decision.

f. A record of the appeals process shall be maintained by NERC and available upon request. Confidentiality of the record of the appeal will be based on the NERC Rules of Procedure Section 1500.

**Figure 4: Organization Certification Appeals Process Overview**



# Definitions

Capitalized terms used in this Appendix shall have the definitions set forth in Appendix 2 of the Rules of Procedure. For convenience of reference, definitions used in this Appendix are also set forth below:

| | |
|---|---|
| **NERC Organization Certification** | The process undertaken by NERC and a Regional Entity to verify that a new entity is capable of responsibilities for tasks associated with a particular function such as a Balancing Authority, Transmission Operator, and/or Reliability Coordinator. |
| **Compliance and Certification Manager** | The individual/individuals within the Regional Entity that is/are responsible for monitoring compliance of entities with applicable NERC Reliability Standards. |
| **Days** | Days as used in the Registration and Certification processes are defined as calendar days. |
| **Footprint** | The geographical or electric area served by an entity. |
| **Functional Entity** | An entity responsible for a function that is required to ensure the Reliable Operation of the electric grid as identified in the NERC Reliability Standards. |
| **Mapping** | The process of determining whether a Regional Entity's Footprint is being served by Registered Entities. |
| **NERC Identification Number (NERC ID)** | A number given to NERC Registered Entities that will be used to identify the entity for certain NERC activities. Corporate entities may have multiple NERC IDs to show different corporate involvement in NERC activities. |
| **Regional Entity** | An entity having enforcement authority pursuant to 18 C.F.R. § 39.8. |
| **Registration** | Processes undertaken by NERC and Regional Entities to identify which entities are responsible for reliability functions within the Regional Entity's Region. |
| **Coordinated Functional Registration (CFR)** | Where two or more entities (parties) agree in writing upon a division of compliance responsibility among the parties for one or more Reliability Standard(s) applicable to a particular function, and/or for one or more Requirement(s)/sub-Requirement(s) within particular Reliability Standard(s). |

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

**Proposed Revisions 3-05-2012**
**[Incorporates revisions filed with FERC on January 25, 2012]**

# Appendix 5B

# Statement of Compliance Registry Criteria

**Revision 5.1**

**Effective: January 31, 2012**

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Statement of Compliance Registry Criteria (Revision 5.0)


## Summary

Since becoming the Electric Reliability Organization (ERO), NERC has initiated a program to identify candidate organizations for its Compliance Registry. The program, conducted by NERC and the Regional Entities[1], will also confirm the functions and information now on file for currently-registered organizations. NERC and the Regional Entities have the obligation to identify and register all entities that meet the criteria for inclusion in the Compliance Registry, as further explained in the balance of this document.

This document describes how NERC will identify organizations that may be candidates for Registration and assign them to the Compliance Registry.


Organizations will be responsible to register and to comply with approved Reliability Standards to the extent that they are owners, operators, and users of the Bulk Power System, perform a function listed in the functional types identified in Section II of this document, and are material to the Reliable Operation of the interconnected Bulk Power System as defined by the criteria and notes set forth in this document. NERC will apply the following principles to the Compliance Registry:

- In order to carry out its responsibilities related to enforcement of Reliability Standards, NERC must identify the owners, operators, and users of the Bulk Power System who have a material impact[2] on the Bulk Power System through a Compliance Registry. NERC and the Regional Entities will make their best efforts to identify all owners, users and operators who have a material reliability impact on the Bulk Power System in order to develop a complete and current Compliance Registry list. The Compliance Registry will be updated as required and maintained on an on-going basis.
- Organizations listed in the Compliance Registry are responsible and will be monitored for compliance with applicable mandatory Reliability Standards. They

[1] The term "Regional Entities" includes Cross-Border Regional Entities.
[2] The criteria for determining whether an entity will be placed on the Compliance Registry are set forth in the balance of this document. At any time a person may recommend in writing, with supporting reasons, to the Director of Compliance that an organization be added to or removed from the Compliance Registry, pursuant to NERC ROP 501.1.3.5.

will be subject to NERC's and the Regional Entities' Compliance Monitoring and Enforcement Programs.

- NERC and Regional Entities will not monitor nor hold those not in the Compliance Registry responsible for compliance with the Reliability Standards. An entity which is not initially placed on the Compliance Registry, but which is identified subsequently as having a material reliability impact, will be added to the Compliance Registry. Such entity will not be subject to a sanction or Penalty by NERC or the Regional Entity for actions or inactions prior to being placed on the Compliance Registry, but may be required to comply with a Remedial Action Directive or Mitigation Plan in order to become compliant with applicable Reliability Standards. After such entity has been placed on the Compliance Registry, it shall be responsible for complying with Reliability Standards and may be subject to sanctions or Penalties as well as any Remedial Action Directives and Mitigation Plans required by the Regional Entities or NERC for future violations, including any failure to follow a Remedial Action Directive or Mitigation Plan to become compliant with Reliability Standards.
- Required compliance by a given organization with the Reliability Standards will begin the later of (i) inclusion of that organization in the Compliance Registry and (ii) approval by the Applicable Governmental Authority of mandatory Reliability Standards applicable to the Registered Entity.

Entities responsible for funding NERC and the Regional Entities have been identified in the budget documents filed with FERC. Presence on or absence from the Compliance Registry has no bearing on an entity's independent responsibility for funding NERC and the Regional Entities.

## Background

In 2005, NERC and the Regional Entities conducted a voluntary organization registration program limited to Balancing Authorities, Planning Authorities, regional reliability organizations, Reliability Coordinators, Transmission Operators, and Transmission Planners. The list of the entities that were registered constitutes what NERC considered at that time as its Compliance Registry.

NERC has recently initiated a broader program to identify additional organizations potentially eligible to be included in the Compliance Registry and to confirm the information of organizations currently on file. NERC believes this is a prudent activity at this time because:

- As of July 20, 2006, NERC was certified as the ERO created for the U.S. by the Energy Policy Act of 2005 (EPAct) and FERC Order 672. NERC has also filed with Canadian authorities for similar recognition in their respective jurisdictions.
- FERC's Order 672 directs that owners, operators and users of the Bulk Power System shall be registered with the ERO and the appropriate Regional Entities.
- As the ERO, NERC has filed its current Reliability Standards with FERC and with Canadian authorities. A s accepted and approved by FERC and appropriate Canadian authorities, the Reliability Standards are no longer voluntary, and organizations that do

not fully comply with them may face Penalties or other sanctions determined and levied by NERC or the Regional Entities.

- NERC's Reliability Standards include compliance Requirements for additional reliability function types beyond the six types registered by earlier registration programs.
- Based on selection as the ERO, the extension and expansion of NERC's current Registration program[3] is the means by which NERC and the Regional Entities will plan, manage and execute Reliability Standard compliance oversight of owners, operators, and users of the Bulk Power System.
- Organizations listed in the Compliance Registry are subject to NERC's and the Regional Entities' Compliance Monitoring and Enforcement Programs.

## Statement of Issue

As the ERO, NERC intends to comprehensively and thoroughly protect the reliability of the grid. To support this goal NERC will include in its Compliance Registry each entity that NERC concludes can materially impact the reliability of the Bulk Power System. However, the potential costs and effort of ensuring that every organization potentially within the scope of "owner, operator, and user of the Bulk Power System" becomes registered while ignoring their impact upon reliability, would be disproportionate to the improvement in reliability that would reasonably be anticipated from doing so.

NERC wishes to identify as many organizations as possible that may need to be listed in its Compliance Registry. Identifying these organizations is necessary and prudent at this time for the purpose of determining resource needs, both at the NERC and Regional Entity level, and to begin the process of communication with these entities regarding their potential responsibilities and obligations. NERC and the Regional Entities believe that primary candidate entities can be identified at this time, while other entities can be identified later, as and when needed. Selection principles and criteria for the identification of these initial entities are required. This list will become the "Initial Non-binding Organization Registration List". With FERC having made the approved Reliability Standards enforceable, this list becomes the NERC Compliance Registry.

## Resolution

NERC and the Regional Entities have identified two principles they believe are key to the entity selection process. These are:

1. There needs to be consistency between Regions and across the continent with respect to which entities are registered, and;
2. Any entity reasonably deemed material to the reliability of the Bulk Bower System will be registered, irrespective of other considerations.

To address the second principle the Regional Entities, working with NERC, will identify and register any entity they deem material to the reliability of the Bulk Power System.

[3] See: NERC ERO Application; Exhibit C; Section 500 – Organization Registration and Certification.

In order to promote consistency, NERC and the Regional Entities intend to use the following criteria as the basis for determining whether particular entities should be identified as candidates for Registration. All organizations meeting or exceeding the criteria will be identified as candidates.

The following four groups of criteria (Sections I-IV) plus the statements in Section V will provide guidance regarding an entity's Registration status:

- Section I determines if the entity is an owner, operator, or user of the Bulk Power System and, hence, a candidate for organization Registration.
- Section II uses NERC's current functional type definitions to provide an initial determination of the functional types for which the entities identified in Section I should be considered for Registration.
- Section III lists the criteria regarding smaller entities; these criteria can be used to forego the Registration of entities that were selected to be considered for Registration pursuant to Sections I and II and, if circumstances change, for later removing entities from the Registration list that no longer meet the relevant criteria.
- Section IV — additional criteria for joint Registration. Joint Registration criteria may be used by joint action agencies, generation and transmission cooperatives and other entities which agree upon a clear division of compliance responsibility for Reliability Standards by written agreement. Pursuant to FERC's directive in paragraph 107 of Order No. 693, rules pertaining to joint Registration and Joint Registration Organizations will now be found in Sections 501 and 507 of the NERC Rules of Procedure.

I. Entities that use, own or operate Elements of the Bulk Electric System as established by NERC's approved definition of Bulk Electric System below are (i) owners, operators, and users of the Bulk Power System and (ii) candidates for Registration:

*"Bulk Electric System" or "BES" means unless modified by the lists shown below, all Transmission Elements operated at 100 kV or higher and Real Power and Reactive Power resources connected at 100 kV or higher. This does not include facilities used in the local distribution of electric energy.*

***Inclusions:***

- ***I1*** *- Transformers with the primary terminal and at least one secondary terminal operated at 100 kV or higher unless excluded under Exclusion E1 or E3.*
- ***I2*** *- Generating resource(s) with gross individual nameplate rating greater than 20 MVA or gross plant/facility aggregate nameplate rating greater than 75 MVA including the generator terminals through the high-side of the step-up transformer(s) connected at a voltage of 100 kV or above.*
- ***I3*** *- Blackstart Resources identified in the Transmission Operator's restoration plan.*
- ***I4*** *- Dispersed power producing resources with aggregate capacity greater than 75 MVA (gross aggregate nameplate rating) utilizing a system designed primarily for aggregating capacity, connected at a common point at a voltage of 100 kV or above.*

- ***I5*** *–Static or dynamic devices (excluding generators) dedicated to supplying or absorbing Reactive Power that are connected at 100 kV or higher, or through a dedicated transformer with a high-side voltage of 100 kV or higher, or through a transformer that is designated in Inclusion I1.*

***Exclusions:***

- ***E1*** *- Radial systems: A group of contiguous transmission Elements that emanates from a single point of connection of 100 kV or higher and:*
  *a) Only serves Load. Or,*
  *b) Only includes generation resources, not identified in Inclusion I3, with an aggregate capacity less than or equal to 75 MVA (gross nameplate rating). Or,*
  *c) Where the radial system serves Load and includes generation resources, not identified in Inclusion I3, with an aggregate capacity of non-retail generation less than or equal to 75 MVA (gross nameplate rating).*

  *Note – A normally open switching device between radial systems, as depicted on prints or one-line diagrams for example, does not affect this exclusion.*
- ***E2*** *- A generating unit or multiple generating units on the customer's side of the retail meter that serve all or part of the retail Load with electric energy if: (i) the net capacity provided to the BES does not exceed 75 MVA, and (ii) standby, back-up, and maintenance power services are provided to the generating unit or multiple generating units or to the retail Load by a Balancing Authority, or provided pursuant to a binding obligation with a Generator Owner or Generator Operator, or under terms approved by the applicable regulatory authority.*
- ***E3*** *- Local networks (LN): A group of contiguous transmission Elements operated at or above 100 kV but less than 300 kV that distribute power to Load rather than transfer bulk power across the interconnected system. LN's emanate from multiple points of connection at 100 kV or higher to improve the level of service to retail customer Load and not to accommodate bulk power transfer across the interconnected system. The LN is characterized by all of the following:*
  *a) Limits on connected generation: The LN and its underlying Elements do not include generation resources identified in Inclusion I3 and do not have an aggregate capacity of non-retail generation greater than 75 MVA (gross nameplate rating);*
  *b) Power flows only into the LN and the LN does not transfer energy originating outside the LN for delivery through the LN; and*
  *c) Not part of a Flowgate or transfer path: The LN does not contain a monitored Facility of a permanent Flowgate in the Eastern Interconnection, a major transfer path within the Western Interconnection, or a comparable monitored Facility in the ERCOT or Quebec Interconnections, and is not a monitored Facility included in an Interconnection Reliability Operating Limit (IROL).*
- ***E4*** *– Reactive Power devices owned and operated by the retail customer solely for its own use.*

*Note - Elements may be included or excluded on a case-by-case basis through the Rules of Procedure exception process.*

II. Entities identified in Part I above will be categorized as Registration candidates who may be subject to Registration under one or more appropriate Functional Entity types based on a comparison of the functions the entity normally performs against the following function type definitions:

| **Function Type** | **Acronym** | **Definition/Discussion** |
|---|---|---|
| Balancing Authority | BA | The responsible entity that integrates resource plans ahead of time, maintains Load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real-time. |
| Distribution Provider | DP | Provides and operates the "wires" between the transmission system and the end-use customer. For those end-use customers who are served at transmission voltages, the Transmission Owner also serves as the Distribution Provider. Thus, the Distribution Provider is not defined by a specific voltage, but rather as performing the distribution function at any voltage. |
| Generator Operator | GOP | The entity that operates generating unit(s) and performs the functions of supplying energy and Interconnected Operations Services. |
| Generator Owner | GO | Entity that owns and maintains generating units. |
| Interchange Authority | IA | The responsible entity that authorizes implementation of valid and balanced Interchange Schedules between Balancing Authority Areas, and ensures communication of Interchange information for reliability assessment purposes. |
| Load-Serving Entity | LSE | Secures energy and Transmission Service (and related Interconnected Operations Services) to serve the electrical demand and energy requirements of its end-use customers. |
| Planning Authority | PA | The responsible entity that coordinates and integrates transmission Facilities and service plans, resource plans, and Protection Systems. |

| Function Type | Acronym | Definition/Discussion |
|---|---|---|
| Purchasing-Selling Entity | PSE | The entity that purchases, or sells, and takes title to, energy, capacity, and Interconnected Operations Services. PSE may be affiliated or unaffiliated merchants and may or may not own generating Facilities. |
| Reliability Coordinator | RC | The entity that is the highest level of authority who is responsible for the Reliable Operation of the Bulk Electric System, has the Wide Area view of the Bulk Electric System, and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next-day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator's vision. |
| Reserve Sharing Group | RSG | A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating reserves required for each Balancing Authority's use in recovering from contingencies within the group. Scheduling energy from an Adjacent Balancing Authority to aid recovery need not constitute reserve sharing provided the transaction is ramped in over a period the supplying party could reasonably be expected to load generation in (e.g., ten minutes). If the transaction is ramped in quicker, (e.g., between zero and ten minutes), then, for the purposes of disturbance control performance, the areas become a Reserve Sharing Group. |
| Resource Planner | RP | The entity that develops a long-term (generally one year and beyond) plan for the resource adequacy of specific Loads (customer demand and energy requirements) within a Planning Authority area. |
| Transmission Owner | TO | The entity that owns and maintains transmission Facilities. |
| Transmission Operator | TOP | The entity responsible for the reliability of its local transmission system and operates or directs the operations of the transmission Facilities. |

| Function Type | Acronym | Definition/Discussion |
|---|---|---|
| Transmission Planner | TP | The entity that develops a long-term (generally one year and beyond) plan for the reliability (adequacy) of the interconnected bulk electric transmission systems within its portion of the Planning Authority area. |
| Transmission Service Provider | TSP | The entity that administers the transmission tariff and provides Transmission Service to Transmission Customers under applicable Transmission Service agreements. |

III. Entities identified in Part II above as being subject to Registration as an LSE, DP, GO, GOP, TO, or TOP should be excluded from the Compliance Registry for these functions if they do not meet any of the criteria listed below:

III (a)Load-Serving Entity:

III.a.1 Load-Serving Entity peak Load is > 25 MW and is directly connected to the Bulk Power (>100 kV) System, or;

III.a.2 Load-Serving Entity is designated as the responsible entity for Facilities that are part of a required underfrequency Load shedding (UFLS) program designed, installed, and operated for the protection of the Bulk Power System, or;

III.a.3 Load-Serving Entity is designated as the responsible entity for Facilities that are part of a required undervoltage Load shedding (UVLS) program designed, installed, and operated for the protection of the Bulk Power System.

*[Exclusion: A Load-Serving Entity will not be registered based on these criteria if responsibilities for compliance with approved NERC Reliability Standards or associated Requirements including reporting have been transferred by written agreement to another entity that has registered for the appropriate function for the transferred responsibilities, such as a Load-Serving Entity, Balancing Authority, Transmission Operator, generation and transmission cooperative or joint action agency as described in Sections 501 and 507 of the NERC Rules of Procedure.]*

III.a.4 Distribution Providers registered under the criteria in III.b.1 or III.b.2 will be registered as a Load Serving Entity (LSE) for all Load directly connected to their distribution facilities.

*[Exclusion: A Distribution Provider will not be registered based on this criterion if responsibilities for compliance with approved NERC Reliability Standards or associated Requirements including reporting have been transferred by written agreement to another entity that has*

*registered for the appropriate function for the transferred responsibilities, such as a Load-Serving Entity, Balancing Authority, Transmission Operator, generation and transmission cooperative, or joint action agency as described in Sections 501 and 507 of the NERC Rules of Procedure.]*

III(b) Distribution Provider:

III.b.1 Distribution Provider system serving >25 MW of peak Load that is directly connected to the Bulk Power System.

*[Exclusion: A Distribution Provider will not be registered based on this criterion if responsibilities for compliance with approved NERC Reliability Standards or associated Requirements including reporting have been transferred by written agreement to another entity that has registered for the appropriate function for the transferred responsibilities, such as a Load-Serving Entity, Balancing Authority, Transmission Operator, generation and transmission cooperative, or joint action agency as described in Sections 501 and 507 of the NERC Rules of Procedure.]* or;

III.b.2 Distribution Provider is the responsible entity that owns, controls, or operates Facilities that are part of any of the following Protection Systems or programs designed, installed, and operated for the protection of the Bulk Power System:

- a required UFLS program.
- a required UVLS program.
- a required Special Protection System.
- a required transmission Protection System.

*[Exclusion: A Distribution Provider will not be registered based on these criteria if responsibilities for compliance with approved NERC Reliability Standards or associated Requirements including reporting have been transferred by written agreement to another entity that has registered for the appropriate function for the transferred responsibilities, such as a Load-Serving Entity, Balancing Authority, Transmission Operator, generation and transmission cooperative, or joint action agency as described in Sections 501 and 507 of the NERC Rules of Procedure.]*

III(c) Generator Owner/Operator:

III.c.1 Individual generating unit > 20 MVA (gross nameplate rating) and is directly connected to the Bulk Power System, or;

III.c.2 Generating plant/facility > 75 MVA (gross aggregate nameplate rating) or when the entity has responsibility for any facility consisting of one or more units that are connected to the Bulk Power System at a common bus with total generation above 75 MVA gross nameplate rating, or;

III.c.3 Any generator, regardless of size, that is a Blackstart Resource material to and designated as part of a Transmission Operator entity's restoration plan, or;

III.c.4 Any generator, regardless of size, that is material to the reliability of the Bulk Power System.

*[Exclusions:*

*A Generator Owner/Operator will not be registered based on these criteria if responsibilities for compliance with approved NERC Reliability Standards or associated Requirements including reporting have been transferred by written agreement to another entity that has registered for the appropriate function for the transferred responsibilities, such as a Load-Serving Entity, generation and transmission cooperative or joint action agency as described in Sections 501 and 507 of the NERC Rules of Procedure.*

*As a general matter, a customer-owned or operated generator/generation that serves all or part of retail Load with electric energy on the customer's side of the retail meter may be excluded as a candidate for Registration based on these criteria if (i) the net capacity provided to the Bulk Power System does not exceed the criteria above or the Regional Entity otherwise determines the generator is not material to the Bulk Power System and (ii) standby, back-up and maintenance power services are provided to the generator or to the retail Load pursuant to a binding obligation with another Generator Owner/Operator or under terms approved by the local regulatory authority or the Federal Energy Regulatory Commission, as applicable.]*

III(d) Transmission Owner/Operator:

III.d.1 An entity that owns/operates an integrated transmission Element associated with the Bulk Power System 100 kV and above, or lower voltage as defined by the Regional Entity necessary to provide for the Reliable Operation of the interconnected transmission grid; or

III.d.2 An entity that owns/operates a transmission Element below 100 kV associated with a Facility that is included on a critical Facilities list that is defined by the Regional Entity.

*[Exclusion: A Transmission Owner/Operator will not be registered based on these criteria if responsibilities for compliance with approved NERC Reliability Standards or associated Requirements including reporting have been transferred by written agreement to another entity that has registered for the appropriate function for the transferred responsibilities, such as a Load-Serving Entity, generation and transmission cooperative or joint action agency as described in Sections 501 and 507 of the NERC Rules of Procedure.*

IV. Joint Registration Organization and applicable Member Registration.

Pursuant to FERC's directive in paragraph 107 of Order No. 693, NERC's rules pertaining to joint Registrations and Joint Registration Organizations are now found in Section 501 and 507 of the NERC Rules of Procedure.

V. If NERC or a Regional Entity encounters an organization that is not listed in the Compliance Registry, but which should be subject to the Reliability Standards, NERC or the Regional Entity is obligated and will initiate actions to add that organization to the Compliance Registry, subject to that organization's right to challenge as provided in Section 500 of NERC's Rules of Procedure and as described in Note 3 below.

## Notes to the above Criteria

1. The above are general criteria only. The Regional Entity considering Registration of an organization not meeting (e.g., smaller in size than) the criteria may propose Registration of that organization if the Regional Entity believes and can reasonably demonstrate[4] that the organization is a Bulk Power System owner, or operates, or uses Bulk Power System assets, and is material to the reliability of the Bulk Power System. Similarly, the Regional Entity may exclude an organization that meets the criteria described above as a candidate for Registration if it believes and can reasonably demonstrate to NERC that the Bulk Power System owner, operator, or user does not have a material impact on the reliability of the Bulk Power System.

2. An organization not identified using the criteria, but wishing to be registered, may request that it be registered. For further information refer to: NERC Rules of Procedure, Section 500 – Organization Registration and Certification; Part 1.3.

3. An organization may challenge its Registration within the Compliance Registry. NERC or the Regional Entity will provide the organization with all information necessary to timely challenge that determination including notice of the deadline for contesting the determination and the relevant procedures to be followed as described in the NERC Rules of Procedure; Section 500 – Organization Registration and Certification.

4. If an entity is part of a class of entities excluded based on the criteria above as individually being unlikely to have a material impact on the reliability of the Bulk Power System, but that in aggregate have been demonstrated to have such an impact it may be registered for applicable Reliability Standards and Requirements irrespective of other considerations.

[4] The reasonableness of any such demonstration will be subject to review and remand by NERC itself, or by any Applicable Governmental Authority.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Agenda
# Board of Trustees

May 9, 2012 | 8:00 a.m.-12:00 p.m. Eastern

Westin Arlington Gateway
801 North Glebe Road
Arlington, VA 22203
703-717-6200

**Introductions and Chair's Remarks**

**NERC Antitrust Compliance Guidelines and Public Announcement**

**Consent Agenda — Approve**

1. **Minutes***
   a. March 14, 2012
   b. February 23, 2012
   c. February 9, 2012
2. **Election/Membership Appointments and Changes***
   a. Personnel Certification Governance Committee
   b. Compliance and Certification Committee

**Regular Agenda**

3. **Remarks by Commissioner John Norris**
4. **Remarks by Commissioner Cheryl LaFleur**
5. **President's Report**
6. **Standards***
   a. FAC-003-3 – Transmission Vegetation Management Program —**Adopt**
   b. PRC-005-1.1b – Transmission and Generation Protection System Maintenance and Testing — **Adopt**
   c. TOP-001-2-Transmission Operations; TOP-002-3-Operations Planning; and TOP-003-2-Operational Reliability Data—Real-Time Operations — **Adopt**
   d. Interpretation 2010-05 of CIP-002-1 for Duke Energy — **Adopt**
   e. Reliability*First* Corporation Regional Standards Development Procedure — **Approve**

f. Western Electricity Coordinating Council Regional Variance — **Adopt**

g. Update on Frequency Response (Project 2007-12) — **Discussion**

7. **Proposed Amendments to Delegation Agreement with Midwest Reliability Organization (MRO) – Amended Exhibit B (MRO Bylaws)* — Approve**
8. **Proposed Renewal Agreement Between SERC Reliability Corporation and Florida Reliability Coordinating Council and Between SERC Reliability Corporation and Southwest Power Pool, Inc.* — Approve**
9. **MRC Standards Process Input Group Recommendations* — Discussion**
10. **2012 State of Reliability Report* — Review and Accept**
11. **Severe Impact Resilience: Considerations and Recommendations Report* — Review and Accept**
12. **Cyber Attack Task Force Report* — Review and Accept**
13. **Electricity Sector Information Sharing and Analysis Center (ES-ISAC) Update: Enhancing Capability* — Information**
14. **Legislative and External Affairs Update* — Information**

## Standing Committee Reports* (Item 15)

a. Operating Committee

b. Planning Committee

c. Critical Infrastructure Protection Committee

   i. Strategic Work Plan

d. Member Representatives Committee

e. Personnel Certification Governance Committee

f. Standards Committee

g. Compliance and Certification Committee

h. Electricity Sub-Sector Coordinating Council

## Forum and Group Reports* (Item 16)

a. North American Energy Standards Board

b. Regional Entity Management Group

c. North American Transmission Forum

d. North American Generator Forum

## Board Committee Reports

17. **Corporate Governance and Human Resources**
    a. Approve Amendments to Savings and Investment Plan
    b. Risk Management and Internal Controls Subcommittee Mandate
18. **Compliance**
19. **Finance and Audit**
    a. Approve 2011 Audited Financial Statements
    b. Accept First Quarter Statement of Activities
    c. Status of NERC 2013 Business Plan and Budget and Process for Reviewing Regional Entities' Business Plans and Budgets
20. **Standards Oversight and Technology**

***Background materials included.**

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Antitrust Compliance Guidelines

## I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

## II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

## III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.

Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

# Draft Minutes
# Board of Trustees

March 14, 2012 | 2:00 p.m. Eastern
Conference Call

Chair John Q. Anderson convened a duly noticed open meeting by conference call of the Board of Trustees of the North American Electric Reliability Corporation on March 14, 2012 at 2:00 p.m. Eastern. As required by the bylaws of the Corporation, dial-in listen-only access was provided to members of the Corporation and the public for the meeting. The agenda is attached as **Exhibit A**.

Trustees present on the call in addition to Chair Anderson were Vicky Bailey, Paul Barber, Tom Berry, Fred Gorbet, Ken Peterson, Jan Schori, Roy Thilly, Janice Case, Bruce Scherr and President and CEO Gerry Cauley. Additional attendees are listed in **Exhibit B**.

**Antitrust Compliance Guidelines**
David Cook, vice president and general counsel, directed the participants' attention to the NERC Antitrust Compliance Guidelines.

**NERC Rules of Procedure: Substantive Revisions**
Mr. Cook reviewed and recommended for approval the substantive revisions to the NERC Rules of Procedure that had been circulated with the agenda package (**Exhibit C**), with one exception. Mr. Cook recommended that the Board defer action on the proposed changes to Section 500 and Appendix 5A to the Board's May 2012 meeting, to allow time for further discussion with stakeholders on issues related to those items. After discussion by the Trustees and on motion by Paul Barber, the Board approved the proposed changes to the Rules of Procedure, with the exception that action on the proposed changes to Section 500 and Appendix 5A be deferred.

There being no further business, the call was terminated at 2:45 p.m.

Submitted by,



David N. Cook
Secretary

# Draft Minutes
# Board of Trustees

February 23, 2012 | 2:00 p.m. Eastern
Conference Call

Chair John Q. Anderson convened a duly noticed open meeting by conference call of the Board of Trustees of the North American Electric Reliability Corporation on February 23, 2012 at 2:00 p.m. Eastern. As required by the bylaws of the Corporation, dial-in listen-only access was provided to members of the Corporation and the public for the meeting. The agenda is attached as **Exhibit A**.

Trustees present on the call in addition to Chair Anderson were Vicky Bailey, Paul Barber, Tom Berry, Fred Gorbet, David Goulding, Ken Peterson, Jan Schori, Roy Thilly, Janice Case, Bruce Scherr and President and CEO Gerry Cauley. Additional attendees are listed in **Exhibit B**.

**Antitrust Compliance Guidelines**
David Cook, vice president and general counsel, directed the participants' attention to the NERC Antitrust Compliance Guidelines.

**Geomagnetic Disturbance Task Force Report**
Chair Anderson referred the Trustees to the report as presented in the Agenda package (**Exhibit C**) and opened to questions and or comments from the members. After significant discussion and on motion by Fred Gorbet, the Board approved the following resolution:

> RESOLVED, that the Board accepts the proposed Geomagnetic Disturbance Task Force Report, subject to its being revised in accordance with the discussion during the meeting, that the Board approves the release of the report as so modified, and that the Board endorses the recommendations in the report.

**Proposed Amendments to Delegation Agreement with SERC Reliability Corporation – Amended Exhibit B (SERC Bylaws)**
Mr. Cook reviewed and presented for approval the Proposed Amendments to Delegation Agreement with SERC Reliability Corporation – Amended Exhibit B (SERC Bylaws) (**Exhibit D**). Following discussion, on motion by Bruce Scherr the Board approved the following resolution:

> WHEREAS, the SERC Board of Directors, acting in accordance with the SERC Bylaws at a meeting on October 26, 2011, approved certain amendments to the SERC Bylaws, as set forth in Agenda Item 2 of the NERC Board of Trustees agenda for its February 23, 2012 meeting (the "Amendments"); and

WHEREAS, on January 18, 2012, SERC requested that NERC approve the Amendments and file them with the Federal Energy Regulatory Commission for approval; and

WHEREAS, the NERC Board of Trustees finds that SERC followed appropriate procedures in adopting the Amendments and that the Amendments are consistent with SERC's obligations and responsibilities under the delegation agreement between NERC and SERC and otherwise meet the requirements set forth in 18 C.F.R. §39.10 of the Commission's regulations; and

WHEREAS, the Amendments will constitute amendments to the Amended and Restated Delegation Agreement between NERC and SERC, in the form of amendments to Exhibit B – the SERC Bylaws,

RESOLVED, that the Board approves the proposed amendments to the Amended and Restated Delegation Agreement between NERC and SERC;

FURTHER RESOLVED, that NERC staff shall make the appropriate filings with the Federal Energy Regulatory Commission.

**2012 NERC Corporate Performance Measures**

Mr. Cauley reviewed and presented for approval NERC's 2012 Corporate Performance Measures highlighting the areas amended based on the input received during the Member Representatives Committee and Board of Trustees' February 2012 meetings.

On motion by Fred Gorbet the Board approved the 2012 NERC Corporate Performance Measures as presented (**Exhibit E**).

**Personnel Certification Governance Committee Manual**

Rebecca Michael, associate general counsel, reviewed and presented for acceptance the Personnel Certification Governance Committee Manual (**Exhibit F**). Ms. Michael noted if the manual is accepted Appendix 6 will be removed from NERC's Rules of Procedure. Following discussion, on motion by Bruce Scherr the Board approved the Manual as presented.

There being no further business, the call was terminated at 2:41 p.m.

Submitted by,

David N. Cook
Secretary

# Draft Minutes
# Board of Trustees

February 9, 2012 | 8:00 a.m.-12:00 p.m. Mountain

Arizona Grand Resort
8000 S. Arizona Grand Parkway
Phoenix, AZ 85044
602-438-9000

Chair John Q. Anderson called to order a duly noticed meeting of the North American Electric Reliability Corporation Board of Trustees on February 9, 2012 at 8 a.m., local time, and a quorum was declared present. The Agenda and list of attendees are attached as **Exhibits A** and **B**, respectively.

## NERC Antitrust Compliance Guidelines

David Cook, senior vice president and general counsel, directed participants' attention to the NERC Antitrust Compliance Guidelines included in the agenda.

## Executive Session

Chairman Anderson reported that, as is its custom, the board met in executive session before the open meeting, without the chief executive officer present, to review management activities.

## Consent Agenda

On motion of President and CEO Gerry Cauley, the board approved the consent agenda, as follows:

### Minutes

The board approved the following draft minutes (**Exhibit C**):

- January 18, 2012 Conference Call
- November 22, 2011 Conference Call
- November 18, 2011 Conference Call
- November 3, 2011 Meeting

### Committee Membership Appointments and Charter Changes

The board approved the proposed nominations to the membership of the Compliance and Certification, and Critical Infrastructure Protection committees (**Exhibit D**).

## President's Report

Mr. Cauley's report addressed a look back at 2011 and looking forward to 2012, noting items of priority in 2011: reliability concerns, risk-based approaches, accountability, learning industry are all still priorities for 2012. The challenge for 2012 is continuing to turn those priorities into actionable goals.

Mr. Cauley reviewed additional items of focus for 2012: (i) the cold weather event and determining the necessary interventions, if any to ensure that this type of event does not reoccur, (ii) work with the Regional Entities in areas such as relay protection and human performance and begin to identify specific risk areas and solutions, (iii) based on industry feedback regarding the deratings and the transition implementation and the burden in terms of cost, look for opportunities on how that cost burden can be lessened while still ensuring a sustainable program; (iv) continue to focus on cyber security and NERC's readiness and resilience in terms of high impact, low frequency (HILF) events.

In conclusion, Mr. Cauley stated in 2012 NERC and the Regional Entities need to continue to ensure the strength of the compliance programs and that the enforcement actions are consistent and meaningful for reliability and further the understanding of the relationship of the compliance programs to reliability of the bulk power system.

**Elections**

Chair Anderson reviewed the items for approval and on motion of Ms. Janice Case, the board elected the following officers for 2012:

- John Q. Anderson as Chairman of the Board
- Fred Gorbet as Vice Chairman and Chairman-Elect
- Gerry Cauley as President and Chief Executive Officer

And on the recommendation of CEO Gerry Cauley and the motion of Janice Case, the board appointed the following additional officers:

- David Cook, Senior Vice President, Corporate Secretary, and General Counsel
- Michael Walker, Senior Vice President, Chief Financial and Administrative Officer, and Treasurer
- David Nevius, Senior Vice President
- Mark Lauby, Vice President and Director of Reliability Assessment and Performance Analysis
- Janet Sena, Vice President and Director of Policy and External Affairs
- Herb Schrayshuen, Vice President and Director of Standards and Training

**Board of Trustees Self-Assessment Results**

Chair Anderson provided an overview of the Board of Trustees Self-Assessment results, as well as the Member Representatives Committee (MRC) Effectiveness of the Board Survey results. Mr. Anderson stated the results are extremely useful to the board and they will address the noted areas of concern.

**Electric Reliability Organization Enterprise Strategic Plan 2013-2015**

Mr. Cauley noted the version of the ERO Enterprise Strategic Plan as presented is a refresh from the previous year and organized into three distinct focus areas: (i) standards and compliance, (ii) problem solving and risk-based controls, and (iii) collaboration and utilization of all resources in the industry. Mr. Cauley stated there are currently 33 targets that formulate the new plan. He also acknowledged the feedback from the MRC meeting and agreed to complete a review and pare down any applicable

targets. Further, Mr. Cauley committed to the board to modify the style from target/stretch to target/threshold, as well complete the allocations across program areas and bring back to the board during its February 23, 2012 conference call.

## Reliability Standards

Herb Schrayshuen, vice president of standards and training, gave a presentation on the Reliability Standards Program (**Exhibit E**) and presented the following items for board action.

### Project 2010-07: Generator Requirements at the Transmission Interface

Following discussion among the trustees, on motion of Ken Peterson, the board approved the following resolutions:

> RESOLVED, that the board approves the proposed Reliability Standard FAC-001-1 – Facility Connection Requirements and the associated Violation Risk Factors (VRFs), Violation Severity Levels (VSLs) and implementation plan for FAC-001-1;
>
> FURTHER RESOLVED, that the board approves Reliability Standard PRC-004-2.1a – Analysis and Mitigation of Transmission and Generation Protection System Misoperations and the associated implementation plan for PRC-004-2.1a;
>
> FURTHER RESOLVED, that the board approves the retirement of FAC-001-0 – Facility Connection Requirements at midnight of the day immediately prior to the effective date of FAC-001-1, and the retirement of PRC-004-2a – Analysis and Mitigation of Transmission and Generation Protection System Misoperations at midnight of the day immediately prior to the effective date of PRC-004-2.1a.
>
> FURTHER RESOLVED, that Reliability Standards FAC-001-1 – Facility Connection Requirements and PRC-004-2.1a – Analysis and Mitigation of Transmission and Generation Protection System Misoperations shall not be filed at the present time but shall be held, pending completion of development activities on Reliability Standards FAC-003-3 and PRC-005-1.1a, with the expectation that Reliability Standards FAC-003-3 and PRC-005-1.1a, along with a technical analysis of remaining issues, will be presented to the board at its May 2012 meeting.

### Project 2008-10 Interpretation of CIP-006

On motion of Ken Peterson, the board approved the following resolutions:

> RESOLVED, that the board approves the proposed interpretation of requirement R1.1 of CIP-006- — Cyber Security — Physical Security of Critical Cyber Assets
>
> FURTHER RESOLVED, that NERC Staff shall make the appropriate filings with ERO governmental authorities.

**Project 2009-22 Interpretation of COM-002-2**

Janice Case moved to approve the proposed Interpretation of Reliability Standard COM-002-2, and the motion received a second. After extended discussion, Tom Berry moved to amend the motion to add a direction to the Standards Committee to complete developmental activities on proposed Reliability Standard COM-003 on a high priority basis and a further direction that a memorandum describing best communications practices, including appropriate use of three-step communications, be sent to registered entities promptly.

After further discussion, the vote on the amendment to the motion was Trustees Anderson, Berry, Case, Cauley, Gorbet, Goulding, Peterson, Scherr, Schori, and Thilly voting in the affirmative, no Trustees voting in the negative, and Trustee Barber abstaining. The amendment to the motion passed (10-0-1). The vote on the motion as amended was Trustees Anderson, Berry, Case, Gorbet, Goulding, Peterson, Scherr, Schori, and Thilly voting in the affirmative, Trustee Barber voting in the negative, and Trustee Cauley abstaining. The motion, as amended, passed (9-1-1).

The motion, as amended, approved the following resolutions:

> RESOLVED, that the board approves the proposed Interpretation of COM-002-2 and directs that it be filed with ERO governmental authorities;
>
> FURTHER RESOLVED, that the board directs the Standards Committee to complete developmental activities on proposed Reliability Standard COM-003 on a high priority basis; and
>
> FURTHER RESOLVED, that the board directs that NERC management, working with stakeholders, prepare a memorandum describing best communications practices, including appropriate use of three-step communications, to be sent to registered entities promptly.

**Project 2011-INT-01-Revision of MOD-028-1**

On motion of Ken Peterson, the board approved the following resolutions:

> RESOLVED, that the board approves Reliability Standard MOD-028-2 – Area Interchange Methodology and the proposed implementation plan for MOD-028-2, to become effective on the first day of the first calendar quarter after applicable regulatory approval or where no regulatory approval is required, on the first day of the first calendar quarter after board approval;
>
> FURTHER RESOLVED, that the board approves the retirement of MOD-028-1 – Area Interchange Methodology at midnight of the day immediately prior to the effective date of MOD-028-2;
>
> FURTHER RESOLVED, that NERC staff shall make the appropriate filings with ERO governmental authorities.

The board also noted that this was the first successful use of the rapid revision process for targeted amendments to reliability standards and encouraged the Standards Committee to make further use of the process where appropriate.

**Regional Standard and Standards Development Procedure**

Mr. Schrayshuen also provided presentation on the Regional Standard and Standards Development Procedure (**Exhibit F**) and presented the following items for board action.

**Reliability Standard PRC-006-NPCC-1 – Automatic Underfrequency Load Shedding**

On motion of David Goulding, the board approved the following resolutions:

RESOLVED, that the board approves the following proposed reliability standards and associated documents:

1. Reliability Standard PRC-006-NPCC-1 – Automatic Underfrequency Load Shedding
2. Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs) for PRC-006-NPCC-1
3. Implementation Plan for PRC-006-NPCC-1
   (a) For the Eastern Interconnection and Québec Interconnection portions of NPCC excluding the Independent Electricity System Operator (IESO) Planning Coordinator's area of NPCC in Ontario, Canada:

   The effective date for Requirements R1, R2, R3, R4, R5, R6, and R7 is the first day of the first calendar quarter following applicable regulatory approval but no earlier than January 1, 2016. The effective date for Requirements R8 through R23 is the first day of the first calendar quarter two years following applicable governmental and regulatory approval.

   (b) For the Independent Electricity System Operator (IESO) Planning Coordinator's area of NPCC in Ontario, Canada:

   All requirements are effective the first day of the first calendar quarter following applicable governmental and regulatory approval but no earlier than April 1, 2017.

FURTHER RESOLVED, that NERC Staff shall make the appropriate filings with ERO governmental authorities.

The board requested that there be further discussion on the general topic of regional standards at the next board meeting.

**Revision to SERC Standards Development Procedure**

Mr. Cook presented a proposal for approval of amendments to the SERC standards development procedure. On motion of Bruce Scherr, the board approved the following resolutions:

RESOLVED, that the board approves the proposed Revision 2 of SERC Reliability Corporation Regional Standards Development Procedure, as an amendment to Exhibit C to the Revised Amended and Restated Delegation Agreement that NERC has with SERC by replacing the SERC Regional Standards Development Procedure Revision 1;

FURTHER RESOLVED, that NERC staff shall make the appropriate filings with ERO governmental authorities.

**Amendments to NERC Rules of Procedure: Substantive Revisions**

Ms. Rebecca Michael, associate general counsel, briefly discussed the proposed substantive revisions to NERC's Rules of Procedure (**Exhibit G**) and recommended that the board defer action on the amendments until its March 14 meeting.

Following discussion among the trustees, on the motion of Fred Gorbet, the board approved the following resolution:

RESOLVED,

1. That action on the proposed amendments to the NERC Rules of Procedure be deferred;
2. That comments be accepted on the current posting of the proposed amendments to the Rules of Procedure through February 17, 2012; and
3. That the board consider the proposed amendments to the Rules of Procedure, with whatever further changes may be appropriate in light of the comments received, during its conference call scheduled for March 14, 2012.

**Electricity Sector–Information Sharing and Analysis Center (ES-ISAC) Policy Statement**

Mr. Cook reviewed the proposed ES-ISAC Policy Statement and recommended it for approval.

Following discussion, on motion of Paul Barber, the board approved the following resolution:

RESOLVED, that the board approves the proposed policy statement on the role of the Electricity Sector–Information Sharing and Analysis Center vis-à-vis NERC's Compliance Monitoring and Enforcement Program, attached to minutes as **Exhibit H**.

**Proposed Amendments to Delegation Agreement with Florida Reliability Coordinating Council (FRCC) – Amended Exhibit B (FRCC Bylaws) and Exhibit D (Compliance Monitoring and Enforcement Program)**

Mr. Cook reviewed and presented for approval the requested amendments to the NERC/FRCC Delegation Agreement and noted Exhibits (**Exhibit I**).

On motion of Bruce Scherr, the board approved the following resolutions:

> WHEREAS, the FRCC Board of Directors, acting in accordance with the FRCC Bylaws at a series of meetings in the Fall of 2011, approved certain amendments to the FRCC Bylaws and Compliance Monitoring and Enforcement Program, as set forth in Agenda Item 11 of the NERC Board of Trustees agenda for its February 9, 2012 meeting (the "Amendments"); and
>
> WHEREAS, on January 10, 2012, FRCC requested that NERC approve the Amendments and file them with the Federal Energy Regulatory Commission for approval; and
>
> WHEREAS, the NERC Board of Trustees finds that FRCC followed appropriate procedures in adopting the Amendments and that the Amendments are consistent with FRCC's obligations and responsibilities under the delegation agreement between NERC and FRCC and otherwise meet the requirements set forth in 18 C.F.R. §39.10 of the Commission's regulations; and
>
> WHEREAS, the Amendments will constitute amendments to the Amended and Restated Delegation Agreement between NERC and FRCC, consisting of amendments to Exhibit B – the FRCC Bylaws, and to Exhibit D – the FRCC Compliance Monitoring and Enforcement Program,
>
> RESOLVED, that the board approves the proposed amendments to the Amended and Restated Delegation Agreement between NERC and FRCC;
>
> FURTHER RESOLVED, that NERC staff shall make the appropriate filings with the Federal Energy Regulatory Commission.

**ERO Event Analysis Process Document**

Mr. Earl Shockley, director of reliability risk management, presented for approval the ERO Event Analysis Process Document attached as (**Exhibit J**).

On motion of Paul Barber, the board approved the following resolution:

> RESOLVED, that the board approves the proposed ERO Event Analysis Process Document.

**Status of Action Items from NERC Three-Year ERO Performance Assessment**

Mr. Dave Nevius, senior vice president, provided an update on the more significant developments in each NERC program area since the March 16, 2011 report to the board, "Progress in Implementing Specific NERC Actions from the Three-Year ERO Performance Assessment." Details of the developments are contained in the report attached here as **Exhibit K**. Mr. Nevius provided the next steps of the process which are to create a dashboard to track the actions which will allow an efficient means to observe the progress of the actions, as well as work to show the alignment of these actions to the NERC Strategic Plan with a goal of bringing another update to the board at the May 2012 meeting.

## Status of Critical Infrastructure Initiatives

Mr. Matt Blizard, director of critical infrastructure protection provided a report on the status of NERC's various critical infrastructure initiatives (**Exhibit L**).

## Government Relations Update

Ms. Janet Sena, vice president and director of policy and external affairs made a brief presentation updating the Board on certain matters of particular importance to NERC's relationships with governmental entities attached here as (**Exhibit M**).

## Standing Committee Reports

### Operating Committee

Tom Bowe, chair, highlighted items from the committee's written report to the Board (**Exhibit N**) to include the work completed in 2011 on event analysis, the work as part of the Geomagnetic Task Force and the SIRTF which were led by operating committee members, and frequency response. For 2012, Mr. Bowe noted the continued work with the EAWG and lessons learned, as well as actively engage in the human performance area to gain an understanding on how best to address field personnel. Mr. Jim Castle, vice chair, reviewed and presented the Operating Committee Strategic Plan for acceptance and on motion of Gerry Cauley, the board accepted the strategic plan of the NERC Operating Committee.

### Planning Committee

Jeff Mitchell, chair, highlighted the accomplishments of 2011 and goals for 2012 as contained in his written report to the board (**Exhibit O**). Mr. Mitchell also reviewed the Planning Committee's Strategic Plan noting at the Planning Committee's December 2010 meeting, the Planning Committee initiated the development of a strategic plan to guide the PC and its subgroups in the development of their work plans. This Strategic Plan provides a clear focus for the NERC Planning Committee efforts over the 2011–2016 timeframe. Mr. Mitchell further noted that the strategic plan emphasizes the alignment of PC activities from several perspectives, including:

- Conforming with priorities of the NERC ERO enterprise, Federal, state/provincial regulators, and the Electricity Sub-Sector Coordinating Council (ESCC);
- Providing a technical foundation for reliability issues;
- Matching PC resources with priorities; and
- Efficiently using PC resources.

On motion of Gerry Cauley, the board agreed to add two items to the strategic plan of the NERC Planning Committee, as follows:

1. Performance Analysis Subcommittee, State of Reliability Report by end of Second Quarter of 2012; and
2. Reliability Assessment Subcommittee and Integration of Variable Generation Task Force to support ongoing work with California Independent System Operator on wind penetration.

**Critical Infrastructure Protection Committee**
Chuck Abell, chair, highlighted items from the committee's written report to the board (**Exhibit P**).

**Member Representatives Committee**
Scott Helyer, chair, noted the very beneficial discussion held during the MRC meeting acknowledging a couple of the challenges the MRC has for 2012 to include the standards process and adequate level of reliability. Mr. Helyer also committed, on behalf of the MRC, to work towards a 100 percent submission rate on the MRC Effectiveness Survey of the Board of Trustees.

**Personnel Certification Governance Committee**
Jake Burger, chair, highlighted items from the committee's written report to the board (**Exhibit Q**).

**Standards Committee**
Allen Mosher, chair, referred to the highlighted items from the committee's written report to the board (**Exhibit R**).

**Compliance and Certification Committee**
Chair Clay Smith provided the Compliance and Certification Committee (CCC) report highlighting key activities. Mr. Smith also reviewed and recommended acceptance of the CCC 2012 Work Plan (**Exhibit S**), as well as the 2011 Stakeholder Perception Survey (**Exhibit T**).

On motion of Gerry Cauley the board accepted the 2012 action plan of the NERC Compliance and Certification Committee and deferred action on the stakeholder survey submitted by the Committee.

**Electricity Sub-Sector Coordinating Council**
Stuart Brindley, consultant to NERC, presented a report to the board on the ESCC Coordinated Action Plan covering the background of the plan, where the committee is with the plan today, and what is on the horizon. The presentation is attached as (**Exhibit U**).

## Forum and Group Reports

**North American Energy Standards Board (NAESB)**
Mr. Michael Desselle presented a statement on behalf of NAESB:

"I want to note a milestone in our relationship: ten years ago we entered into a MOU with NERC and soon after that we collectively agreed to a MOU between our organizations and the newly formed ISO/RTO Council (also celebrating their tenth year of existence). That MOU created the Joint Interface Committee and as the trust developed between our organizations we modified our coordination processes over the years.

There was a lot of speculation at the time that this would be a rocky relationship. That never really happened because of the commitment of our Boards and the leadership of staff and participants scattered around the room here today to make this marriage work.

It continues today with the transition of the TSIN registry and efforts currently underway for the field tests on parallel Flow Visualization TLR standards.

And we are being asked to continue the collaboration on an issue critical to both our organizations. Much like the formation of the wholesale electric Quadrant with NAESB, the topic has the tendency to be highly politicized and divisive. Gerry raised it this morning as a priority for the organization and Janet discussed what NERC staff has been doing on the topic on the legislative and regulatory front and Jeffrey talked about what the Planning Committee has on its plate

It is the interdependence of the gas and electric industries and how to harmonize them.

It is a market transformative issue with implications for reliability, especially as:

- EPA regulations will limit coal as fuel source for electric generation;
- As Shale gas becomes more abundant;
- As natural gas prices continue to fall;
- As the Smart Grid comes into being; and,
- As other variable generating resources become more viable.

A year ago following the Texas cold snap and New Mexico gas freeze-offs we were advised to consider what NAESB could or should do with respect to standards on gas/electric interdependence. And subsequently within the year no less than 10 reports on the subject were issued. So we formed a Board Committee and identified 18 specific areas that may need to be reviewed. They can be characterized as falling into three buckets:

- Transparency/communication and data interdependence;
- Coordination of timelines and market functions; and,
- The identification of bottlenecks or other services.

We expect the recommendations of the Board Committee to yield:

- Decisions where NAESB should consider modifying or creating new standards; or,
- Identification of policy or other industry actions necessary before NAESB could go further (much the same as we did following the 2004 New England cold snap); or,
- Decisions that NAESB should not develop standards ( that others standards organizations should or that market services should be developed ).

Just as we did with the coordination of standards amongst our own organizations we are counting on the continued Board of Trustee support to provide the appropriate leadership of NERC staff and industry participation as we collectively address the implications for reliability."

**North American Transmission Forum**
Tom Galloway, referred to the Forum's written report to the board (**Exhibit V**). Mr. Galloway did note that the Forum has hired one new staff member since the November 2011 board meeting and look to hire an additional five in the near future.

**North American Generator Forum**
Mark Bennett reviewed his report highlighting a key item: the shift to non-profit status. The new structure will consist of tiers aligning nominal dues to each tier. The proposed tiers are $500, $1,000 and $2,000. Mr. Bennett acknowledged the overwhelming support during their annual meeting from attending members, as well as through the electronic vote submissions. An additional highlight, the new structure will provide necessary funds to hire a part-time administrative associate. In conclusion, Mr. Bennett noted that during the annual meeting the Forum also spent time discussing the Generator/Transmission Operator issue.

## Board Committee Reports

**Corporate Governance and Human Resources**
Chair Janice Case provided a summary report of the Corporate Governance and Human Resources Committee (CGHRC) open meeting. Chair Case reviewed and requested board approval of the board committee assignments for 2012 and the Defined Contribution Plan.

On motion of Janice Case, the board approved the following board committee assignments for 2012:

**Finance and Audit Committee**
Fred Gorbet, Chair
Janice Case
Dave Goulding
Roy Thilly

**Compliance Committee**
Bruce Scherr, Chair
Vicky Bailey
Ken Peterson
Jan Schori
Roy Thilly

**Corporate Governance & Human Resources Committee**
Janice Case, Chair
Vicky Bailey
Tom Berry
Jan Schori

**Standards Oversight & Technology Committee**
Ken Peterson, Chair
Paul Barber
Tom Berry
Dave Goulding
Bruce Scherr

**Nominating Committee**
Jan Schori, Chair
Paul Barber
Janice Case
Fred Gorbet

Ken Peterson
Bruce Scherr
Roy Thilly
5 MRC Representatives

**Ex officio to all:** John Q. Anderson

Chairman Anderson announced he was appointing Paul Barber to be the NERC independent trustee member of the Electricity Sub-Sector Coordinating Council.

**Defined Contribution Plan**
On the motion of Janice Case, the board adopted the following resolution:

> RESOLVED, that on recommendation of the Corporate Governance and Human Resources Committee, the board authorizes the 2011 contribution equal to 10% of eligible compensation (salary and bonus) to the defined contribution plan for all eligible employees for the plan year ending December 31, 2011.

On motion of Chair Case, the board approved the following resolutions:

> WHEREAS, the Corporate Governance and Human Resources Committee has recommended that the North American Electric Reliability Corporation (the "Company") establish a deferred compensation plan under section 457(b) of the Internal Revenue Code of 1986, as amended;
>
> WHEREAS, NERC management, working with Employee Fiduciary Corporation, has developed a proposed North American Electric Reliability Corporation 457(b) Deferred Compensation Plan (the "Plan")(Attachment 1 to this resolution);
>
> WHEREAS, the Board of Trustees finds that it is appropriate to establish the Plan;
>
> THEREFORE, the Board of Trustees adopts the following resolutions:
>
> RESOLVED, that the Plan be adopted in the form attached hereto, which Plan is hereby adopted and approved;
>
> FURTHER RESOLVED**,** that the appropriate officers of the Company be, and they hereby are, authorized and directed to execute the Plan on behalf of the Company;
>
> FURTHER RESOLVED**,** that the officers of the Company be, and they hereby are, authorized and directed to take any and all actions and execute and deliver such documents as they may deem necessary, appropriate or convenient to effect the foregoing resolutions including, without limitation, causing to be prepared and filed such reports, documents or other information as may be required under applicable law.

**Compliance Committee**
Chair Bruce Scherr provided a brief summary of the Compliance Open meeting from the previous day highlighting the committee reviewed its self-assessment results and have committed to review the mandate for changes with respect to those results; that NERC staff provided an update on the Compliance Enforcement Initiative, including Find, Fix, Track, and Report, and NERC staff provided an update on the filing of the six-month report. Mr. Scherr also noted that Mr. Stanley Kopman with NPCC provided an informative presentation on the Regional perspective on the FFT initiative.

**Finance and Audit Committee**
Chair Fred Gorbet reported that the committee met in closed session on January 30 with the external auditors to review the proposed audit plans for the audit of the financial statements, retirement savings plan, and the Form 990. The committee accepted the audit plans and approved the fees which remain the same as the previous year. The committee also met in open session on February 3 and completed review of the committee's self-assessment results and they audited year-end results. A couple highlights from the year-end results included NERC and the Regional Entities combined were under budget by a little less than four percent and that all Regional Entities individually were under budget. A key driver noted for the under budget result for the Regional Entities was their inability to acquire staff as quickly as budgeted. NERC was over budget by five percent but aligned with the Regions in that NERC was under budget on the personnel side. Additionally, during the February 3 session the committee discussed the upcoming budget process and implementing a working capital policy.

Following discussion, Chair Gorbet moved that the board accept the Unaudited Year-End 2011 Financial Statements of NERC and the eight Regional Entities; the board agreed to accept those statements. (**Exhibit W**)

**Standards Oversight and Technology Committee**
Chair Peterson provided a brief review of the actions of the committee the day prior.

## Closing
Chair Anderson thanked the industry for their attendance and their continued support. He reconfirmed that the policy input is beneficial to the board and requests that the industry members continue to submit their comments.

## Adjournment
There being no further business, Chair Anderson terminated the meeting at 11:55 a.m.

Submitted by,



David N. Cook
Corporate Secretary

Agenda Item 2a
Board of Trustees Meeting
May 9, 2012

# Personnel Certification Governance Committee Nominations

## Action

Appoint Mr. Don Oatman of the Electric Reliability Council of Texas (ERCOT) as a committee member to the Personnel Certification Governance Committee (PCGC). Mr. Oatman will be replacing Kelly Blackmer, the ERCOT representative on the PCGC.

Agenda Item 2b
Board of Trustees Meeting
May 9, 2012

# Compliance and Certification Committee Nominations

## Action

Approve the NERC Compliance and Certification Committee (CCC) Nominating Subcommittee request to the NERC Board of Trustees of the following Committee Officer appointments, membership appointments and re-appointments:

- CCC Officers for a two-year term starting July 1, 2012
  - **For the position of CCC Chair:** Mr. Terry Bilke of Midwest ISO, Inc.
  - **For the position of CCC Vice-Chair**: Ms. Patricia Metro of National Rural Electric Cooperative Association
- New membership appointments for three-year terms effective on the date of NERC Board of Trustees approval:
  - Mr. David Roth of Vandolah Power Company representing the Merchant Electricity Generator Sector
  - Mr. Darrell Piatt of FERC representing US Federal Government (non-voting)
- Membership re-appointments for three-year terms effective on the date of NERC Board of Trustees approval:
  - Mr. Clay Smith of Georgia Systems Operations Corporation representing the Cooperative Sector
  - Mr. Terry Bilke of Midwest ISO, Inc. representing RE-MRO
  - Mr. Chuck Manning of Electric Reliability Council of Texas, Inc. representing RE-TRE
  - Mr. Gregory Pierce of Entergy Corporation representing RE-SERC
  - Mr. Howard Rulf of WE Energies representing the Investor Owned Utility Sector

Agenda Item 6
Board of Trustees
May 9, 2012

## Agenda Item 6a — FAC-003-3 – Transmission Vegetation Management Program

### Action

Adopt the following standards documents and direct staff to file with applicable regulatory authorities:

- **Reliability Standard FAC-003-3 – Transmission Vegetation Management** effective consistent with the Implementation Plan for FAC-003-3
  [FAC-003-3–clean] [FAC-003-3 redline to last approval]
- **Implementation Plan for FAC-003-3 – Transmission Vegetation Management:**
  [Implementation Plan]

  There are two effective dates associated with FAC-003-3. The first gives Generator Owners (GOs) one year, as detailed in the implementation plan, to develop documented vegetation maintenance strategies, procedures, processes, or specifications as outlined in Requirement R3. The second effective date allows GOs two years, as detailed in the implementation plan, to comply with Requirements R1, R2, R4, R5, R6, and R7. This second effective date gives GOs sufficient time to begin executing the maintenance strategies, procedures, processes, or specifications documented in the first year.

  These effective dates take into consideration that GOs were not previously required to comply with the vegetation management standard, and should be afforded adequate time, up to two years, to do so.

  There are three scenarios that could occur regarding the approval of FAC-003-2 (approved by the NERC Board of Trustees on November 3, 2011) that would affect the implementation of FAC-003-3. These are addressed in the FAC-003-3 implementation plan.

### Retirements

Retire the following standard midnight of the day immediately prior to the effective date of FAC-003-3.

- FAC-003-2 – Transmission Vegetation Management

### Background

Building on the work of the Ad Hoc Group for Generator Requirements at the Transmission Interface ("Ad Hoc Group"), FAC-003-3 includes modifications that help ensure that responsibility for generator interconnection Facilities is appropriately assigned in NERC's Reliability Standards. The changes proposed by the drafting team for Project 2010-07 offer a focused approach whereby sole-use interconnection Facilities (at or above 100 kV) that are owned and operated by generating entities will be included in a small set of standards and requirements previously only applicable to Transmission Owners (TOs). These generating entities, GOs and Generator Operators (GOPs), do not own or operate Facilities that are part of

the interconnected system; rather, they own and operate sole-use Facilities that are connected to the boundary of the interconnected system and, as such, may have a limited role in providing reliability compared to those entities that operate in a networked fashion beyond the point of interconnection.

In the past, certain GOs and GOPs with generator interconnection Facilities have been registered as TOs and Transmission Operators (TOPs). However, such action may not be necessary to provide an appropriate level of reliability for the Bulk Electric System. GOs and GOPs do not need, and in some cases may be prohibited from having, a wide-area view and responsibility for the integrated transmission system. Requiring GOs and GOPs to have such responsibilities would require significant training, require substantially more data, and increase modeling responsibilities. These responsibilities would also detract from the entities' primary functions: to operate their generation equipment—including interconnection Facilities—in a reliable manner.

The drafting team for Project 2010-07 proposed making FAC-003 applicable to certain qualifying GOs. FAC-003-3 requires a GO with qualifying interconnection Facilities to perform vegetation management. Previously, GOs with overhead lines were not required to perform vegetation management on those lines, thereby posing a reliability risk. For longer lines, the risk of outages from vegetation located on a right-of-way is similar to the risk for TOs.

FAC-003-3 includes exception language that excludes Facilities shorter than one mile with clear line of sight from the fenced area of the generating station switchyard to the point of interconnection. In many cases, generation Facilities are staffed and the overhead portion is within line of sight or over a paved surface.

Related changes to FAC-001-1–Facility Connection Requirements and PRC-004-2.1a–Analysis and Mitigation of Transmission and Generation Protection System Misoperations were adopted by NERC's Board of Trustees at its February 9, 2012 meeting, and PRC-005-1.1b–Transmission and Generation Protection System Maintenance and Testing is being presented this month alongside FAC-003-3.

**Standard Development Process**

FAC-003-3 progressed through four postings for stakeholder comment (one informal and three formal) over a 14-month period, an initial ballot in November 2011, a successive ballot in March 2012, and a recirculation ballot beginning in April 2012. The changes made between comment periods improved the clarity of the applicability changes.

A now voided recirculation ballot for FAC-003-X and FAC-003-3 took place in December 2011.

On January 20, 2012, an entity submitted an appeal that contended that the Standard Processes Manual was violated in that the transition from initial ballot to recirculation ballot incorporated changes made by the Standards Drafting Team (SDT) that were substantive.

NERC's Vice President and Director of Standards and Training determined the Standard Processes Manual was not adhered to, and referred the issue to the Standards Committee for handling. The Standards Committee Executive Committee directed NERC staff to void the FAC-003-X and FAC-003-3 recirculation ballot results of December 2011 and "remand the work to the drafting team with direction to take into account the issues raised in the Exelon appeal submitted in response to the recirculation ballot previously conducted and either: modify the language added following the initial ballot and then re-post the standard for a successive ballot, or remove the language added following the initial ballot and go directly to recirculation ballot."

The Project 2010-07 Standard Drafting Team (SDT) considered Exelon's appeal in the context of other stakeholder comments and continues to believe that a reference to line of sight is clarifying and makes explicit the SDT's implicit intent.

The ballots have not been completed at the time of submittal of this background material. The outcome will be reported at the BOT meeting

**Unresolved Minority Issues**

In comment periods, some entities maintained that FAC-003-3 should not include an exception for generator interconnection facilities of a certain length, because there are no exceptions made for TO facilities of different lengths.

The SDT still contends, as did the original Ad Hoc Report, that there is a very low risk from vegetation within the line of sight on a generator interconnection Facility, and thus the formal steps in FAC-003-3 are not necessary to ensure reliability of these lines. In many cases, generation Facilities are staffed and the overhead portion is within a line of sight or over a paved surface. Requiring GOs with Facilities like these to perform vegetation management would impose a burden with no reliability benefit.

**Summary**

The proposed changes to FAC-003-3 ensure that GOs that own generator interconnection Facilities with a reasonable risk of vegetation-related outages – those Facilities longer than one mile or without clear line of sight from the fenced area of the generating switchyard – are required to perform vegetation management, closing an identified reliability gap.

The Violation Risk Factors (VRFs), Time Horizons, and Violation Severity Levels (VSLs) for the standard were not modified to change all references from "Transmission Owner" to "responsible entity." Other administrative modifications were made to the compliance elements of the standard to conform to current guidelines.

A link to the project history and files is included here for reference:
http://www.nerc.com/filez/standards/Project2010-07_GOTO_Project.html

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

## Agenda Item 6b —PRC-005-1.1b – Transmission and Generation Protection System Maintenance and Testing

### Action

Adopt the following standards documents and direct staff to file with applicable regulatory authorities:

- **Reliability Standard PRC-005-1.1b – Transmission and Generation Protection System Maintenance and Testing** effective consistent with the Implementation Plan for PRC-005-1.1a:
  [PRC-005-1.1b–clean] [PRC-005-1.1b redline to last approval]
- **Implementation Plan for PRC-005-1.1b – Transmission and Generation Protection System Maintenance and Testing:**
  [Implementation Plan]

  The proposed changes to Requirements R1 and R2 are minor clarifying changes that make clear that generator interconnection Facilities are also part of GOs' responsibility in the context of this standard. Because the changes are merely clarifying, no additional time for compliance is needed and all requirements become effective upon approval. In those jurisdictions where no regulatory approval is required, all requirements become effective upon Board of Trustees' adoption.

### Retirements

Retire the following standard midnight of the day immediately prior to the effective date of PRC-005-1.1b.

- PRC-005-1b – Transmission and Generation Protection System Maintenance and Testing

### Background

Building on the work of the Ad Hoc Group for Generator Requirements at the Transmission Interface ("Ad Hoc Group"), PRC-005-1.1b includes modifications that help ensure that responsibility for generator interconnection Facilities is appropriately assigned in NERC's Reliability Standards. The changes proposed by the drafting team for Project 2010-07 offer a focused approach whereby sole-use interconnection Facilities (at or above 100 kV) that are owned and operated by generating entities will be included in a small set of standards and requirements previously only applicable to TOs. These generating entities, GOs and GOPs, do not own or operate Facilities that are part of the interconnected system; rather, they own and operate sole-use Facilities that are connected to the boundary of the interconnected system, and as such, may have a limited role in providing reliability compared to those entities that operate in a networked fashion beyond the point of interconnection.

In the past, certain GOs and GOPs with generator interconnection Facilities have been registered as TOPs. However, such action may not be necessary to provide an appropriate level of reliability for the Bulk Electric System. GOs and GOPs do not need and, in some cases, may be prohibited from having, a wide-area view and responsibility for the integrated transmission system. Requiring GOs and GOPs to have such responsibilities would require significant training, require substantially more data, and increase modeling responsibilities. These responsibilities would also detract from the entities' primary functions: to operate their generation equipment—including interconnection Facilities—in a reliable manner.

In PRC-005-1.1b, certain language in Requirements R1 and R2 ("…that owns a generation Protection System…") could lead to some confusion about whether an interconnection Facility is included. The phrase "and generator interconnection Facility" was added in these requirements as shown in the redlined version of the standard. Because there is no change in applicability, this change is considered a minor change employed only to add clarity.

Related changes to FAC-001-1 – Facility Connection Requirements and PRC-004-2.1a – Analysis and Mitigation of Transmission and Generation Protection System Misoperations were adopted by NERC's Board of Trustees at its February 9, 2012 meeting, and FAC-003-3 – Transmission Vegetation Management is being presented this month alongside PRC-005-1.1b.

**Standard Development Process**

PRC-005-1.1b progressed through the normal standards development process, which included one formal comment period that began in March 2012, and will include an initial and recirculation ballot in April 2012. These ballots have not been completed at the time of submittal of this background material. The outcomes will be reported at the BOT meeting.

## Summary

The proposed change to Requirement R1 and R2 of PRC-005-1.1b are clarifying (errata) changes that make clear that generator interconnection Facilities are also part of GOs' responsibility in the context of this standard. Thus, no changes were proposed for the VRFs or VSLs for PRC-005-1.1b. Other administrative modifications were made to the compliance elements of the standard to bring it into conformance with current guidelines.

A link to the project history and files is included here for reference:
http://www.nerc.com/filez/standards/Project2010-07_GOTO_Project.html

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

## Agenda Item 6c — TOP-001-2-Transmission Operations; TOP-002-3-Operations Planning; and TOP-003-2-Operational Reliability Data—Real-Time Operations

### Action

Adopt the following standards documents and direct staff to file with applicable regulatory authorities upon Board of Trustees approval of the remaining work products associated with this project:

- Reliability Standard TOP-001-2 Transmission Operations, effective consistent with the Implementation Plan for Project 2007-03
  [TOP-001-2 -clean] [TOP-001-2 -redline to last approval]
- Reliability Standard TOP-002-3 Operations Planning, effective consistent with the Implementation Plan for Project 2007-03
  [TOP-002-3 -clean] [TOP-002-3 -redline to last approval]
- Reliability Standard TOP-003-2 Operational Reliability Data, effective consistent with the Implementation Plan for Project 2007-03
  [TOP-003-2 -clean] [TOP-003-2 -redline to last approval]
- Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs) for TOP-001-2, TOP-002-3, and TOP-003-2
  [VRFs and VSLs]
- Implementation Plan for Project 2007-03
  [Implementation Plan]

### Background

On March 15, 2007, NERC received, and the Standards Committee accepted, a Standards Authorization Request (SAR) for Project 2007-03: Real-time Operations. The SAR was approved by the Standards Committee for standard development on November 1, 2007 with the following scope:

- Clarify requirements for Real-time operations of the Bulk Electric System (BES)
- Consider stakeholder comments received during the initial development of the Version 0 standards
- Respond to directives in FERC Order 693:
  - Add measures and levels of non-compliance
  - Clarify emergency conditions
  - Establish communication protocols for removing equipment from service
  - Address confidentiality of data issues
  - Require next-day analysis of IROLs and voltages
  - Require analysis to match actual field conditions
  - Clarify deliverability of power to load
  - Determine an appropriate lead time for outage notification

- Restore the system to proven limits in a defined timeframe
- Respect multiple contingencies in defined situations
- Assure that all needed data is provided in a timely fashion

During the course of the project, the SDT had to contend with several issues. Two key issues were as follows:

- The proper handling of Interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs)

  In the course of their deliberations, the SDT began to look closely at the requirements revolving around SOLs and IROLs to make certain that they accurately reflected what was needed for the reliability of the bulk power system.

  SOLs are defined in the NERC Glossary as the value (such as MW, MVAr, Amperes, Frequency, or Volts) that satisfies the most limiting of the prescribed operating criteria for a specified System configuration to ensure operation within acceptable reliability criteria. SOLs are based upon certain operating criteria. These include, but are not limited to:

  - Facility Ratings (Applicable pre- and post-Contingency equipment or Facility Ratings)
  - Transient Stability Ratings (Applicable pre- and post-Contingency Stability Limits)
  - Voltage Stability Ratings (Applicable pre- and post-Contingency Voltage Stability Limits)
  - System Voltage Limits (Applicable pre- and post-Contingency Voltage Limits)

  IROLs are defined as a SOL that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the BES. An IROL violation occurs when the IROL limit is exceeded continuously for greater than $T_v$. An IROL is exceeded, but not violated, if the IROL limit is exceeded for less than $T_v$. This is an important concept to understand as the terms “exceedance” and ”violation” are often used interchangeably even though they have two distinctly separate meanings where an IROL violation has compliance violation implications and an IROL exceedance does not.

  The problem confronting the SDT was to determine if the current standards adequately addressed the handling of these limits. In particular, the SDT was concerned that the transition from Operating Policies and Guidelines to the Version 0 standards had resulted in an incorrect emphasis on non-IROL SOLs versus IROLs. The pertinent existing standards where these limits were addressed are:

  - TOP-002-2a, R10: Each Balancing Authority (BA) and Transmission Operator (TOP) shall plan to meet all System Operating Limits (SOLs) and Interconnection Reliability Operating Limits (IROLs)
  - TOP-004-2, R1: Each TOP shall operate within the Interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs)

- TOP-007-0, R2: Following a Contingency or other event that results in an IROL violation, the TOP shall return its transmission system to within IROL as soon as possible, but not longer than 30 minutes

The SDT became concerned due to the apparent discrepancy between the three requirements. In the first two requirements, the applicable entities were told to plan and operate to meet all SOLs and IROLs while in the third requirement, they were only instructed to take action for IROLs. In this particular case, why were there requirements to plan and operate for non-IROL SOLs while actions were only required to be taken for IROLs? This led the SDT to perform historical research into the transition from Operating Policies and Guidelines to the Version 0 standards.

Operating Policy 2 clearly stated that the dangers to the reliability of the bulk power system (BPS) resulted from violations of IROLs. This policy clearly laid out the requirements for operating within IROLs and their respective $T_v$. It does not mention operating within non-IROL SOLs. This led the SDT to believe that the translation to Version 0 standards did not accurately reflect what the operating policies stated.
The SDT contained members from all of the major interconnections in North America– California ISO, Electric Reliability Council of Texas, PJM Interconnection, Midwest ISO, and Northeast Power Coordinating Council. All of the members unanimously supported the position espoused in the revised standards.

With all of this in mind, non-IROL SOLs are important. Applicable entities must be aware of non-IROL SOLs and must consider whether exceeding an individual non-IROL SOL or multiple non-IROL SOLs would or could become a BPS reliability issue. However, the true risk to the System exists when the System is operating in conditions such that an IROL limit is exceeded for a time exceeding $T_v$. $T_v$ represents the maximum time allowable to operate at the level of risk represented by exceeding an IROL.

As a result, the SDT revised the requirements on operating within limits.
The SDT believes that this stance moves the standards to where the Operating Policies intended them to be and that the reliability of the Interconnected System will be maintained by this position and even enhanced because System Operators will not become distracted from true reliability problems by local system issues. Indeed, the revised standards actually further enhance the reliability of the BPS by tying actions to $T_v$. This mandates a tighter time standard for action and will improve the reliability of the BPS beyond an Adequate Level of Reliability.

The SDT further notes that, while non-IROL SOLs are similar to IROLs in that non-IROL SOLs must respect the ratings of equipment associated with the facilities to which the non-IROL SOL applies, there is no specific requirement established for a time of exceedance similar to the $T_v$ of an IROL. The SDT recognizes that ratings have a wide range of acceptable operating practices and may have differing associated timeframes.

For example, large power transformers may have a significant thermal inertia which will allow for them to operate in excess of their rating for a number of hours. Transmission lines may have many different ratings relevant to them, including continuous ratings (may operate at the level continuously), emergency ratings (may operate at an increased level for a shorter duration of time, usually in terms of a few (2 to 4) hours), or even short-term ratings expressed in terms of a magnitude and a duration of a few (typically 5 to 30) minutes.

The notable difference between non-IROL SOLs and IROLs is expressed in the difference between the consequences to the System (or impact to reliability) should unplanned perturbations of the System occur when the limit is being exceeded. For an IROL, the consequences are described as Cascading, uncontrolled separation, or instability. For a non-IROL SOL, the consequences are typically thought of in terms of equipment damage or loss of life and are restricted to a limited, or local, area. By definition, the impact of exceeding a non-IROL SOL will not result in an Adverse Reliability Impact as defined in the NERC Glossary of Terms. That definition is repeated here:

- Adverse Reliability Impact:

  The impact of an event that results in frequency-related instability; unplanned tripping of load or generation; or uncontrolled separation or cascading outages that affects a widespread area of the Interconnection.

  The SDT received valuable feedback from the open comment periods. While the majority of commenters agreed with the SDT position, there were a few concerns regarding non-IROL SOLs becoming IROLs in Real-time operations due to changes in System conditions. In response to those comments, the SDT included a requirement for identifying a sub-set of non-IROL SOLs that were identified as important for local areas and to monitor and report exceeding those non-IROL SOLs to the Reliability Coordinators (RCs). This requirement will allow for any RC, TOP, or BA to ensure that any non-IROL SOLs about which it is concerned, to be established and monitored to ensure local consequences are managed. Those entities may also identify and communicate to the RC any of the non-IROL SOLs that are believed or anticipated to have potential to develop into IROLs and, thus, to ensure that they, too, are monitored and managed. While the SDT does not feel that all non-IROL SOLs are necessary to be monitored and managed in a manner equal to that of IROLs, this provision will enable such operating practices where they are considered to be necessary.

- Handling deliverability issues in operations planning:

  Power must always be deliverable to Load. There was some confusion in the past on how this deliverability was being handled in operations planning. The SDT clarified this issue by tying the operations planning process to a defined activity, Operational Planning Analysis (OPA), which requires an entity to consider Contingencies and to observe all applicable limits. When all power inputs and Loads are represented in the OPA, with all applicable limits observed, deliverability of power to Load is guaranteed.

## Standard Development Process

The standards were processed through the full standards development process, including postings for seven formal comment periods, an Initial Ballot, two Successive Ballots, and a Recirculation Ballot.

### *Recirculation Ballot*

The standards were posted for comment in October of 2008, April of 2009, August of 2009, and August of 2010 before moving to Initial Ballot.

The proposed standards were posted for public comment from April 26, 2011, through June 9, 2011, with an Initial Ballot occurring from May 31, 2011 through June 9, 2011. The set of standards achieved a quorum of 88.47 percent and an approval of 48.64 percent. Subsequently, the standards were subjected to individual Successive Ballots. This was done to put more focus on individual standards and determine where the energies of the drafting team would best be focused. A public comment period was held from December 14, 2011, through January 12, 2012, with a Successive Ballot held from January 3, 2012, through January 12, 2012. The Successive Ballot results were as follows:

- TOP-001-2 achieved a quorum of 82.04 percent and a weighted segment approval of 59.93 percent.
- TOP-002-3 achieved a quorum of 82.04 percent and a weighted segment approval of 77.08 percent.
- TOP-003-2 achieved a quorum of 82.04 percent and a weighted segment approval of 78.95 percent.

The standards were put through a public comment period from March 22, 2012 to April 20, 2012, with Successive Ballots held from April 11, 2012 through April 20, 2012. These ballots have not been completed at the time of submittal of this background material. The outcomes will be reported at the BOT meeting

## VRFs and VSLs

Initially, the VRFs and VSLs were subject of a non-binding poll of all the VRFs and VSLs associated with the standards for this project. That poll occurred from May 31, 2011 through June 9, 2011, and achieved a quorum of 84.18 percent and an approval of 41 percent.

Subsequently, another non-binding poll was taken, this time focusing on each standard individually. The second set of polls occurred from January 9, 2012 through January 18/19, 2012 (TOP-002 completed on the 18th, while TOP-001 and -003 completed on the 19th), and achieved quorums, with the following results:

- For TOP-001-2, 81.5 percent of those who registered to participate provided an opinion, and 67.61 percent of those who provided an opinion indicated support for the VRFs and VSLs that were proposed.
- For TOP-002-3, 76.41 percent of those who registered to participate provided an opinion, and 71.42 percent of those who provided an opinion indicated support for the VRFs and VSLs that were proposed.
- For TOP-003-2, 81.5 percent of those who registered to participate provided an opinion, and 70.28 percent of those who provided an opinion indicated support for the VRFs and VSLs that were proposed.

NERC standards staff has reviewed the VRFs and VSLs and recommends them for adoption.

## Minority Issues

- Some commenters objected to the use of an unapproved definition, "Reliability Directive," in TOP-001-2, stating it presented coordination problems and could cause a change to the standard if the definition is changed during its balloting. The SDT explained that it was working closely with Project 2006-06 which is developing the definition, and that the need to coordinate filing of projects 2006-06 and 2007-03 has been forwarded to NERC management.
- There is still some debate as to what is meant by the term "internal area reliability." Some commenters asked for a formal definition of this term. The SDT believes that TOPs should have some degree of freedom in this determination and that they are best suited to determine what affects its internal area. Therefore, the best approach is believed to be to leave the concept as is and not to constrain the TOP to a hard and fast definition. This way, each situation can be determined on its own merits and the responsibility rests solely with the individual TOP. However, to provide additional clarity to the concept and to better show the intent of the SDT, the term was changed to "reliability internal to its Transmission Operator Area."
- There was concern about possible double jeopardy with TOP-003-2, Requirements R1/R3 and R2/R4. The SDT explained that double jeopardy should not be a concern, as the two requirements represent two different actions: one to create the specification and one to distribute it. The two separate and distinct actions mean that there are two distinct reliability outcomes and that two separate requirements are needed.

A link to the project history and files is included here for reference:
http://www.nerc.com/filez/standards/Real-time_Operations_Project_2007-03.html

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

## Agenda Item 6d —Interpretation 2010-05 of CIP-002-1 for Duke Energy

### Action

Adopt the interpretation of Requirement R3 of CIP-002-1 (Cyber Security – Critical Cyber Asset Identification) for Duke Energy and direct staff to file with applicable regulatory authorities.

- Interpretation of CIP-002-1 — The referenced clean standard below provides the interpretation being approved as an appendix.
  [CIP-002-1a Clean]

### Background

On January 31, 2010, Duke Energy requested a formal interpretation of CIP-002-1 Cyber Security – Critical Cyber Asset Identification, Requirement R3, asking the following questions:

- Is the phrase “Examples at control centers and backup control centers include systems and facilities at master and remote sites that provide monitoring and control, automatic generation control, real-time power system modeling, and real-time inter-utility data exchange” meant to be prescriptive, i.e., that any and all systems and facilities utilized in monitoring and control, automatic generation control, real-time power system modeling, and real-time inter-utility data exchange, must be classified as Critical Cyber Assets, or is this phrase simply meant to provide examples of the types of systems that should be assessed for inclusion in the list of Critical Cyber Assets using an entity’s critical cyber asset methodology?
- What does the phrase "essential to the operation of the Critical Asset" mean? If an entity has an asset that "may" be used to operate a Critical Asset, but is not "required" for operation of that Critical Asset, is the asset considered "essential to the operation of the Critical Asset"?

An interpretation was developed and posted for a 30-day public comment period from September 8, 2010 through October 8, 2010. There were 39 sets of comments, including comments from more than 85 different people from approximately 75 companies representing 9 of the 10 NERC Industry Segments. However, work on the interpretation was delayed based on reprioritization of the total standards workload and then further delayed until the Standards Committee developed more formal processes for addressing interpretations in support of the board’s November 2009 guidance.

In April 2011, the Standards Committee approved and issued the NERC Guidelines for Interpretation Drafting Teams and directed that work resume on the interpretation. Nominations were solicited for a dedicated Critical Infrastructure Protection (CIP) Interpretation Drafting Team. A CIP Interpretation Drafting Team was appointed, and members of the team reviewed the comments received from the 2010 comment period.

The interpretation was modified based on the feedback received, and posted for a 45-day public comment period from February 8, 2012, through March 23, 2012; with an Initial Ballot occurring on the last 10 days of the comment period. The ballot achieved a 94.71 percent approval, with a quorum of 89.63 percent. A Recirculation Ballot was conducted from April 20, 2012, through April 30, 2012, and was approved by stakeholders, achieving a 94.71 percent approval with a quorum of 89.63 percent.

**Summary**

The Interpretation provides the following answers to the requestor:

> The phrase "Examples at control centers and backup control centers include systems and facilities at master and remote sites that provide monitoring and control, automatic generation control, real-time power system modeling, and real-time inter-utility data exchange" is illustrative, not prescriptive. It simply provides examples of the types of Cyber Assets that should be considered. It does not imply that the items listed must be classified as Critical Cyber Assets, nor is it intended to be an exhaustive list of Critical Cyber Asset types.
>
> The word "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards, but the well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "essential to the operation of the Critical Asset" means inherent to or necessary for the operation of the Critical Asset. A Cyber Asset that "may" be used, but is not "required" (i.e., without which a Critical Asset cannot function as intended), for the operation of a Critical Asset is not "essential to the operation of the Critical Asset" for purposes of Requirement R3. Similarly, a Cyber Asset that is merely "valuable to" the operation of a Critical Asset, but is not necessary for or inherent to the operation of that Critical Asset, is not "essential to the operation" of the Critical Asset.

A link to the project history and files is included here for reference:
http://www.nerc.com/filez/standards/2010-INT-05_Interpretation_CIP-002-1_Duke.html

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

## Agenda Item 6e — Reliability*First* Corporation Regional Standards Development Procedure

### Action
Approve the following standards document and direct staff to file with applicable regulatory authorities:

- **Version 4 of Reliability*First* Corporation Regional Standards Development Procedure**

### Background
At the May 10, 2011 NERC Board of Trustees meeting, Version 3 of Reliability*First* Corporation (RFC) Regional Standards Development Procedure was approved. For that version, NERC publicly noticed and requested comments on RFC's proposed changes for a 45-day comment period, from March 1, 2011 to April 15, 2011. NERC received nine sets of comments. The principal issue raised in the comments was the addition of the language with respect to the effective date of standards for Members of RFC. Commenters objected to inclusion of this additional language, stating that standards cannot be made mandatory and enforceable under section 215 until they have been approved by NERC and the FERC. The provision regarding the enforceability on RFC Members was not a new concept. The provision has been part of the Bylaws of RFC since its inception. The only thing that was new was the language in the standards procedure that clarified the issue. The NERC Board of Trustees action included an understanding that the RFC President would discuss possible changes to the RFC Bylaws to address industry concern regarding enforcement of non FERC-approved standards on Members.

### Summary
Subsequent to the May 10, 2011 NERC Board of Trustees action, RFC's Membership approved an amended definition of "Regional Reliability Standard" contained within the amended Bylaws and Certificate of Incorporation. Based on this action, the RFC Standards Committee made a conforming minor change to Version 4 of the RFC Reliability Standards Development Procedure. This minor change was made to ensure that the RFC Reliability Standards Development Procedure defines and utilizes the term "Regional Reliability Standard" in a manner consistent with the Member-approved amended definition. During the December 1, 2011 RFC Board of Directors' meeting, the Board concurred with the minor change in Version 4 of the RFC Reliability Standards Development Procedure.

The proposed amended definition of "Regional Reliability Standard" specifically states that a Regional Reliability Standard is not binding upon any Member or Registered Entity, nor is it effective or enforceable, until the Regional Reliability Standard has been adopted by NERC and approved by the Commission.

A link to the project history and files is included here for reference:
https://rsvp.rfirst.org/SDP501RFC03/default.aspx

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

## Agenda Item 6f — Western Electricity Coordinating Council Regional Variance

### Action

Adopt the following standards documents and direct staff to file with applicable regulatory authorities:

- WECC Variance to Reliability Standard VAR-001-3 – Voltage and Reactive Control [VAR-001-3 – Clean] [VAR-001-3 – Redline to VAR-001-2]
- Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs) for the WECC variance to VAR-001-3
  [VRFs and VSLs are available in the Standard above]
- Implementation Plan for VAR-001-3

The effective date for WECC variance to VAR-001-3 is the first day of the first calendar quarter six months after applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, the first day of the first calendar quarter six months after NERC Board of Trustees' approval.

### Background

The purpose of this regional variance to the existing NERC Standard VAR-001-2 is to ensure that voltage levels are within limits in real time to protect equipment and the reliable operation of the Western Interconnection. Analysis of disturbances in the Western Interconnection have demonstrated that during and immediately following a disturbance, the generator's Automatic Voltage Regulator (AVR) – operating in automatic voltage control mode – is needed to stabilize the Bulk Electric System's (BES) voltage. TOPs are responsible for determining the voltage levels required to maintain reliable operation of the Interconnection and convey the required voltage level information to GOPs.

### Summary

Existing VAR-001-2 Requirement R3 allows TOPs the option of specifying criteria that exempt generators from compliance with the requirements defined in NERC Standard VAR-001-2 Requirement 4 and Requirement 6.1. The WECC SDT and WECC stakeholders determined that permitting such exemptions in the Western Interconnection would reduce the amount of voltage support available when generation and transmission outages occur, adversely impacting the reliability of the Western Interconnection.

Existing VAR-001-2 Requirement R4 allows TOPs the option of providing reactive power schedules rather than voltage schedules; however, operating against a reactive power schedule in the Western Interconnection will not ensure that generators provide the proper voltage support when generation and transmission outages occur. This conclusion was based on the fact that generator operators that are provided reactive schedules under NERC VAR-001-2 are required to maintain the reactive output defined in the schedule at all times. This would require generator operators to modify the AVR set point as system conditions change to maintain the specified reactive output of the schedule.

This variance to the NERC Standard restricts the TOP to providing only a voltage schedule, but allows the schedule to be conveyed through a reactive power level, provided that the reactive power level is converted to a voltage level for the AVR's automatic voltage control mode setting.

In the Western Interconnection, SOLs for transmission paths in the BES assume that the AVRs are in service to control voltage to support the transfer capabilities. As noted below, previous approvals and rulings regarding VAR-002-WECC-1 have directed GOPs to operate AVRs in voltage control mode to support transfer capabilities in the Western Interconnection.

- April 16, 2008 – The WECC Board of Directors approved VAR-002-WECC-1 to ensure that the AVRs are in service and controlling voltage so that generators provide the proper voltage support when generation and transmission outages occur
- October 29, 2008 – The NERC Board of Trustees approved VAR-002-WECC-1
- April 21, 2011 – FERC issued an Order approving VAR-002-WECC-1

During the development of WECC Regional Standard VAR-002-WECC-1, industry comments noted that not all WECC TOPs provide voltage schedules to their GOPs. Providing reactive power schedules (instead of specific voltage levels) forces GOPs to manually adjust their AVR voltage setting to a setting that will provide the exact amount of reactive power in the schedule.

It is recognized that during the course of a day, system dynamics may result in changes in reactive output such that the generator will no longer produce the amount of reactive power specified by the TOP's reactive power schedule. If the GOP alters the amount of reactive power provided by the generator to return it to the schedule, there is higher risk that such action will result in the generator doing the exact opposite of what is needed to maintain system reliability: ensuring that generators provide the proper voltage support when generation and transmission outages occur.

The WECC Variance to VAR-001-2 is an alternative approach to meeting the same reliability objective as the NERC VAR-001-2 Reliability Standard. The proposed regional variance in Section E contains requirements that are more stringent than the continent-wide Requirements R3 and R4 of VAR-001-2 or provides a specific alternative approach to meeting the same reliability objective.

## Standards Staff View of VRFs and VSLs

The non-binding poll of VRFs and VSLs was conducted during the regional ballot of the associated standard. NERC standards staff is not recommending any modifications be made to the VRFs and VSLs that were posted for the nonbinding poll.

## Minority Issues

There were several minority issues raised during the development process:

- ***Issue:*** Why would the drafting team want to assume the GOP has the expertise to convert a Reactive Power schedule to a voltage set point-especially when the wrong steps could be taken by a GOP during an incident that would be perfectly correct under normal operating conditions?

  ***Response:*** The drafting team believes that GOPs have a better understanding of the operation and control of a generator than the TOPs. The conversion process is developed in advance and used to translate the TOP's schedule to an AVR set point during normal operating conditions, and there is no specific action taken by the GOP at the time of a system event. The requirement to have the AVR in voltage control mode is so that the unit(s) will respond appropriately and automatically during a system event.

- ***Issue***: The WECC Variance inappropriately mimics NERC VAR-002-1.1b for GOPs.

  ***Response***: In the WECC Variance, the GOP has an integral part in establishing the schedule at the generator terminal. If the requirements in the WECC Variance were split between VAR-001-2 and VAR-002-1.1b, there would more confusion than combining the requirements into a WECC Variance. The drafting team clarified the communication of schedules and the GOP's response to those schedules.

- ***Issue:*** There are no physical differences in the BES in WECC to justify the generator specific requirements in the WECC Variance.

  ***Response:*** The requirements in the WECC Variance are designed to make the Interconnection more reliable because there are physical differences that require AVRs to control voltage. In the Western Interconnection this physical difference and need for keeping AVRs in service controlling voltage was recognized when one of the causes of the 1996 disturbances was identified as insufficient supply of reactive power from generators, including AVRs that were not operating in voltage control mode. As a result of this experience, WECC determined there should be only very limited circumstances where a GOP should remove its unit from AVR operation (see VAR-002-WECC-1).

Furthermore, the analyses of many disturbances in the Western Interconnection have demonstrated the need to stabilize system voltage by using AVR response. The development the WECC Variance further supports the need for voltage support during system disturbances by:

- Requiring that TOPs provide voltage rather than reactive schedules to GOPs
- Allowing TOPs to provide voltage schedules through reactive power terms
- Requiring the conversion of voltage schedules into voltage settings for the AVRs

A link to the project history and files is included here for reference:
http://www.wecc.biz/Standards/Development/WECC0046/default.aspx

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

## Agenda Item 6g — Update on Frequency Response (Project 2007-12)

### Action
Discussion

### Executive Summary
The Frequency Response Project will not be able to deliver a standard responsive to FERC's previous directives within the mandatory time frame established. NERC is continuing to work with the SDT to develop a quality standard that meets the directive and has requested FERC to grant relief from the filing deadline.

### Background
Frequency Response is a measure of an Interconnection's ability to stabilize frequency immediately following the sudden loss of generation or load. It is a critical component to the reliable operation of the BPS, particularly during disturbances and restoration. There is evidence of continuing decline in Frequency Response over the past 10 years, but no confirmed reason for the apparent decline.

NERC began work on addressing ongoing concerns with Frequency Response as far back as 2005. Following various edits and modifications to a SAR, initial work on the standard began in 2007, with more extensive efforts commencing in 2008 focusing on a standard that would require mandatory data reporting for further analysis. In 2009, work was stopped, and then restarted in 2010 to be more focused on actual BA performance, rather than just data submittal. Due to the complexity of the subject matter, a first draft of the standard was not posted until February 4, 2011; a second draft was posted for comment and Initial Ballot on October 23, 2011. At that time, the standard achieved only a limited amount of success, with a weighted segment vote of 30.82 percent.

### Discussion
Stakeholders have identified a number of concerns regarding this standard, which are leading to a reduced amount of ballot support.

- Assignment of responsibility to the BA, without assigning responsibility to the GO. Several entities have indicated that a BA cannot currently compel a generator to deliver frequency response. As such, holding the BA accountable for delivery of Frequency Response absent a generator performance standard of some kind is unacceptable to them.
- Some stakeholders have identified concerns that the Frequency Response Obligation being established by the standard is too low, and will not adequately protect reliability.
- Need for a market-based solution because frequency response is a resource "requiring activity".

FERC staff has identified what they perceive to be several shortcomings in the standards. Specifically:

- The use of an annual measure of central tendency to determine a BA's performance (based on a representative sample of events), rather than a discrete per-event determination. The SDT believes that due to the significant number of variables involved in determining performance, it is difficult or impossible to accurately measure performance during individual events. FERC staff believes we have not exhausted all options here, nor provided sufficient support of our claim.
- The use of a sample set of events, as selected by the ERO, based on specific exclusion criteria rather than using all events that meet certain criteria. The SDT feels that given the variables involved in determining performance, they must exclude certain kinds of events. However, FERC staff is concerned that excluding these events may result in excluding events where Frequency Response is of particular importance.
- The use of the mathematical "median" to measure central tendency. The SDT believes this will eliminate outliers in the sample set. While this is true, FERC staff has expressed concerns that it will simply eliminate all values being considered from the sample except the median value, and there is no analysis of the other samples or the magnitude of their deviation from the median.
- The use of a 25 percent reliability margin, of which FERC staff has questioned the technical merit. NERC staff has also identified potential concerns with this value.
- The lack of a requirement to sustain frequency response until a secondary response replaces it. The SDT feels that there is no way to accurately measure performance during the extended time between when an event starts and when secondary response takes over; however FERC staff believes that technology upgrades might support such analysis. The SDT agrees that technology upgrades could support such analysis but feels that these upgrades would be extremely costly and would not receive the support of the industry.

At this time, NERC believes the best course of action is to continue working, perform any needed research to validate or disprove hypotheses regarding how to measure Frequency Responsive Reserve performance, and develop a technically accurate and defensible standard. Accordingly, NERC has requested that FERC grant additional time to continue its work. Although the decline of Frequency Response is of concern, the decline is not at this point acute to where reliability is under threat, and it is believed that such a threshold point will not be crossed for some years.

A link to the project history and files is included here for reference:
http://www.nerc.com/filez/standards/Frequency_Response.html

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net, or Mark Lauby, vice president and director reliability assessment and performance analysis at mark.lauby@nerc.net.

Agenda Item 7
Board of Trustees Meeting
May 9, 2012

**Proposed Amendments to Delegation Agreement with Midwest Reliability Organization (MRO) – Amended Exhibit B (MRO Bylaws)**

## Action

Approve proposed amendments to NERC's Delegation Agreement with MRO, consisting of amended MRO Bylaws (Exhibit B to Delegation Agreement).

## Background

MRO has requested that the Board approve, and direct NERC staff to file with FERC for approval, amendments to the Delegation Agreement between NERC and MRO, consisting of amendments to Exhibit B – the MRO Bylaws. **Attachment 1** is a letter from MRO requesting Board of Trustees (Board) approval of the amendments to the FRCC Bylaws and explaining the purposes of the proposed amendments. **Attachment 2** is a redlined version of Exhibit B to the MRO Delegation Agreement (MRO Bylaws), marked to show the proposed amendments. The Board is requested to approve the proposed amendments in substantially the form shown on **Attachment 2**.

There are no proposed revisions to any other portions of the MRO Delegation Agreement, and therefore only the redlined version of Exhibit B is being provided with this agenda item.

Board approval of the amendments to Exhibit B of the MRO Delegation Agreement will also constitute approval of the amendments to the MRO Bylaws as a "Regional Entity rule." The proposed amendments to Exhibit B have received the necessary approvals from the MRO Board of Directors and membership. NERC staff worked with MRO during this process to ensure that the amended MRO Bylaws continue to meet the governance criteria stated in Exhibit B to the Delegation Agreement.

The following discussion summarizes the principal components of the amendments.

## Discussion of Amendments to Delegation Agreement Exhibit B (MRO Bylaws)

There are three significant areas of amendment to the MRO Bylaws. First, the "Large End Use Electricity Sector" and the "Small End Use Electricity Sector" are eliminated from the Industry Sectors of MRO Membership (§1.14 and deleted §§1.13 and 1.22). Correspondingly, the two director positions on the MRO board representing these Sectors are eliminated (§7.3). MRO states that the eliminated Sectors have historically had very low, or no, membership, and a lack of participation.

Second, two Independent Directors are added to the MRO board, thereby making the board a hybrid board rather than solely a stakeholder board. Addition of the two Independent Directors coupled with elimination of the director positions for the two eliminated Sectors results in the overall MRO board membership continuing to be 19 directors (§7.3). The Independent Directors will be nominated by the board and elected by the members (§7.3). "Independent Director" is defined in new §1.13 as follows:

> "Independent Director" means an individual who is not (1) an officer or employee of the Corporation; (2) a member, director, officer or employee of a Member or Adjunct Member of the Corporation; (3) a director, officer or employee of any Registered Entity on the NERC registry; or (4) reasonably

> perceived as having a direct financial interest in the outcome of a decision by the board of directors and who (a) does not have any other relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and (b) meets any additional requirements of independence established by the board of directors.

This definition is comparable to the definition of "independent trustee" in Article III, section 3 of the NERC Bylaws. Additionally, amended §7.3 states that "Independent Directors shall have relevant senior management expertise and experience to the reliable operation of the bulk power system in North America." Section 7.4 is amended to provide that while all directors shall generally serve three-year, staggered terms, the initial term for one of the Independent Directors shall be two years. Section 7.4 is also amended to provide that a director elected by an Industry Sector may be removed by affirmative vote of two-thirds of the Members of that Industry Sector, and an Independent Director may be removed by affirmative vote of two-thirds of the remaining directors. Further, §7.5 is amended to provide that the board may set reasonable compensation for the service provided by Independent Directors, but that directors elected by an Industry Sector shall not receive compensation.

Third, a new, non-voting class of members, referred to as Adjunct Members, is added to the Membership of MRO (§5.1). "Adjunct Member" is defined as:

> an entity that: (1) is not eligible to belong to an Industry Sector; (2) has a material interest in reliability issues in the Corporation's Region and (3) becomes an Adjunct Member of the Corporation. (§1.1)

Additionally, §16.1, Regulatory Participants, is amended to state that "All Regulatory Participants shall be entitled to be Adjunct Members." ("Regulatory Participant" is defined in §1.23 to include state and provincial regulatory agencies in the MRO Region, representatives of FERC, regional advisory bodies established by FERC, and representatives of any federal regulator or agency.) MRO states that adding the Adjunct Members class will provide an opportunity to participate for people and entities that are not part of an Industry Sector but nevertheless have a material interest in reliability issues in the MRO Region, including any entities that would have been members in the Large-End Use Electricity Customer Sector or Small End-Use Electricity Customer Sector. For example, Adjunct Members can attend the Annual Meeting and Special Meetings of Members (§6.1 and §6.2.1); and may inspect the books and records of the Corporation (§11.1).

Because the Membership of MRO will now consist of the two classes, [Industry Sector] Members and Adjunct Members, there are numerous amendments to the Bylaws to identify the rights of Adjunct Members, to distinguish between the rights of [Industry Sector] Members and Adjunct Members, and to identify the actions in which only [Industry Sector] Members can participate. See, e.g., §5.3 (Admission of Members and Adjunct Members); §5.4 (Voting Rights); §5.5 (Transfer of Membership); §6.1 (Annual Meeting of Members); §6.2.1 (Special Meetings of Members – Who May Call); §6.5 (Right to Vote; Act of Members (providing that only Industry Sector Members may vote)); §6.6 (Quorum (basing the quorum requirement solely on attendance by Industry Sector Members)); §6.7 (Action by Written Ballot); §6.8 (Action by

Electronic Communication); §11.1 (Books and Records; Financial Statements); and §15.2 (Limitations on Liability).

Due to the revised compositions of the MRO Membership, Industry Sectors and board, it was necessary to ensure that the MRO governance under its Bylaws continues to satisfy the Exhibit B governance criteria that no two Industry Sectors can control any action and no one Industry Sector can veto any action. This was accomplished by adding the following text in §6.5, Right to Vote; Act of Members, and §7.9, Board Action:

> §6.5: ". . . in no event will an action of the Members be valid where the action was passed solely by the vote of Members from two Industry Sectors or defeated solely by the vote of Members in a single Industry Sector."
>
> §7.9: ". . . in no event will an action of the Directors be valid where the action was passed solely by the vote of Directors from two Industry Sectors or defeated solely by the vote of Directors in a single Industry Sector."

Finally, a number of sections of the Bylaws have been amended to add section titles, as in the current Bylaws some sections have titles and other sections do not. See, e.g., the sections in Articles 16, 17 and 19.

# ATTACHMENT 1

## MIDWEST RELIABILITY ORGANIZATION LETTER

## REQUESTING APPROVAL OF AMENDMENTS

## TO MRO BYLAWS

April 3, 2012

Mr. David N. Cook, Vice President and General Counsel
Ms. Rebecca J. Michael, Assistant General Counsel
North American Reliability Corporation
1120 G Street, N.W.
Suite 990
Washington, D.C. 20005

Re: Midwest Reliability Organization's Bylaw Changes

Dear Mr. Cook and Ms. Michael:

Midwest Reliability Organization (MRO) is submitting proposed changes to its bylaws for consideration by the North American Reliability Corporation Board of Trustees (NERC BOT).

The MRO board of directors began considering a change from a stakeholder board to a hybrid board in 2010. This change, as well as others, was discussed at the MRO Governance and Personnel Committee and board meetings throughout 2011. At its annual strategy session in October, the board decided to move forward with changes to the bylaws.

On December 15, 2011, the board of directors unanimously approved the proposed changes which were submitted to the membership for approval during February and March 2012. On March 14, 2012, the members of MRO approved the changes.[1] Attached are redlined and clean copies of the proposed changes to the MRO Bylaws which have been approved.

There are three significant changes to the bylaws. First, two independent directors are added. Second, the Large End-Use Electricity Customers Sector and the Small End-Use Electricity Customer's Sector are eliminated. Finally, a non-voting Adjunct Member class is added. Additional changes to the bylaws were made to simplify language or correct errors.

The board believes that the addition of two independent directors is consistent with good governance corporate practices and trends. Additionally, several Regional Entity boards have added independent directors recently. Independent directors will bring additional and different perspectives, providing a dimension of independence not provided in a balanced stakeholder

[1] Following the membership approval and pursuant to the board's authority in Article 19, the board unanimously approved additions to the bylaws to make explicit MRO's obligations under law and the delegation agreement, namely, that no action by the members or the board was valid if the action was passed solely by the vote from two sectors or was defeated solely by the vote of a single sector.

board. Independent directors were defined in Section 1.13 of the proposed MRO Bylaws as:

> **Independent Director.** "Independent Director" means an individual who is not (1) an officer or employee of the Corporation; (2) a member, director, officer or employee of a Member or Adjunct Member of the Corporation; (3) a director, officer or employee of any Registered Entity on the NERC registry; or (4) reasonably perceived as having a direct financial interest in the outcome of a decision by the board of directors and who (a) does not have any other relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and (b) meets any additional the requirements of independence established by the board of directors.

Changes were made to the bylaws to allow, but not require, the board to compensate the independent directors for their time.

The Large End-Use Electricity Customers Sector and the Small End-Use Electricity Customers Sector were eliminated due to the historic lack of participation by these sectors. The Large End-Use Electricity Customers Sector consists of three members. It has never elected a member to the board of directors. The Small End-Use Electricity Customers Sector did not have any members until 2011 and to date has not elected a member to the board of directors.

Of interest are the votes of these two sectors on the proposed bylaw changes. None of the three members in the Large End-Use Electricity Customers Sector voted, which is consistent with past practice of the members of this sector; the Small End-Use Electricity Customers Sector voted unanimously for the proposal.

The third change was to add a non-voting adjunct class of members to provide an opportunity to participate for people and entities that are not part of an industry sector but nevertheless have a material interest in reliability issues in the MRO Region. MRO believes this will allow those formerly in the Large End-Use Electricity Customers Sector and the Small End-Use Electricity Customers Sector to participate as well as entities such as Planning Authorities and state regulators.

Midwest Reliability Organization respectfully requests that the North American Reliability Corporation (NERC) Board of Trustees approve these changes to its bylaws, amend the delegation agreement between MRO and NERC accordingly, and direct NERC staff to seek approval of these changes from the Federal Energy Regulatory Commission.

**MRO Bylaw Changes**
April 3, 2012


We appreciate your consideration and assistance with these important changes.

Very truly yours,



Miggie E. Cramblit
General Counsel and Director of External Affairs

cc: Mr. Dan Skaar, President
Mr. Jeffrey J. Gust, Chairman of the Board
Mr. Ed Tymofichuk, former Chairman of the Board

Note: Effective April 30th, 2012, our mailing address will be
380 St. Peter Street, Suite 800, St. Paul, MN 55102

# ATTACHMENT 2

## REDLINED VERSION OF

## MIDWEST RELLIABILITY ORGANIZATION BYLAWS,

## SHOWING AMENDMENTS

# BYLAWS OF THE

# MIDWEST RELIABILITY ORGANIZATION, INC.

**As amended through ~~December~~ March 29~~2~~15~~xx~~, 201-2~~10~~**

## TABLE OF CONTENTS


ARTICLE 1 DEFINITIONS ..... 1

Section 1.1 Adjunct Member.....

Section 1.2 Affiliate..... 1

Section 1.3 Bulk-Power System..... 1

Section 1.4 Bulk-Power System Users ..... 1

Section 1.5 Canadian Utilities..... 1

Section 1.6 Corporation.....1

Section 1.67 Cooperative..... 1

Section 1.78 Corporate Region..... 21

Section 1.89 FERC..... 21

Section 1.910 Federal Power Marketing Agencies ..... 2

Section 1.110 Generators and Power Marketers..... 2

Section 1.121 Good Utility Practice ..... 2

Section 1.132 Independent Director

Section 1.143 Industry Sector(s)..... 2

Section 1.154 Investor Owned Utility ..... 23

~~Section 1.13 Large End-Use Electricity Customers ..... 2~~

Section 1.165 Member ..... 32

Section 1.167 Membership

Section 1.187 Municipal Utilities..... 23

Section 1.198 NERC ..... 32

Section 1.2019 ..... Person 32

Section 1.210 Public Utility District..... 32

Section 1.211 Regional Entity..... 3

Section 1.232 Regulatory Participant ..... 3

Section 1.243 Reliability Standards ..... 43

~~Section 1.22 Small End-Use Electricity Customers..... 3~~

Section 1.254 Transmission System ..... 43

~~Section 1.24 Regional Planning Entity ..... 3~~

ARTICLE 2 PURPOSE..... 4

Section 2.1 Purpose..... 4

Section 2.2 Activities..... 4

Section 2.3 Not-for-Profit Corporation ..... 4

ARTICLE 3 POWERS ..... 4

Section 3.1 Powers ..... 4

ARTICLE 4 OFFICES ..... 4

Section 4.1 Offices..... 4


Formatted: Normal

Formatted: Normal

Formatted: Font: 12 pt, Bold

**ARTICLE 5 MEMBERS** ..... 5

**Section 5.1 Classes of Members** ..... 5
**Section 5.2 Qualifications of Members** ..... 5
**Section 5.3 Admission of Members** ..... 5
**Section 5.4 Voting Rights** ..... 5
**Section 5.5 Transfer of Membership** ..... 5
**Section 5.6 Obligations of Members** ..... 5
**Section 5.7 Withdrawal** ..... 5
**Section 5.8 Budget and Fees** ..... 6

**ARTICLE 6 MEETING OF MEMBERS** ..... 6

**Section 6.1 Annual Meeting of Members** ..... 6
**Section 6.2 Special Meetings of Members** ..... 6
**6.2.1 Who May Call.** ..... 6
**6.2.2 Notice of Meeting.** ..... 7
**6.2.3 Time and Place of Special Meetings.** ..... 7
**6.2.4 Notice Requirements; Business Limited.** ..... 7
**Section 6.3 Notice Requirements** ..... 7
**6.3.1 To Whom Given.** ..... 7
**6.3.2 When Given; Contents.** ..... 7
**6.3.3 Waiver of Notice; Objections.** ..... 7
**Section 6.4 Record Date; Determining Members Entitled to Notice and Vote** ..... 8
**Section 6.5 Right to Vote; Act of Members** ..... 8
**6.5.1 Special Voting Requirements.** ..... 8
**6.5.2 Change of Dues Structure.** ..... 8
**6.5.3 Fractional Voting Alternative** ..... 8
**Section 6.6 Quorum** ..... 8
**Section 6.7 Action by Written Ballot** ..... 9
**Section 6.8 Action by Electronic Communication** ..... 9
**Section 6.9 Member Representatives; Proxies** ..... 9
**6.9.1. Designation of Representative.** ..... 9
**6.9.2 Authorization** ..... 9
**6.9.3 Effective Period.** ..... 9
**6.9.4 Revocation.** ..... 9
**Section 6.10 Reimbursement of Member Expenses** ..... 10

**ARTICLE 7 BOARD OF DIRECTORS** ..... 10

**Section 7.1 Management of Corporation** ..... 10
**Section 7.2 Voting** ..... 10
**Section 7.3 Composition of the Board of Directors** ..... 10
**Section 7.4 Terms of Directors** ..... 11
**Section 7.5 Compensation and Reimbursement** ..... 11
**Section 7.6 Vacancies** ..... 11
**Section 7.7 Meetings; Notice** ..... 11
**Section 7.8 Quorum** ..... 12

**Section 7.9 Board Action** ..... 12
**Section 7.10 Action Without a Meeting** ..... 12
**Section 7.11 Action by Electronic Communication** ..... 12

**ARTICLE 8 ORGANIZATIONAL GROUPS** ..... 12

**Section 8.1 Establishment of Organizational Groups** ..... 12
**Section 8.2 Reimbursement** ..... 13

**ARTICLE 9 OFFICERS** ..... 13

**Section 9.1 Officers** ..... 13
**Section 9.2 Election and Term of Office** ..... 13
**Section 9.3 Removal** ..... 13
**Section 9.4 Vacancies** ..... 13
**Section 9.5 President** ..... 13
**Section 9.6 Secretary** ..... 14
**Section 9.7 Treasurer** ..... 14

**ARTICLE 10 CERTIFICATES OF MEMBERSHIP** ..... 14

**Section 10.1 Certificates of Membership** ..... 14

**ARTICLE 11 BOOKS AND RECORDS** ..... 15

**Section 11.1 Books and Records; Financial Statements** ..... 15

**ARTICLE 12 FISCAL YEAR** ..... 15

**Section 12.1 Fiscal Year** ..... 15

**ARTICLE 13 TRANSFER OF ASSETS** ..... 15

**Section 13.1 Member Approval Not Required** ..... 15
**Section 13.2 Member approval; when required** ..... 15

**ARTICLE 14 CONTRACTS, CHECKS, DEPOSITS, AND GIFTS** ..... 15

**Section 14.1 Contracts** ..... 15
**Section 14.2 Checks, Drafts, or Orders** ..... 16
**Section 14.3 Deposits** ..... 16
**Section 14.4 Gifts** ..... 16

**ARTICLE 15 INSURANCE, LIABILITY, AND INDEMNIFICATION** ..... 16

**Section 15.1 Insurance** ..... 16
**Section 15.2 Limitations on Liability** ..... 16
**Section 15.3 Indemnification** ..... 16

**ARTICLE 16 PARTICIPATION BY REGULATORY PARTICIPANTS** ..... 18

**Section 16.1 Regulatory Participants** ..... 18

**ARTICLE 17 PARTICIPATION BY FEDERAL POWER MARKETING ADMINISTRATIONS** 18

**Section 17.1 Power Marketing Administrations Participation.** ..... 18
**Section 17.2 Failure of Congress to Make Appropriations.** ..... 18

**Section 17.3 Inapplicability of Bylaws to Congressional Members and Delegates ..... 19**
**Section 17.4 No Solicitation of Power Marketing Administration Participation ..... 19**
**Section 17.5 Provisions Applicable to the Corporation ..... 19**
**17.5.1. No Discrimination ..... 19**
**17.5.2. Contract Work Hours and Safety Standards Act ..... 19**
**17.5.3. Imprisonment ..... 19**
**ARTICLE 18 HEARINGS AND DISPUTE RESOLUTION ..... 19**
**Section 18.1 Hearings ..... 19**
**Section 18.2 Disputes ..... 20**
**ARTICLE 19 AMENDMENT OF BYLAWS ..... 20**
**Section 19.1 Changes to Bylaws ..... 20**

**BYLAWS**
**OF THE**
**MIDWEST RELIABILITY ORGANIZATION, INC.**
**a Delaware nonprofit corporation**
**(the "Corporation")**

## ARTICLE 1
## DEFINITIONS

**Section 1.1 Adjunct Member.** "Adjunct Member" means an entity that: (1) is not eligible to belong to an Industry Sector; (2) has a material interest in reliability issues in the Corporation's Region and (3) becomes an Adjunct Member of the Corporation.

**Section 1.2 Affiliate.** "Affiliate" means with respect to any entity, any other entity that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such entity, as determined in the sole discretion of the board of directors of the Corporation. For this purpose, "control" may be presumed by the direct or indirect ownership of 50 percent or more of the outstanding voting capital stock or other equity interests having ordinary voting power. A member of, or owner of an interest in, a transmission company that FERC has found meets the independence requirements for a regional transmission organization shall not be deemed to be an affiliate of such transmission company.

~~**Section 1.1**~~

~~**Section 1.2**~~**Section 1.3 Bulk-Power System.** "Bulk-Power System" means (1) facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and (2) electric energy from generation facilities needed to maintain transmission system reliability. The term does not include facilities used in local distribution of electric energy. The term Bulk-Power System shall be interpreted consistently with any definition given by NERC.

~~**Section 1.3**~~**Section 1.4 Bulk-Power System Users**. "Bulk-Power System Users" means any entity that sells, purchases, or transmits electric power over the Bulk-Power System, or that owns, operates or maintains facilities or control systems that are part of the Bulk-Power System.

**Section 1.5 Canadian Utilities.** "Canadian Utilities" means any government-owned utility serving in Canada within the Corporate Region.

~~**Section 1.4**~~**Section 1.6 Corporation.** "Corporation" means Midwest Reliability Organization, Inc.

~~**Section 1.5**~~**Section 1.7 Cooperative.** "Cooperative" means an entity serving within the Corporate Region which generally has the following characteristics: (1) private independent electric utility; (2) incorporated under the laws of ~~the~~ a state~~s~~ in which they operate; (3) established to provide electric service to its members; (4) owned by the

Formatted: Font: Not Bold, No underline

Formatted: List Paragraph

consumers they serve; and (5) governed by a board of directors elected from the membership. This sector includes Generation and Transmission Cooperatives and Public Utility Districts.

~~Section 1.6~~Section 1.8 **Corporate Region**. "Corporate Region" means the geographic area boundaries of the Bulk-Power Systems as designated by the then current delegation agreement.~~each of the Members.~~

~~Section 1.7~~Section 1.9 **FERC**. "FERC" means the Federal Energy Regulatory Commission.

~~Section 1.8~~Section 1.10 **Federal Power Marketing Agencies.** "Federal Power Marketing Agencies" means agencies of the federal government created to market power within the Corporate Region.

~~Section 1.9~~Section 1.11 **Generators and Power Marketers.** "Generators and Power Marketers" means any entity that owns or operates more than 50 MW of generation in the Corporate Region, or is a power marketer doing business in the Corporate Region, and that does not qualify also to participate in the Investor-Owned Utility, Cooperative, Municipal Utility, Federal Power Marketing Agency or Canadian Utilities Sector.

Section 1.12 **Good Utility Practice.** "Good Utility Practice" means any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the Corporate R~~r~~egion.

**Formatted:** List Paragraph

~~Section 1.10~~Section 1.13 **Independent Director.** "Independent Director" means an individual who is not (1) an officer or employee of the Corporation; (2) a member, director, officer or employee of a Member or Adjunct Member of the Corporation; (3) a director, officer or employee of any Registered Entity on the NERC registry; or (4) reasonably perceived as having a direct financial interest in the outcome of a decision by the board of directors and who (a) does not have any other relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and (b) meets any additional ~~the~~ requirements of independence established by the board of directors.

~~Section 1.11~~Section 1.14 **Industry Sector(s)**. "Industry Sector or Sector(s)" means a group of Bulk-Power System Users in the Corporate Region with substantially similar reliability interests, as determined by these Bylaws. The Industry Sectors shall include the following: (1) Transmission System Operators; (2) Generators and Power Marketers; (3) Investor Owned Utilities (4) Cooperatives; (5) Municipal Utilities (6) Federal Power Marketing Agencies; and (7) Canadian Utilities.~~; (8) Large End Use Electricity Customers; and (9) Small End Use Load Electricity Customers.~~

~~Section 1.12~~Section 1.15 **Investor Owned Utility.** "Investor Owned Utility" means any for-profit entity that owns and operates a distribution system and serves end-use load within the Corporate Region pursuant to an obligation to serve under state, federal or provincial law, including a default service obligation, or pursuant to a tariff by which the entity offers service to the general public.

~~**Section 1.13 Large End-Use Electricity Customers.** "Large End-Use Electricity Customers" means any entity in North America with: (1) at least one service delivery taken at 50 kV or higher (radial supply or facilities dedicated to serve customers) that is not purchased for resale; or (2) any single end-use customer with an average aggregated service load (not purchased for resale) of at least 50,000 MWh annually, excluding cogeneration or other back feed to the serving utility. This sector also includes organizations are represent the interest of such entities~~.

**Formatted:** Indent: Left: 0.75", No bullets or numbering

**Section 1.16 Member**. "Member" means any entity eligible to belong to an Industry Sector(s) that becomes a Member of the Corporation.~~a member of the Corporation~~.

~~**Section 1.14**~~**Section 1.17 Membership.** "Membership" includes Adjunct Members and Members of the Corporation. Membership in the Corporation is voluntary and does not affect NERC registration.

**Formatted:** Font: Not Bold, No underline

~~**Section 1.15**~~**Section 1.18 Municipal Utilities.** "Municipal Utilities" means any electric utility that is owned by a state or municipality, or group of municipalities, including a joint action agency, which serves within the Corporate Region.

~~**Section 1.16**~~**Section 1.19 NERC**. "NERC" means the North American Electric Reliability Corporation or a successor entity.

~~**Section 1.17**~~**Section 1.20 Person**. "Person" means any natural person, corporation, Cooperative, partnership, association, or other private or public entity.

~~**Section 1.18**~~**Section 1.21 Public Utility District.** "Public Utility District" means an entity that is a state political or governmental subdivision which owns electric generation, transmission and distribution facilities and that was created and organized under state statutes that are different than those that Municipal Utilities in the same state are created and organized under.

~~**Section 1.19**~~**Section 1.22 Regional Entity**. "Regional Entity" means an entity having authority pursuant to a delegation agreement with NERC and pursuant to any agreements or laws relating to the Corporation's functions in Canada.

~~**Section 1.20**~~**Section 1.23 Regulatory Participant.** "Regulatory Participant" means any state or provincial regulatory agencies in the Corporate Region exercising authority over the rates, terms or conditions of electric service of an entity other than itself within the Corporate Region, or the planning, siting, construction or operation of electric facilities of an entity other than itself within the Corporate Region, as well as any representatives of FERC, regional advisory bodies that may be established by FERC, or representatives of any federal regulator or agency.

~~**Section 1.21**~~**Section 1.24 Reliability Standard**. "Reliability Standard" means a NERC reliability standard, duly in effect, under the rules, regulations and laws governing such standards, to provide for reliable operation of the Bulk-Power System.

~~**Section 1.22 Small End-Use Electricity Customers**. "Small End-Use Electricity Customers" means: (1) any person or entity within North America that takes service below 50 kV; or (2) any single end-use customer with an average aggregated service load (not purchased for resale) of less than 50,000 MWh annually, excluding cogeneration or other back-feed to the serving utility. This sector also includes organizations (including state consumer advocates) that represent the interests of such entities~~.

Formatted: Indent: Left: 0.25", No bullets or numbering

~~**Section 1.23**~~**Section 1.25 Transmission System Operator.** "Transmission System Operator" means an entity that operates or controls operation of high voltage transmission facilities within the Corporate Region (more than 300 miles of transmission at 100 kV or greater) that does not also own, operate or control generation within the Corporate Region, except to the limited extent permitted by FERC for independent transmission organizations with respect to ancillary service obligations. Transmission System Operators include: (1) regional transmission organizations; (2) independent transmission providers; (3) independent system operators; (4) and transmission-only companies.

~~**Section 1.24 Regional Planning Entity.** "Regional Planning Entity" means an entity which is subject to Reliability Standards in the MRO Region and shall be eligible for MRO membership.~~

Formatted: Indent: Left: 0.25", No bullets or numbering

## ARTICLE 2
## PURPOSE

**Section 2.1 Purpose.** The Corporation will be a Regional Entity within the NERC structure for the purpose of preserving and enhancing electric service reliability, adequacy and security in the Corporate Region and other interconnected regions for the benefit of all end-users of electricity and all entities engaged in providing electric services in the Corporate Region~~, with due regard for safety, environmental protection and economy of service.~~.

**Section 2.2 Activities.** In support and furtherance of its purpose, the Corporation's responsibilities shall include, but not be limited to: (1) proposing Reliability Standards, including regional variances or regional Reliability Standards required to maintain and enhance electric service reliability, adequacy and security in the Corporate Region; (2) assessing compliance with and enforcing Reliability Standards, to the extent authorized by applicable agreements and/or law governing a Member's membership in the Corporation; (3) conducting investigations and data analysis on disturbances, system events, and related matters; (4) conducting long-term assessments of reliability within the Corporate region; and (5) other related activities.

**Section 2.3 Not-for-Profit Corporation.** The Corporation is operated as a Delaware non-stock, nonprofit corporation and is organized pursuant to the general corporation law of the State of Delaware.

## ARTICLE 3
## POWERS

**Section 3.1 Powers.** The Corporation shall have the power to engage in any lawful act or activity for which corporations may be organized under the general corporation law of the State of Delaware, subject to any limitations provided in applicable federal, provincial or state law or in the Corporation's certificate of incorporation or these Bylaws.

## ARTICLE 4
## OFFICES

**Section 4.1 Offices.** The principal office of the Corporation shall be located initially within the Corporate Region, at such location as the board of directors may from time to time determine, giving consideration to the total cost to the Corporation and convenience of travel for staff, Members and Regulatory Participants. Once established, the principal office may remain in its location, even if outside the Corporate Region.

## ARTICLE 5
## MEMBERS

**Section 5.1 Classes of Members.** The Corporation shall have ~~one~~ two classes of m~~M~~embers, Adjunct Members and Members.~~.~~

~~**Section 5.1**~~**Section 5.2 Affiliates.** Each Affiliate of a Member or Adjunct Member may separately be a Member or Adjunct Member, respectively.

~~**Section 5.2 Qualifications of Members.** A Member may be any entity eligible to be a member of an Industry Sector.~~

Formatted: Indent: Left: 0.75", No bullets or numbering

**Section 5.3 Admission of Members and Adjunct Members.** New Members and Adjunct Members may join the Corporation upon submittal of an application, in a form approved by the president, and payment of the fees as established by the Corporation. An entity applying to be a ~~The~~ Member shall designate the Industry Sector to which it belongs. A Member may change its Industry Sector designation once each calendar year, by providing notice to the president at least sixty (60) days prior to the beginning of such year. The president shall review a membership application and may request demonstration by the applicant that it qualifies for membership in a particular Industry Sector or as an Adjunct Member. Any dispute with respect to a Member's or Adjunct Member's qualifications ~~for a particular Sector~~ shall be resolved by the board of directors. The president shall have authority to approve an application for membership, subject to review by the board of directors.

**Section 5.4 Voting Rights.** Each Member in good standing shall be entitled to one vote in the Industry Sector in which it is a Member, on matters submitted to a vote of Members. A Member delinquent in payment of its dues, fees or other obligations to the Corporation shall not be entitled to a vote.

**Section 5.5 Transfer of Membership.** ~~A Member of the Corporation may not transfer its m~~Membership or a right arising from such membership may not be transferred except to any Person succeeding to all or substantially all of the assets of the Member or Adjunct Member. The president shall have authority to approve any such transfer, subject to review by the board of directors.

**Section 5.6 Obligations of Members and Adjunct Members.** By applying for Membership ~~and becoming a Member of the Corporation, each~~ the ~~Member acknowledges~~ applicant acknowledges that it is authorized and agrees to comply with, Reliability Standards to the extent such standards are applicable, and other obligations ~~of Members of the Corporation~~ as set forth in these Bylaws or duly adopted by the board of directors in order to achieve the purposes of the Corporation. Such obligations include but are not limited to requirements to provide data and information needed to perform the functions of the Corporation and the payment of dues and any authorized penalties, including penalties and other obligations resulting from violations of Reliability Standards assessed in accordance with NERC rules and subject to applicable regulatory approval~~.~~

**Section 5.7 Withdrawal.** ~~A Member may w~~Withdrawal from Membership ~~participation~~ in the Corporation is accomplished by providing written notice to the president of the Corporation of such intent to withdraw~~al~~. Such notice shall specify a date, not earlier than thirty (30) days from the date of notice, on which the withdrawal shall become effective; provided however, that any such withdrawing Member or Adjunct Member shall remain liable to the Corporation for any fees, dues, sanctions or obligations to the Corporation incurred during the entity's Membership~~while it was a Member~~, as well as its share of any obligations of the Corporation for the current fiscal year. If notice is given after October 1 of the current calendar year, the entity ~~Member~~ will also be liable for any fees and dues included in the budget for the following fiscal year. ~~.~~ Section 5.7 does not apply to any fees, dues, or obligations associated with the Corporation responsibilities under delegated authority from NERC or applicable regulatory authorities.

**Section 5.8 Budget and Fees.** The board of directors shall propose to NERC a budget for delegated functions exercised by the Corporation pursuant to a delegation agreement with NERC and pursuant to any agreements or laws relating to the Corporation's functions in Canada. For those functions outside the scope of the Corporation's delegated functions, the board of directors may from time to time fix the amount of dues, assessments, or fees, if any, and determine the methods of collection, consistent with this Section, the regulations of applicable government authorities, and any resolutions duly adopted by the Members under Section 6.5.2 of these Bylaws.

## ARTICLE 6
## MEETING OF MEMBERS

**Section 6.1 Annual Meeting of Members.** The Members shall hold an annual meeting each calendar year ~~. The annual meeting of the Members shall be held~~ in December~~of each year~~, or at such other time specified by the board of directors, in order for Members to review the proposed budget and operations of the Corporation. Adjunct Members may attend the annual meeting of Members. The Membership~~All Members~~ shall be

entitled to at least thirty (30) days prior written notice of the annual meeting. At or before the annual meeting of Members: (1) each Industry Sector shall elect the successor(s), if any, for any director(s) from ~~their~~ its Industry Sector whose term will expire before the next annual meeting of the Members, provided however, that any Industry Sector may elect a successor director representing such Industry Sector prior to such annual meeting, in accordance with the provisions of this Article 6, in which case the election of such succeeding director(s) shall be reported to the Corporation at such annual meeting; (2) the Members will elect Independent Directors, if any; (3) the president and treasurer shall report on the activities and financial condition of the Corporation~~:~~; and (~~4~~3) the Members shall consider and act upon such other matters as may be raised, consistent with the notice of the annual meeting. The failure to hold an annual meeting in accordance with these Bylaws shall not affect the validity of a corporate action.

**Section 6.2 Special Meetings of Members.**

**6.2.1 Who May Call.** Special meetings of the Members may be called by six (6) members of the board of directors, by the president or if at least 10 percent of the Members sign, date, and deliver to the president one or more written demands for a special meeting describing the purpose for which it is to be held. Adjunct Members may attend special meetings of the Members.

**6.2.2 Notice of Meeting.** Within fifteen (15) days after receipt of a demand for a special meeting from Members, the president shall cause a special meeting to be called and held on notice to the Membership no later than forty-five (45) days after receipt of the demand. If the president fails to cause a special meeting to be called and held as required by this section, a Member making the demand may call the meeting by giving notice under Section 6.3. In either event, notice of the meeting and the costs of the meeting shall be at the expense of the Corporation.

**6.2.3 Time and Place of Special Meetings.** Special meetings of the Members shall be held at a location designated by the president or the board of directors. If a special meeting is demanded by the Members, the meeting must be held in a facility of appropriate size to accommodate the Membership and at a location within the Corporate Region.

**6.2.4 Notice Requirements; Business Limited.** The notice of a special meeting must contain a statement of the purposes of the meeting. The business transacted at a special meeting is limited to the purposes stated within the notice of the meeting. Business transacted at a special meeting that is not included in those stated purposes is voidable by or on behalf of the Corporation, unless 90 percent of the Members entitled to vote were present at such meeting or have waived notice of the meeting under Section 6.3.

**Section 6.3 Notice Requirements.**

**6.3.1 To Whom Given.** Notice of meetings of Members must be given to the Membership ~~every Member~~ as of the record date determined under Section 6.4. If the meeting is an adjourned meeting and the date, time and place of the meeting were

announced at the time of the adjournment, notice is not required unless a new record date for the adjourned meeting is or must be fixed.

**6.3.2 When Given; Contents.** In all cases where a specific minimum notice period has not been fixed by law or these Bylaws, the notice must be given at least five (5) days before the date of a meeting and not more than sixty (60) days before the date of a meeting. The notice must contain the date, time and place of the meeting, and an agenda of the matters upon which action may be taken at the meeting. A matter may be added to the agenda of a meeting at the meeting upon the affirmative vote of three-quarters (3/4) of the Sector votes cast on a motion to amend the agenda.

**6.3.3 Waiver of Notice; Objections.** A Member may waive notice of a meeting of Members. A waiver of notice by a Member entitled to notice is effective whether given before, at, or after the meeting, and whether given in writing, or by attendance. Attendance by a Member at a meeting is a waiver of notice of that meeting, unless the Member objects at the beginning of the meeting to the transaction of business because the meeting is not lawfully called or convened, or objects before a vote on an item of business because the item may not lawfully be considered at that meeting and does not participate in the consideration of the item at that meeting.

**Section 6.4 Record Date; Determining Members Entitled to Notice and Vote.** The board of directors may fix a date not more than forty (40) days before the date of a meeting of Members as the date for the determination of the Membership entitled to notice of ~~and entitled to vote at~~ the meeting and the Members entitled to vote at the meeting. When a date is so fixed, only the Membership ~~Members~~ on that date is~~are~~ entitled to notice and only the Members are entitled to vote at a meeting of the M~~m~~embers ~~membership meeting~~ unless the board of directors fixes a new date for determining the right to notice and to vote, which it must do if the meeting is adjourned to a date more than sixty (60) days after the record date for determining Membership entitled to notice of the original meeting.

**Section 6.5 Right to Vote; Act of Members.** Voting of the Members shall be by Industry Sector, with each Industry Sector entitled to the same number of votes as it has directors on the board. If a quorum is present, except with respect to amendments of these Bylaws, modification of a budget approved by the board of directors or termination of the Corporation, the affirmative vote of the majority of the Industry Sector votes present and entitled to vote, which must also be a majority of the required quorum, is the act of the Members, however, in no event will an action of the Members be valid where the action was passed solely by the vote of Members from two Industry Sectors or defeated solely by the vote of Members in a single Industry Sector. ~~.~~ Within an Industry Sector, each Member within the Industry Sector shall have one vote. If a quorum is present with respect to the Industry Sector, the affirmative vote of the majority of the Members within the Industry Sector present and entitled to vote, which must also be a majority of the required quorum, is the act of the Industry Sector. All of the Industry Sector's votes shall be cast consistent with the act of the Industry Sector unless the Industry Sector adopts a fractional voting alternative as described in Section 6.5.3.

**6.5.1 Special Voting Requirements.** In order to amend the Bylaws, except as provided in Article ~~20~~ 19 with respect to the board of directors, two-thirds (2/3) of the Industry Sector votes cast shall be required to approve the proposed amendment. The substance of the proposed amendment must be contained in the notice of the meeting at which the vote will be taken; provided that, the Members may modify a proposed bylaw amendment at the meeting. Two-thirds (2/3) of the Industry Sector votes cast shall be required to approve any proposal to terminate the Corporation. To the extent practicable, all Member votes may be held electronically under such terms and conditions as are approved by the Board.

**6.5.2 Change of Dues Structure.** The Members may change the dues structure by resolution with an affirmative vote of two-thirds (2/3) of the Industry Sector votes cast.

**6.5.3 Fractional Voting Alternative**. An Industry Sector may adopt fractional voting. Member votes for and against are converted to percentages and multiplied by the applicable sector weight. Abstentions are not counted and do not impact the voting tabulation.

**Section 6.6 Quorum.** A quorum for a meeting of Members is a majority of the Industry Sector votes entitled to vote at the meeting. A quorum for a meeting of an Industry Sector is a majority of the Members of that Industry Sector present or voting electronically on matters before the meeting. A quorum is necessary for the transaction of business at a meeting of Members. If a quorum is not present, a meeting may be adjourned from time to time for that reason by the Industry Sectors or Members then represented or present.

**Section 6.7 Action by Written Ballot.** An action that may be taken at a regular or special meeting of Members may be taken without a meeting if the Corporation mails or delivers a written ballot to every Member entitled to vote on the matter. Whenever possible, voting by Industry Sectors for directors shall be by written ballot preceding the regular meeting of the Members.

Approval by written ballot is valid only when the number of votes cast by ballot equals or exceeds the quorum required to be present at a meeting authorizing the action, and the number of approvals equals or exceeds the number of votes that would be required to approve the matter at a meeting at which the total number of votes cast was the same as the number of votes cast by ballot.

Solicitations for votes by written ballot must: (1) indicate the number of responses needed to meet the quorum requirements; (2) state the percentage of approvals necessary to approve the matter; and (3) specify the time by which a ballot must be received by the Corporation in order to be counted. A written ballot may not be revoked.

**Section 6.8 Action by Electronic Communication.** Any vote of an Industry Sector to elect a board member or for any other purpose may be taken by electronic means without a meeting or during a meeting. In addition, a conference among Members by a means of communication through which the participants may simultaneously hear each other during the conference is a meeting of the Members, if the same notice is given of the

conference as would be required for a meeting and if the number of persons participating in the conference is a quorum. Participation in a meeting by this means is personal presence at the meeting. A Member may participate in a meeting of the Members by a means of communication through which the Member, other persons participating, and all persons physically present at the meeting may simultaneously communicate with each other during the meeting. Participation in a meeting by this means constitutes personal presence at the meeting.

**Section 6.9 Member Representatives; Proxies.**

**6.9.1. Designation of Representative.** Each year prior to the annual meeting of Members, each Member shall designate the individual authorized to vote on Corporation matters on behalf of the Member, in accordance with procedures approved by the board. A Member may change such designation at any time.

**6.9.2 Authorization.** The individual designated to vote by a Member may appoint a proxy to vote or otherwise act for the Member at any meeting or electronically by signing an appointment form either personally or by an attorney so designated by the Member.

**6.9.3 Effective Period.** An appointment of a proxy is effective when received by the secretary or other officer or agent authorized to tabulate votes. An appointment is valid for the next regular or specially scheduled meeting or electronic ballot. However, a proxy is not valid for more than sixty (60) days from its date of execution.

**6.9.4 Revocation.** An appointment of a proxy is revocable by the Member. Appointment of a proxy is revoked by the person appointing the proxy by signing and delivering to the secretary or other officer or agent authorized to tabulate proxy votes. This may be done either in a written statement that the appointment of the proxy is revoked or a subsequent appointment form.

**Section 6.10 Reimbursement of Membership Meeting Expenses.** The Corporation will be under no obligation to reimburse the Membership ~~Members~~ for expenses associated with their attendance at regular or special Member meetings.

## ARTICLE 7
## BOARD OF DIRECTORS

**Section 7.1 Management of Corporation.** Consistent with these Bylaws, the business and affairs of the Corporation shall be managed by or under the direction of a board of directors. The duties of the board will include, but will not be limited to the following: (1) govern the Corporation and oversee all of its activities; (2) establish and oversee all organizational groups; (3) oversee accomplishment of all functions set forth in any delegation or other agreement with NERC or any governmental entity related to development, monitoring and enforcement of Reliability Standards and related matters; (4) approve, revise and enforce Member data and information requirements and related confidentiality requirements; (5) establish and approve an annual budget; (6) represent the Corporation in legal and regulatory proceedings; (7) hire the president. The board of directors shall select a chair and a vice-chair

from among the members of the board. The board may establish board committees as appropriate.

**Section 7.2 Voting.** Each director shall have one vote with respect to decisions of the board.

**Section 7.3 Composition of the Board of Directors.** The board of directors shall consist of nineteen (19) board members, seventeen (17) of the board members are elected by the Industry Sectors as follows:

**(a).** Three (3) directors from the Transmission System Operators Sector;

**(b).** Two (2) directors from the Generators and Power Marketers Sector;

**(c).** Five (5) directors from the Investor Owned Utilities Sector;

**(1).** Two (2) directors must be from utilities with less than 3,000 megawatts of end-use load.

**(2).** Three (3) directors must be from utilities with 3,000 megawatts or greater of end-use load.

**(d).** Two (2) directors from the Cooperative Sector;

**(e).** Two (2) directors from the Municipal Utilities Sector;

**(f).** One (1) director from the Federal Power Marketing Agencies; and

**(g).** Two (2) directors from the Canadian Utilities Sector provided that both directors are not residents of the same Canadian province.~~;~~

~~**(h).** One (1) director from the Large End-Use Electricity Customers Sector, and~~

~~**(i).**~~**(h).** ~~One (1) director from the Small End-Use Electricity Customers Sector~~.

Provided, however, that in choosing directors from an Industry ~~S~~sector, there shall not be more directors from a particular Industry Sector than there are actual Members of such Industry Sector.

Members shall endeavor to select directors from Industry Sectors among individuals holding senior management or officer positions in Member organizations, and with a view toward ensuring geographic representation of the Corporate Region on the board. No two directors elected from Industry Sectors may be employees of a single Member or employees of Members

that are affiliates. To the extent the Members of an Industry Sector do not select a director, that director position shall remain vacant until a director is selected by the Industry Sector.

Two (2) board members shall be Independent Directors nominated by the board of directors and elected by the members. Independent Directors shall have relevant senior management expertise and experience to the reliable operation of the bulk power system in North America.

Formatted: Font: (Default) Times New Roman, 12 pt

**Section 7.4 Terms of Directors.** ~~The~~All directors will serve three-year, staggered terms~~except. The~~ initial term for one of the ~~s of the~~ independent directors shall be two (2) years. ~~initial directors will be selected by lot at the first meeting of the board of directors~~. Any director elected by an Industry Sector may be removed at any time by the affirmative vote of two-thirds (2/3) of the Members of the Industry Sector selecting such director. An Independent Director may be removed by the affirmative vote of two-thirds of the remaining directors. Any director may be removed by the board of directors for non-attendance of three consecutive board meetings.

**Section 7.5 Compensation and Reimbursement.** All d~~D~~irectors shall have the right to reimbursement by the Corporation of their actual reasonable travel expenses to board meetings or when specifically selected to represent the Corporation at a business meeting. The board of directors may set reasonable compensation for the service provided by Independent Directors; directors elected by an Industry Sector shall not receive compensation.

**Section 7.6 Vacancies.** If a director resigns, dies, changes corporate affiliation or is removed during the term of office for which elected, the directorship shall thereupon be vacant and shall be filled as soon as practicable and in accordance with the same procedures that the directorship had previously been ~~by the Members of the respective Sector, by written or electronic ballot in accordance with the procedures and requirements set forth above. The~~filled. The successor director ~~elected by the Members of the Sector~~ shall hold office for the unexpired term of the director replaced.

**Section 7.7 Meetings; Notice.** An annual meeting of the board of directors shall be held without notice immediately following the annual meeting of the Members to elect the chair and vice-chair of the board of directors for the next year. In addition, regular meetings may be held at such time or times as fixed by the board of directors. Schedules of regular meetings of the board of directors shall be published by the secretary and provided to the ~~all~~ Membership. Special meetings of the board of directors may be called by the president or by three directors and shall be held at the principal office of the Corporation, or such other place within the Corporate Region as determined by the president after consultation with the board. Notice of the date, time, and place of a special meeting shall be given by the secretary not less than seven (7) days prior to the meeting by mail, telegram, or electronic communication to each director and the Membership. Except as necessary to discuss personnel issues, litigation or similar sensitive or confidential matters, all meetings of the board of directors shall be open to Membership and other interested persons.

**Section 7.8 Quorum.** A majority of the directors currently holding office is a quorum for the transaction of business.

**Section 7.9 Board Action.** The act of a majority of the directors present at a meeting at which a quorum is present shall be the act of the board of directors, unless the act of a greater number is required by law or these Bylaws, however, in no event will an action of the Directors be valid where the action was passed solely by the vote of Directors from two Industry Sectors or defeated solely by the vote of Directors in an single Industry Sector.

**Section 7.10 Action Without a Meeting.** An action required or permitted to be taken at a board of directors meeting may be taken by written action, including electronic communication, signed by all of the directors of the Corporation. The written action is effective when signed by the required number of directors, unless a different effective time is provided in the written action.

**Section 7.11 Action by Electronic Communication.** A conference among directors by a means of communication through which the directors may simultaneously hear each other during the conference is a board meeting if the same notice is given of the conference as would be required for a meeting and if the number of directors participating in the conference is a quorum. Participation in a meeting by this means constitutes personal presence at the meeting. A director may participate in a board meeting by any means of communication through which the director, other directors participating, and all directors physically present at the meeting may simultaneously communicate with each other during the meeting.

## ARTICLE 8
## ORGANIZATIONAL GROUPS

**Section 8.1 Establishment of Organizational Groups.** The board of directors shall establish such organizational groups, consisting of committees, sub-committees, task forces and working groups of Members, as are necessary and appropriate to accomplish the purposes of the Corporation in an efficient and cost-effective manner. All organizational groups shall be subject to the direction and control of the board. The membership of organizational groups shall be determined based upon experience, expertise and geographic diversity and to the extent practicable shall include balanced representation of the Sectors.

The board of directors shall establish policies and procedures governing the creation of organizational groups, how they are populated, how voting and related matters are conducted and how they may be reorganized. The board shall conduct a review of all organizational groups of the Corporation on a periodic basis to ensure that the business of the Corporation is conducted in an efficient, cost-effective manner and shall include a statement of its conclusions and resulting actions in the board's report to Members at the annual meeting.

**Section 8.2 Reimbursement.** Consistent with the annual budget of the Corporation, the Board may authorize reimbursement by the Corporation for members of organizational groups (other than committees of the whole) of reasonable travel, meals and lodging expenses for organizational group meetings or for representation of the Corporation

at other business meetings as authorized by the board. The board of directors may authorize reimbursement for persons acting on behalf of the Corporation, as necessary in the interests of the Corporation.

## ARTICLE 9
## OFFICERS

**Section 9.1 Officers.** The officers of the Corporation shall include a president, a secretary, a treasurer and any other officers as may be elected or appointed in accordance with the provisions of this Article. The board of directors may elect or appoint any additional officers that it deems desirable, such other officers to have the authority and perform the duties prescribed by the board of directors. The same individual may hold any number of offices, except that of president.

**Section 9.2 Election and Term of Office.** The officers of the Corporation shall be elected by the board of directors. Each officer shall hold office at the pleasure of the board. New officers may be created and the positions filled at any meeting of the board of directors. Each elected officer shall hold office until his or her successor has been duly elected and qualified.

**Section 9.3 Removal.** Any officer elected by the board of directors may be removed by the affirmative vote of two-thirds (2/3) of the board of directors whenever in its judgment the best interests of the Corporation would be served thereby, but such removal shall be without prejudice to the contract rights, if any, of the officer so removed. Election or appointment of an officer or agent shall not of itself create contract rights.

**Section 9.4 Vacancies.** A vacancy in any office because of death, resignation, removal, disqualification, or otherwise, may be filled by the board of directors for the unexpired portion of the term.

**Section 9.5 President.** The president shall be, in the discretion of the board of directors, either an employee of or contractor to the Corporation and shall:

**(a).** be the ~~principal~~ chief executive ~~and operating~~ officer of the Corporation;

**(b).** sign certificates of membership, and may sign any deeds, mortgages, deeds of trust, notes, bonds, contracts or other instruments authorized by the board of directors to be executed, except in cases in which the signing and execution thereof shall be expressly delegated by the board of directors or by these Bylaws to some other officer or agent of the Corporation; and

**(c).** perform all duties incident to the office of president and chief executive officer, including hiring and directing staff, and such other duties as may be prescribed by the board of directors from time to time.

**Section 9.6** **Secretary.** The secretary shall ensure that the following duties are carried out:

**(a).** the minutes of the meetings of the Members and of the board of directors are recorded;

**(b).** all required notices are duly given in accordance with these Bylaws and as required by law;

**(c).** a register of the current names and addresses of the Membership ~~all Members~~ is maintained;

**(d).** a complete copy of the A~~a~~rticles of I~~i~~ncorporation and Bylaws of the Corporation containing all amendments thereto are kept on file at all times, which copies shall always be open to the inspection of ~~any~~the Membership; and

**(e).** generally perform all duties incident to the office of secretary and such other duties as may be prescribed by the board of directors from time to time.

**Section 9.7** **Treasurer.** The treasurer shall be responsible for the following activities:

**(a).** maintain custody of all funds and securities of the Corporation;

**(b).** receipt of and the issuance of receipts for all monies due and payable to the Corporation and for deposit of all such monies in the name of the Corporation in such bank or banks or financial institutions as shall be selected by the board of directors; and

**(c).** generally perform all duties incident to the office of treasurer and such other duties as may be prescribed by the board of directors from time to time.

## ARTICLE 10
## CERTIFICATES OF MEMBERSHIP

**Section 10.1** **Certificates of Membership.** The board of directors may provide for the issuance of certificates evidencing ~~m~~Membership in the Corporation, which certificates shall be in such form as may be determined by the board.

## ARTICLE 11
## BOOKS AND RECORDS

**Section 11.1** **Books and Records; Financial Statements.** The Corporation shall keep at its registered office correct and complete copies of its ~~a~~Articles of Incorporation and Bylaws, accounting records, and minutes of meetings of Members, board of directors, and committees having any of the authority of the board of directors. A Member or Adjunct Member, or the agent or attorney of a Member or Adjunct Member, may inspect all books and records and voting agreements for any proper purpose at any reasonable time. Upon

request, the Corporation shall give the Member or Adjunct Member a statement showing the financial result of all operations and transactions affecting income and surplus during its last annual accounting period and a balance sheet containing a summary of its assets and liabilities as of the closing date of the accounting period.

## ARTICLE 12
## FISCAL YEAR

**Section 12.1 Fiscal Year.** The fiscal year of the Corporation shall be the calendar year.

## ARTICLE 13
## TRANSFER OF ASSETS

**Section 13.1 Member Approval Not Required.** The Corporation, by affirmative vote of the board of directors, may sell, lease, transfer, or dispose of its property and assets in the usual and regular course of its activities and grant a security interest in all or substantially all of its property and assets in the usual and regular course of its activities, upon those terms and conditions and for those considerations, which may be money, securities, or other instruments for the payment of money or other property, as the board of directors considers expedient, in which case no Member approval is required.

**Section 13.2 Member Aapproval; Wwhen Rrequired.** The Corporation may sell, lease, transfer, or dispose of all or substantially all of its property and assets, including its good will, not in the usual and regular course of its activities, upon those terms and conditions and for those considerations, which may be money, securities, or other instruments for the payment of money or other property, as the board of directors considers expedient only when approved at a regular or special meeting of the Members by the affirmative vote of two-thirds (2/3) of all the Members. Notice of the meeting must be given to the Membership. The notice must state that a purpose of the meeting is to consider the sale, lease, transfer, or other disposition of all or substantially all of the property and assets of the Corporation.

## ARTICLE 14
## CONTRACTS, CHECKS, DEPOSITS, AND GIFTS

**Section 14.1 Contracts.** The board of directors may authorize any officer or officers or agent or agents of the Corporation, in addition to the officers so authorized by these Bylaws, to enter into any contract or execute and deliver any instrument in the name of and on behalf of the Corporation, and such authority may be general or may be confined to specific instances.

**Section 14.2 Checks, Drafts, or Orders.** All checks, drafts, or orders for the payment of money, notes, or other evidences of indebtedness issued in the name of the Corporation, shall be signed by such officer or officers or agent or agents of the Corporation, and in such manner as shall from time to time be determined by resolution of the board of directors.

**Section 14.3 Deposits.** All funds of the Corporation shall be deposited to the credit of the Corporation in such banks, trust companies, or other depositories as the board of directors may select.

**Section 14.4 Gifts.** The board of directors may accept on behalf of the Corporation any contribution, gift, bequest, or devise for any purpose of the Corporation.

## ARTICLE 15
## INSURANCE, LIABILITY, AND INDEMNIFICATION

**Section 15.1 Insurance**. The president is authorized to procure insurance to protect the Corporation against damages arising out of or related to any directive, order, procedure, action or requirement of the Corporation.

**Section 15.2 Limitations on Liability**. No director, officer, agent, employee or other representative of the Corporation, and no corporation or other business organization that employs a director of the Corporation, or any director, officer, agent or employee of such corporation or other business organization, shall be personally liable to the Corporation or any Member or Adjunct Member of the Corporation for any act or omission on the part of any such director, officer, agent, employee, or other representative of the Corporation, which was performed or omitted in good faith in his official capacity as a director, officer, agent, employee or other representative of the Corporation. However, this release of liability shall not operate to release such a director, officer, agent, employee or other representative of the Corporation from any personal liability resulting from willful acts or omissions knowingly or intentionally committed or omitted by him in breach of these Bylaws for improper personal benefit or in bad faith.

**Section 15.3 Indemnification**. It is the intent of the Corporation to indemnify its directors, officers, agents, employees, or other representatives to the maximum extent allowed by law consistent with these Bylaws. Each director, officer, agent, employee, or other representative of the Corporation shall be indemnified by the Corporation against all judgments, penalties, fines, settlements, and reasonable expenses, including legal fees, incurred by him as a result of, or in connection with, any threatened, pending or completed civil, criminal, administrative, or investigative proceedings to which he may be made a party by reason of his acting or having acted in his official capacity as a director, officer, agent, employee, or representative of the Corporation, or in any other capacity which he may hold at the request of the Corporation, as its representative in any other organization, subject to the following conditions:

**(a).** Such director, officer, agent, employee, or other representative must have conducted himself in good faith and, in the case of criminal proceedings, he must have had no reasonable cause to believe that his conduct was unlawful. When acting in his official capacity, he must have reasonably believed that his conduct was in the best interests of the Corporation, and, when acting in any other capacity, he must have reasonably believed that his conduct was at least not opposed to the best interests of the Corporation.

**(b).** If the proceeding was brought by or on behalf of the Corporation, however, indemnification shall be made only with respect to reasonable expenses referenced above. No indemnification of any kind shall be made in any such proceeding in which the director, officer, agent, employee, or other representative shall have been adjudged liable to the Corporation.

**(c).** In no event, however, will indemnification be made with respect to any described proceeding which charges or alleges improper personal benefit to a director, officer, agent, employee, or other representative and where liability is imposed upon him on the basis of the receipt of such improper personal benefit.

**(d).** In order for any director, officer, agent, employee, or other representative to receive indemnification under this provision, he shall vigorously assert and pursue any and all defenses to those claims, charges, or proceedings covered hereby which are reasonable and legally available and shall fully cooperate with the Corporation or any attorneys involved in the defense of any such claim, charges, or proceedings on behalf of the Corporation.

**(e).** No indemnification shall be made in any specific instance until it has been determined by the Corporation that indemnification is permissible in that specific case, under the standards set forth herein and that any expenses claimed or to be incurred are reasonable. These two (2) determinations shall be made by a majority vote of at least a quorum of the board consisting solely of directors who were not parties to the proceeding for which indemnification or reimbursement of expenses is claimed. If such a quorum cannot be obtained, a majority of at least a quorum of the full board, including directors who are parties to said proceeding, shall designate a special legal counsel who shall make said determinations on behalf of the Corporation. In making any such determinations, the termination of any proceeding by judgment, order, settlement, conviction, or upon plea of nolo contendre, or its equivalent, shall not, in and of itself, be conclusive that the person did not meet the standards set forth herein.

**(f).** Any reasonable expenses, as shall be determined above, that have been incurred by a director, officer, agent, employee, or other representative who has been made a party to a proceeding as defined herein, may be paid or reimbursed in advance upon a majority vote of a quorum of the full board, including those who may be a party to the same proceeding. However, such director, officer, agent, employee, or other representative shall have provided the Corporation with (i) a written affirmation under oath that he, in good faith, believes that he has met the conditions for indemnification herein, and (ii) a written undertaking that he shall repay any amounts advanced, with interest accumulated at a reasonable rate, if it is ultimately determined that he has not met such conditions. In addition to the indemnification and reimbursement of expenses provided herein, the president shall purchase insurance that would protect the Corporation, its directors, officers, agents, employees, or other representatives against reasonably expected liabilities and expenses arising out of the performance of their duties for the Corporation.

## ARTICLE 16
## PARTICIPATION BY REGULATORY PARTICIPANTS

**Section 16.1** **Regulatory Participants**. All Regulatory Participants shall be entitled to be Adjunct Members.~~and be provided with the same rights to notice of and participation in meetings or other activities of the Corporation as are provided to Members, but shall not have the right to vote.~~

Formatted: Font: Bold

## ARTICLE 17
## PARTICIPATION BY FEDERAL POWER MARKETING ADMINISTRATIONS

**Section 17.1** **Power Marketing Administrations Participation.** The participation by the United States through Federal power marketing administrations (PMA) in the Corporation is subject in all respects to acts of Congress and to regulations of the Secretary of Energy established thereunder. This reservation includes, but is not limited to, the statutory limitations upon the authority of the Secretary of Energy to submit disputes arising hereunder to arbitration. In the event of a conflict between this Article 1~~8~~7 and any other Article of these Bylaws, this Article 17~~8~~ shall have precedence with respect to the application of these Bylaws to the United States.

**Section 17.2** **Failure of Congress to Make Appropriations.** Where activities provided for herein extend beyond the current fiscal year, continued expenditures by the Unite~~d~~ds States are contingent upon Congress making the necessary appropriations required for the continued performance of the obligations of the PMA hereunder. In case such appropriations are not made, the Corporation and its Members hereby release the PMA from its contractual obligations under these Bylaws and from all liability due to the failure of Congress to make such appropriation.

**Section 17.3** **Inapplicability of Bylaws to Congressional Members and Delegates.** No member of or delegate to Congress shall be admitted to any share or part of, or to any benefit that may have arisen from, these Bylaws, but this restriction shall not be construed to extend to these Bylaws if made with a corporation or company for its general benefit.

**Section 17.4** **No Solicitation of Power Marketing Administration Participation.** The Corporation and its Membership warrant that no Person or selling agency has been employed or retained to solicit or secure participation by a PMA in the Corporation upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting *bona fide* employees or *bona fide* established commercial or selling agencies maintained by the Membership for the purpose of securing business. For breach or violation of this warranty, a PMA shall have the right to annul its participation in the Corporation without liability or, in its discretion, to deduct from its dues or fees the full amount of such commission, percentage, brokerage, or contingent fee.

**Section 17.5** **Provisions Applicable to the Corporation.** For the purpose of this Section 1~~8~~7.5 the term "Contract" shall mean these Bylaws and the term "Contractor" shall

mean the Corporation. During the performance of this Contract, the Contractor agrees to the following provisions.

**17.5.1.** **No Discrimination.** Section 202 of the Executive Order No. 11246, 30 Fed. Reg. 12319 (1965), as amended by Executive Order No. 12086, 43 Fed. Reg. 46501 (1978), which provides, among other things, that the Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin, is incorporated by reference in the Contract.

**17.5.2.** Contract Work Hours and Safety Standards Act. The Contract, to the extent that it is of a character specified in Section 103 of the Contract Work Hours and Safety Standards Act, 40 U.S.C. § 329 (1986) (the "Act"), is subject to the provisions of the Act, 40 U.S.C. §§ 327-333 (1986), and to regulations promulgated by the Secretary of Labor pursuant to the Act.

**17.5.3.** Imprisonment. The Contractor agrees not to employ any person undergoing sentence of imprisonment in performing the Contract except as provided by 18 U.S.C. § 4082(c)(2) and Executive Order 11755, 39 Fed. Reg. 779 (1973).

## ARTICLE 18
## HEARINGS AND DISPUTE RESOLUTION

**Section 18.1** **Hearings.** Except as otherwise provided in applicable agreements and/or law governing ~~a Member's m~~Membership in the Corporation, the Corporation shall be responsible for making final determinations regarding whether a Registered Entity has violated a Reliability Standard in accordance with the NERC Rules of Procedure.

**Section 18.2** **Disputes.** Dispute resolution procedures will be established by the board of directors for disputes between Members, or between a Member and the Corporation, for issues arising under these Bylaws. Determinations related to violations of Reliability Standards will be resolved in accordance with the NERC Rules of Procedure. Except as otherwise provided in applicable agreements and/or law governing a Member's membership in the corporation.

## ARTICLE 19
## AMENDMENT OF BYLAWS

**Section 19.1** **Changes to Bylaws.** The power to adopt, amend or repeal these Bylaws is vested in the Members as set forth in Section 6.5 of these Bylaws; provided however, upon the passage of any federal reliability legislation and/or the adoption of related requirements and procedures by NERC or any regulatory agency with jurisdiction, the board or directors shall have authority upon a two-thirds (2/3) vote to amend these Bylaws as necessary and appropriate to comply with such law and related requirements.

Agenda Item 8
Board of Trustees Meeting
May 9, 2012

**Proposed Renewal Agreement Between**
**SERC Reliability Corporation and Florida Reliability Coordinating Council**
**And Between**
**SERC Reliability Corporation and Southwest Power Pool, Inc.**
**For SERC to Act as Compliance Enforcement Authority for the**
**FRCC and SPP Registered Functions**

## Action

(1) Approve proposed renewal agreements between SERC and FRCC and between SERC and SPP for SERC to continue to act as the Compliance Enforcement Authority (CEA) for the FRCC Registered Functions and the SPP Registered Functions, respectively. (2) Approve conforming amendments to Exhibit A to NERC-FRCC Delegation Agreement and Exhibit A to the NERC-SPP Delegation Agreement, respectively, to reference the SERC-FRCC and SERC-SPP renewal CEA Agreements.

## Background

In 2010, the Board and FERC approved agreements between SERC and FRCC and between SERC and SPP pursuant to which SERC would act as the CEA for the FRCC and SPP Registered Functions. FRCC, through its Member Services Division, is registered as the Reliability Coordinator (RC) and the Planning Authority (PA) in the FRCC Region. SPP is registered as an RC, PA, Interchange Authority (IA), Reserve Sharing Group (RSG), Transmission Planner (TP) and Transmission Service Provider (TSP) in the SPP Regional Entity (SPP RE) Region. The current CEA Agreements went into effect in July 2010 and expire December 31, 2012. In approving the CEA Agreements, FERC required that they not renew automatically at the end of the initial term, but rather that SERC-FRCC and SERC-SPP be required to request approval from NERC and FERC to renew the CEA Agreements if they wanted the Agreements to continue beyond December 31, 2012.

SERC-FRCC and SERC-SPP have now requested approval from NERC to renew the CEA Agreements, and have submitted proposed renewal agreements that contain a number of revisions from the current CEA Agreements. Significant revisions (and non-revisions) in the proposed renewal Agreements are described below. Attachments 1 and 2 are, respectively, clean and redlined (against the current Agreement) versions of the proposed SERC-FRCC renewal CEA Agreement. Attachments 3 and 4 are, respectively, clean and redlined (against the current Agreement) versions of the proposed SERC-SPP renewal CEA Agreement. As discussed below, NERC staff recommends approval of the proposed SERC-FRCC and SERC-SPP renewal CEA Agreements.

Consideration of renewal of the CEA Agreements requires review of whether the Agreements are working as intended to provide effective compliance monitoring and enforcement services with respect to FRCC's and SPP's compliance with the Reliability Standards applicable to their respective Registered Functions. SERC conducted an on-site audit of the FRCC RC and PA functions for compliance with applicable operating/planning standard, and an on-site audit of the FRCC RC function for compliance with applicable CIP standards, in January and February 2012. SERC has also requested and received from FRCC periodic self-certifications and periodic data submittals concerning compliance with Reliability Standards applicable to the FRCC Registered Functions, in accordance with posted schedules. With respect to SPP, SERC conducted an onsite compliance audit in September 2010 of the IA, PA, RC, RSG, TP and TSP functions, covering 78 requirements of Reliability

Standards. SERC has also requested and received from SPP periodic self-certifications and periodic data submittals concerning compliance with Reliability Standards applicable to the SPP Registered Functions, in accordance with posted schedules. SERC is processing open enforcement actions involving the Registered Functions that were identified before SERC became the CEA, as well as any compliance items that have arisen since July 2010. NERC Compliance Operations has monitored SERC's performance as the CEA for the FRCC and SPP Registered Functions and believes that SERC has been providing appropriate coverage for its CEA responsibilities. NERC staff recommends renewal of the SERC-FRCC and SERC-SPP CEA arrangements.

### Discussion of Terms of Proposed SERC-FRCC and SERC-SPP renewal CEA Agreements

SERC, FRCC and SPP have proposed renewal CEA Agreements that are revised in a number of respects from the current Agreements. Among other things, the revisions eliminate some provisions that are no longer needed, and they modify other provisions based on the Parties' experience. NERC staff reviewed drafts of the proposed renewal Agreements and recommended several changes that have been incorporated in the Agreements being presented to the Board for approval. Therefore, NERC staff recommends approval of the proposed renewal CEA Agreements. The following discussion describes principal revisions from the current Agreements, as well as key provisions of the current Agreements that are not substantively revised. The two proposed renewal Agreements are substantially identical, and therefore the following discussion applies to both renewal Agreements.

- Section 1, "Responsibilities of SERC," has not been substantively revised. This Section sets forth SERC's responsibilities under the Agreement as CEA.
- Section 4 of the current Agreement, which concerned the transfer of CEA responsibilities to SERC at the time the current Agreement went into effect in July 2010, is deleted as no longer needed.
- Section 4 (Section 5 in the current Agreement), concerning Compensation to SERC, has been revised to reflect a more simplified billing arrangement to which the Parties have agreed. Under the current Agreements, an estimated cost for the year is determined as part of the business plan and budget process and then billed by SERC to FRCC or SPP in four quarterly installments during the year, with a reconciliation of payments to actual costs incurred by SERC during the year taking place within 90 days following the end of the year and any true-up amounts being reflected in the Parties' budgets and assessments for the second following year. Under the renewal Agreements, SERC will continue to prepare, as part of the business plan and budget process, estimates of the costs (including an appropriate allocation of SERC's general and administrative (G&A) costs) it will incur during the upcoming year to act as CEA for the FRCC and SPP Registered Functions. These estimated costs will be excluded from SERC's assessments to Load-Serving Entities (LSEs) in the SERC Region and will be included in FRCC's and SPP's assessments to LSEs in their respective Regions. However, under the renewal Agreements, SERC will bill FRCC and SPP on a monthly basis for the costs actually incurred in the preceding month (including an appropriate allocation of SERC's G&A costs) in acting as the CEA for the FRCC and SPP Registered Functions. Therefore, no year-end reconciliation and true-up of billed amounts to actual costs incurred will be needed, and the provisions relating to the year-end reconciliation are deleted in the renewal Agreements.
- However, to ensure a reconciliation of budgeted to actual costs is provided for purposes of reporting to FERC in the required annual true-up filings, a new Section 4(c) is added in the renewal Agreements, specifying that the Parties shall record their costs and revenues associated with performance of the Agreement at the same level

of line-item detail as is used for their budgets that are submitted to NERC, and that each party shall include in its annual true-up report submitted to NERC a separate section showing the Party's actual and budgeted costs and revenues associated with performance of the Agreement, with an explanation of variances.

- Section 5 concerning Term and renewals provides that the renewal Agreement shall have a term from the Effective Date (expected to be January 1, 2013, subject to NERC and FERC approvals) to December 1, 2017, i.e., 5 years. The Agreement shall renew automatically for a Renewal Term of 5 years unless either Party gives written notice of termination at least 12 months prior to the end of the Term ending December 31, 2017. Additionally, during a Renewal Term, either Party may terminate the Agreement on 12 months written notice.
- Further, Section 5 provides that the Agreement shall not automatically renew if NERC gives written notice to the Parties, at least 12 months prior to the end of the Term or any Renewal Term, that the Parties should request NERC's approval to renew the Agreement, in which case the Parties shall submit a request to renew the Agreement to NERC at least nine 9 months prior to the end of such Term or Renewal Term. Thus, while obtaining NERC approval is not automatically required for all renewals of the Agreement, this provision gives NERC the ability to step in, by notice given at least 12 months prior to automatic renewal, and require the Parties to make a submission to NERC justifying renewal.

**Conforming Agreements to NERC-FRCC and NERC-SPP Delegation Agreements**

Exhibit A to each of the current NERC-FRCC and NERC-SPP Delegation Agreements state that SERC performs certain CEA services within the FRCC Region and SPP RE Region, respectively, and references the current SERC-FRCC and SERC-SPP CEA Agreements, respectively. Conforming amendments will need to be made to these provisions in the NERC-FRCC and NERC-SPP Delegation Agreements to reference the renewal CEA Agreements, by date.

**AGREEMENT BETWEEN
SERC RELIABILITY CORPORATION AND
FLORIDA RELIABILITY COORDINATING COUNCIL, INC.
CONCERNING COMPLIANCE MONITORING AND ENFORCEMENT
OF FRCC REGISTERED FUNCTIONS**

THIS AGREEMENT ("Agreement") made effective as of January 1, 2013 (the "Effective Date"), is entered into between the SERC Reliability Corporation ("SERC"), an organization established to develop and enforce Reliability Standards, and Florida Reliability Coordinating Council, Inc. ("FRCC"), an organization established to develop and enforce Reliability Standards within the geographic boundaries identified on **Exhibit A** to the Amended and Restated Delegation Agreement between the North American Electric Reliability Corporation ("NERC") and FRCC (referred to herein as the "FRCC Region"), and for other purposes. SERC and FRCC may be individually referred to herein as "Party" or collectively as "Parties."

## RECITALS

I. SERC is a party to a certain Amended and Restated Delegation Agreement with NERC (the "NERC-SERC Delegation Agreement"), which has been approved by the Federal Energy Regulatory Commission ("Commission") and which states in Section 6 thereof, in pertinent part, that SERC shall enforce Reliability Standards (including Regional Reliability Standards) through a compliance monitoring and enforcement program set forth in Exhibit D to the NERC-SERC Delegation Agreement.

II. FRCC is a party to a certain Amended and Restated Delegation Agreement with NERC (the "NERC-FRCC Delegation Agreement"), which has been approved by the Commission and which states in Section 6 thereof, in pertinent part, that FRCC shall enforce Reliability Standards (including Regional Reliability Standards) within the FRCC Region through a compliance monitoring and enforcement program set forth in Exhibit D to the NERC-FRCC Delegation Agreement.

III. FRCC, through its Member Services Division ("FRCC Member Services Division"), currently performs the Reliability Coordinator ("RC") and Planning Authority ("PA")

functions (as “Reliability Coordinator” and “Planning Authority” are defined in the NERC *Glossary of Terms Used in Reliability Standards*) for the FRCC Region, and is registered on the NERC *Compliance Registry* as the RC and a PA for the FRCC Region. In this Agreement, the RC and PA functions are sometimes referred to as the “FRCC Registered Functions,” and FRCC Member Services Division is referred to as the “Registered Entity” with respect to its performance of the FRCC Registered Functions.

IV. To avoid any appearance of a lack of independence in compliance monitoring and enforcement for FRCC Registered Functions, SERC and FRCC hereby agree, subject to approval by NERC and the Commission, that SERC should assume responsibility for the Compliance Monitoring and Enforcement Program (“CMEP”) with respect to the FRCC Registered Functions within the FRCC Region, and that the terms on which responsibility for the CMEP with respect to the FRCC Registered Functions within the FRCC Region shall be performed by SERC should be memorialized in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the Parties, intending to be bound, agree as follows:

**1. Responsibilities of SERC**.

(a) Beginning on the Effective Date, SERC will perform all responsibilities of the Compliance Enforcement Authority (“CEA”) as specified in the NERC uniform CMEP, Appendix 4C to the NERC Rules of Procedure (“ROP”), as amended from time to time (the “NERC Uniform CMEP”), within the FRCC Region with respect to the FRCC Registered Functions.

(b) Without limiting the scope of SERC’s responsibilities as stated in subsection 1(a) of this Agreement, SERC agrees to perform the following activities:

(1) Administer all compliance processes in Section 3.0 of the NERC Uniform CMEP with respect to the FRCC Registered Functions, in accordance with the NERC

Annual CMEP Implementation Plan required by Section 4.1 of the NERC Uniform CMEP for each year. If at any time the FRCC Registered Functions change, SERC will monitor the Registered Functions in effect at that time.

(2) Lead all compliance audits and compliance investigations ("CI") of the FRCC Registered Functions.

(i) SERC shall conduct a scheduled compliance audit of the FRCC Registered Functions in accordance with the frequency established by NERC in the CMEP. As FRCC is currently registered, SERC will audit the RC function at least once every three (3) years and shall conduct a scheduled compliance audit of the PA function at least once every six (6) years.

(ii) Scheduled compliance audits of the FRCC Registered Functions shall be in accordance with the NERC Annual CMEP Implementation Plan.

(iii) As required by the NERC ROP, all compliance audits of the FRCC RC function shall be conducted on site. Spot checks or other compliance monitoring methods may be completed off site.

(3) Determine if Notice of Possible Violations and Notices of Alleged Violations, as those terms are defined in the CMEP, and proposed penalties or sanctions should be issued to FRCC Member Services Division with respect to the FRCC Registered Functions, and calculate or determine any proposed penalties or sanctions in accordance with the NERC *Sanction Guidelines*.

(4) Administer processes as specified in Section 5.0 of the NERC Uniform CMEP with respect to any Alleged Violations, as that term is defined in the CMEP, and proposed penalties or sanctions issued with respect to the FRCC Registered Functions.

(5) Review and approve proposed Mitigation Plans submitted by a FRCC Registered Function, and monitor implementation and completion of approved Mitigation Plans, in accordance with Section 6.0 of the NERC Uniform CMEP.

(6) Determine if Remedial Action Directives should be issued to FRCC Member Services Division with respect to a FRCC Registered Function, and issue such Remedial Action Directives if determined to be necessary, in accordance with Section 7.0 of the NERC Uniform CMEP.

(7) Conduct settlement negotiations for any violations of Reliability Standards discovered by SERC per this agreement, if requested by FRCC Member Services Division, in accordance with Section 5.4 of the NERC Uniform CMEP.

(8) Provide due process hearings for the FRCC Registered Functions with respect to notices of Alleged Violations, proposed penalties and sanctions, disputed Mitigation Plans, and disputed Remedial Action Directives, as requested by FRCC Member Services Division, in accordance with Attachment 2, Hearing Procedures, to the NERC Uniform CMEP.

(c) Compliance audit teams, CI teams, and review teams for self-certifications, spot check responses, periodic data submittals, self-reports, exception reports and complaints submitted by or relating to a FRCC Registered Function shall not include any employees of FRCC, but may include employees of other Regional Entities, NERC and Commission staff members. Provided, that in accordance with Section 2(c) of this Agreement, SERC may request and obtain technical advice and assistance from FRCC employees, acting in a consulting or advisory capacity, who are not employed in a FRCC Registered Function.

**2. Responsibilities of FRCC.**

(a) FRCC Member Services Division shall establish and designate to SERC a

primary compliance contact for each FRCC Registered Function, in accordance with Section 2.0 of the NERC Uniform CMEP.

(b) FRCC Member Services Division shall timely respond to and comply with all notices, requests for information and schedules issued by SERC as the CEA pursuant to the NERC Uniform CMEP.

(c) FRCC shall provide subject-matter experts ("SMEs") as requested by SERC to provide technical advice and assistance to SERC, in SERC's discretion, in carrying out the CMEP with respect to the FRCC Registered Functions. A SME provided by FRCC may be an employee of FRCC or an industry volunteer, provided, that no SME provided by FRCC may be employed by FRCC in a FRCC Registered Function. The Parties agree that SMEs provided by FRCC shall only be used by SERC in a consulting or advisory capacity to provide expertise and advice on technical matters pertaining to the FRCC Registered Functions, shall have no decision-making responsibilities with respect to any compliance processes or compliance enforcement matters, and shall not be a member of any compliance audit team, CI team, or review team for self-certifications, spot check responses, periodic data submittals, self-reports, exception reports or complaints submitted by or relating to a FRCC Registered Function.

(d) FRCC Regional Entity Division shall reimburse SERC the actual, reasonable costs of SERC's performance of the CMEP with respect to the FRCC Registered Functions, including an appropriate allocation of SERC's general and administrative costs, in accordance with Section 4 of this Agreement.

(e) Except as provided in this Agreement, FRCC Regional Entity Division shall continue to perform all CMEP responsibilities in the FRCC Region in accordance with the NERC-FRCC Delegation Agreement.

**3. Disposition of Penalties Paid by FRCC with respect to a FRCC Registered Function.**

Any penalties to be paid by FRCC Member Services Division for violations of Reliability Standards by a FRCC Registered Function shall be transmitted to NERC, to be used by NERC as a general offset to NERC's budget for its activities as the Electric Reliability Organization under the Federal Power Act for the following year, in accordance with the *NERC Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards*.

**4. Compensation to SERC for Performance of CMEP With Respect to the FRCC Registered Functions.**

(a) Compensation, In its annual Business Plans and Budgets submitted to NERC and the Commission for years within the term of this Agreement, SERC shall identify a portion of its CMEP budget (the "FRCC Registered Functions CMEP Budget"), including an appropriate allocation of SERC's general and administrative costs, that is attributable to the performance of the CMEP with respect to the FRCC Registered Functions. SERC's allocation of resources to the performance of its obligations under this Agreement and the corresponding budgeted amount shall be subject to approval by NERC and by the Commission as part of their overall approval of SERC's business plan and budget. The amount of SERC's proposed FRCC Registered Functions CMEP Budget shall also be included in FRCC's business plan and budget that is submitted to NERC and to the Commission for approval. The amount of the FRCC Registered Functions CMEP Budget for each year, as approved by the Commission, shall (i) be excluded from the calculation of SERC's assessments to Load-Serving Entities ("LSEs") in the SERC Region for each such year, and (ii) be included in the calculation of FRCC's assessments to LSEs in the FRCC Region for each such year.

(b) Billing SERC will submit an itemized invoice to FRCC on or before the twentieth ($20^{th}$) day of each month for actual costs (including an appropriate allocation of

SERC's general and administrative costs) incurred during the previous month for work undertaken pursuant to this Agreement. FRCC shall pay SERC within sixty (60) days for the expenses SERC has incurred and for which it has submitted an invoice. SERC shall track the actual costs of the work as it is performed, and should actual costs be on track to exceed budgeted amounts, SERC shall notify the FRCC of this at the next billing cycle.

(c) True-up Reports. The Parties shall record their costs and revenues associated with the performance of this Agreement at the same level of line-item detail as is used for their budgets that are submitted to NERC for approval by NERC and by the Commission. Each Party shall include in its annual true-up report submitted to NERC a separate section showing the Party's actual and budgeted amounts of costs and revenues associated with performance of this Agreement for the year with explanations of variances.

**5. Term, Renewal Term, Termination and Early Termination.**

(a) Term. The Term of this Agreement shall be from the Effective Date of this Agreement to December 31, 2017.

(b) Renewal Terms. This Agreement shall automatically renew without notice or other action by either Party at the end of the Term specified in (a) or any Renewal Term for a Renewal Term of five (5) years; provided, however, that either Party may give written notice to the other Party at least twelve months prior to the end of the Term specified in (a) of an intent not to renew this Agreement; and provided, further, that during a Renewal Term either Party may terminate this Agreement by providing a written notice to the other Party at least twelve months prior to the desired termination date. Additionally, this Agreement shall not automatically renew if NERC gives written notice to the Parties, at least twelve (12) months prior to the end of the Term or Renewal Term, that the Parties should request NERC's approval to renew the Agreement, in which case the Parties shall submit a request to renew the Agreement to NERC at least nine (9) months prior to the end of such Term or Renewal Term.

In the event of a termination of this Agreement SERC shall continue to perform the CMEP role with respect to the FRCC Registered Functions within the FRCC Region in accordance with the terms of this Agreement and the NERC Uniform CMEP until another entity acceptable to NERC and the Commission is selected to take, and takes, responsibility for performance of the CMEP role with respect to the FRCC Registered Functions. In the event of termination of the Agreement, SERC will work with FRCC to transfer responsibility for any compliance activities in progress to the entity that will be the CEA for the FRCC Member Services Division.

(c) Early Termination. Notwithstanding the provisions of subsections 5(a) and 5(b) of this Agreement, Early Termination of this Agreement shall occur in the following events:

(i) If FRCC or SERC ceases to be a Regional Entity, this Agreement shall terminate as of the end of the calendar year that FRCC or SERC ceases to be a Regional Entity.

(ii) If FRCC ceases to be a Registered Entity in the FRCC Region, this Agreement shall terminate as of the last date that FRCC ceases to be a Registered Entity for any FRCC Registered Function.

(iii) If both Parties agree in writing to terminate this Agreement at any time.

(iv) If any provision of this Agreement, or the application thereof to any person, entity or circumstance, is held by a court or regulatory authority of competent jurisdiction to be invalid, void, or unenforceable, or if a modification or condition to this Agreement is imposed by the Commission, the Parties shall endeavor in good faith to negotiate such amendment or amendments to this Agreement as will restore the relative benefits and obligations of the signatories under this Agreement immediately prior to such holding, modification or condition. If either Party finds such holding, modification or condition unacceptable and the Parties are unable to renegotiate a mutually acceptable

resolution, either Party may unilaterally terminate this Agreement. Such termination shall be effective as of one (1) year following written notice by either Party to the other Party, or at such other time as may be mutually agreed by SERC and FRCC.

(vi) In the event of the Early Termination of this Agreement, SERC will transfer responsibility for completion of all CMEP processes that are in progress as of the date of Early Termination, or within a reasonable time thereafter as mutually agreed to by the Parties, to the entity that will be the CEA for FRCC Member Services Division.

(d) In the event of termination or Early Termination of this Agreement, the costs associated with the wind-down of this Agreement and transfer of any compliance processes in progress to the new CEA are payable by FRCC to SERC in accordance with Section 4 of this Agreement.

**6. Representations of the Parties.**

(a) Representations of FRCC. FRCC represents and warrants to SERC that (i) FRCC is and shall remain during the term of this Agreement validly existing and in good standing pursuant to all applicable laws relative to this Agreement, (ii) no applicable law, contract or other legal obligation prevents FRCC from executing this Agreement and fulfilling its obligations hereunder, (iii) entry into this Agreement by FRCC is duly authorized under its governing corporate documents, and (iv) the person or persons executing this Agreement on behalf of FRCC are duly authorized to do so.

(b) Representations of SERC. SERC represents and warrants to FRCC that (i) SERC is and shall remain during the term of this Agreement validly existing and in good standing pursuant to all applicable laws relative to this Agreement, (ii) no applicable law, contract or other legal obligation prevents SERC from executing this Agreement and fulfilling its obligations hereunder, (iii) entry into this Agreement by SERC is duly authorized under its

governing corporate documents, and (iv) the person or persons executing this Agreement on behalf of SERC are duly authorized to do so.

**7. Limitation of Liability.**

SERC and FRCC agree not to sue each other or their directors, officers, employees, and persons serving on their committees and subgroups based on any act or omission of any of the foregoing in the performance of duties pursuant to this Agreement or in conducting activities under the authority of Section 215 of the Federal Power Act, other than seeking a review of such action or inaction by the Commission. SERC and FRCC shall not be liable to one another for any damages whatsoever, other than for non-payment of or failure to remit compensation due pursuant to Section 4 of this Agreement, including without limitation, direct, indirect, incidental, special, multiple, consequential (including attorneys' fees and litigation costs), exemplary, or punitive damages arising out of or resulting from any act or omission associated with the performance of SERC's or FRCC's responsibilities under this Agreement or in conducting activities under the authority of Section 215 of the Federal Power Act, except to the extent that SERC or FRCC is found liable for gross negligence or intentional misconduct, in which case SERC or FRCC shall not be liable for any indirect, incidental, special, multiple, consequential (including without limitation attorneys' fees and litigation costs), exemplary, or punitive damages.

**8. No Third Party Beneficiaries.**

Nothing in this Agreement shall be construed to create any duty to, any standard of care with reference to, or any liability to any third party.

**9. Confidentiality.**

During the course of the Parties' performance under this Agreement, a Party may receive Confidential Information, as defined in Section 1500 of the NERC ROP. Except as set forth herein, the Parties agree to keep in confidence and not to copy, disclose, or distribute any

Confidential Information or any part thereof, without the prior written permission of the issuing Party, unless disclosure is required by subpoena, law, or other directive of a court, administrative agency, or arbitration panel, in which event the recipient hereby agrees to provide the Party that provided the Confidential Information with prompt notice of such request or requirement in order to enable such issuing Party to (a) seek an appropriate protective order or other remedy, (b) consult with the recipient with respect to taking steps to resist or narrow the scope of such request or legal process, or (c) waive compliance, in whole or in part, with the terms of this Section 9. In the event a protective order or other remedy is not obtained or the issuing Party waives compliance with the provisions, the recipient agrees to furnish only that portion of the Confidential Information which the recipient's counsel advises is legally required and to exercise best efforts to obtain assurance that confidential treatment will be accorded to such Confidential Information. In addition, each Party shall ensure that its officers, trustees, directors, employees, subcontractors and subcontractors' employees, and agents to whom Confidential Information is exposed are under obligations of confidentiality that are at least as restrictive as those contained herein. This confidentiality provision does not prohibit reporting and disclosure by SERC, as the CEA with respect to the FRCC Registered Functions, in accordance with Section 8.0 and other provisions of the NERC Uniform CMEP.

**10. Amendment.**

Neither this Agreement nor any of the terms hereof, may be amended unless such amendment is made in writing and signed by the Parties.

**11. Dispute Resolution.**

In the event a dispute arises under this Agreement between SERC and FRCC, representatives of the Parties with authority to settle the dispute shall meet and confer in good faith in an effort to resolve the dispute in a timely manner. In the event the designated representatives are unable to resolve the dispute within thirty (30) days or such other period as

the Parties may agree upon, each Party shall have all rights to pursue all remedies, except as expressly limited by the terms of this Agreement. Neither Party shall have the right to pursue other remedies until the Dispute Resolution procedures of this Section 11 have been exhausted. This Section 11 shall not apply to enforcement actions or Remedial Action Directives by SERC, as the CEA, against a FRCC Registered Function, or hearings conducted at the request of FRCC as the Registered Entity for a FRCC Registered Function, pursuant to the NERC Uniform CMEP.

**12. Notices.**

Whether expressly so stated or not, all notices, demands, requests, and other communications required or permitted by or provided for in this Agreement shall be given in writing to a Party at the address set forth below, or at such other address as a Party shall designate for itself in writing in accordance with this Section, and shall be delivered by hand or reputable overnight courier:

| If to SERC: | If to FRCC: |
|---|---|
| SERC Reliability Corporation<br>2815 Coliseum Centre Drive<br>Suite 500<br>Charlotte, NC 28217 | Florida Reliability Coordinating Council<br>1408 N Westshore Blvd<br>Suite 1002<br>Tampa, FL 33607 |
| Attn: Marisa Sifontes<br>Facsimile: 704-357-7914 | Attn: Reva Maskewitz<br>Facsimile: 813-289-5646 |

Provided, that the foregoing notice provision shall not be applicable to notices and other communications between SERC, as the CEA, and FRCC as the Registered Entity for a FRCC Registered Function, which notices and other communications shall instead be provided or transmitted in accordance with the NERC Uniform CMEP.

**13. Governing Law.**

When not in conflict with or preempted by federal law, this Agreement will be governed

by and construed in accordance with the laws of Delaware without giving effect to the conflict of law principles thereof. The Parties recognize and agree not to contest the exclusive or primary jurisdiction of the Commission to interpret and apply this Agreement; provided however, that if the Commission declines to exercise or is precluded from exercising jurisdiction of any action arising out of or concerning this Agreement, such action shall be brought in any state or federal court of competent jurisdiction in Delaware. All Parties hereby consent to the jurisdiction of any state or federal court of competent jurisdiction in Delaware for the purpose of hearing and determining any action not heard and determined by the Commission.

**14. Headings.**

The headings and captions in this Agreement are for convenience of reference only and shall not define, limit, or otherwise affect any of the terms or provisions hereof.

**15. Entire Agreement.**

This Agreement constitutes the entire agreement, and supersedes all prior agreements and understandings, both written and oral, among the Parties with respect to the subject matter of this Agreement.

**16. Execution of Counterparts.**

This Agreement may be executed in counterparts and each counterpart shall have the same force and effect as the original.

**NOW, THEREFORE,** the Parties have caused this Agreement to be executed by their duly authorized representatives, to be effective as of the Effective Date.

| | |
|---|---|
| SERC RELIABILITY CORPORATION | FLORIDA RELIABILITY COORDINATING COUNCIL |
| By: _____ | By: _____ |
| Name: R. Scott Henry | Name: Sarah Rogers |
| Title: President and CEO | Title: President and CEO |
| Date: _____ | Date: _____ |

**AGREEMENT BETWEEN**
**SERC RELIABILITY CORPORATION ~~and~~AND**
**FLORIDA RELIABILITY COORDINATING COUNCIL, INC.**
**CONCERNING COMPLIANCE MONITORING AND ENFORCEMENT**
**OF FRCC REGISTERED FUNCTIONS**

THIS AGREEMENT ("Agreement") made effective as of ~~July 12, 2010~~ January 1, 2013 (the "Effective Date"), is entered into between the SERC Reliability Corporation ("SERC"), an organization established to develop and enforce Reliability Standards, and Florida Reliability Coordinating Council, Inc. ("FRCC"), an organization established to develop and enforce Reliability Standards within the geographic boundaries identified on **Exhibit A** to the ~~"~~Amended and Restated Delegation Agreement ~~B~~between the North American Electric Reliability Corporation ("NERC") and FRCC ~~Florida Reliability Coordinating Council, Inc."~~ (referred to herein as the "FRCC Region"), and for other purposes. SERC and FRCC may be individually referred to herein as "Party" or collectively as "Parties."

**RECITALS**

I. SERC is a party to a certain ~~"~~Amended and Restated Delegation Agreement ~~Between the North American Electric Reliability Corporation~~with NERC ~~and SERC Reliability Corporation"~~ (the "NERC-SERC Delegation Agreement"), which has been approved by the Federal Energy Regulatory Commission ("Commission") and which states in Section 6 thereof, in pertinent part, that SERC shall enforce Reliability Standards (including Regional Reliability Standards) through a compliance monitoring and enforcement program set forth in Exhibit D to the NERC-SERC Delegation Agreement.

II. FRCC is a party to a certain ~~"~~Amended and Restated Delegation Agreement ~~Between~~with NERC ~~the North American Electric Reliability Corporation and Florida Reliability Coordinating Council, Inc."~~ (the "NERC-FRCC Delegation Agreement"), which has been approved by the Commission and which states in Section 6 thereof, in pertinent part, that FRCC shall enforce Reliability Standards (including Regional Reliability Standards) within the FRCC Region through a compliance monitoring and enforcement program set forth in Exhibit D to

the NERC-FRCC Delegation Agreement.

III. FRCC, through its Member Services Division ("FRCC Member Services Division"), currently performs the Reliability Coordinator ("RC") and Planning Authority ("PA") functions (as "Reliability Coordinator" and "Planning Authority" are defined in the NERC *Glossary of Terms Used in Reliability Standards*) for the FRCC Region, and is registered on the NERC *Compliance Registry* as the RC and a PA for the FRCC Region. In this Agreement, the RC and PA functions are sometimes referred to as the "FRCC Registered Functions," and FRCC Member Services Division is referred to as the "Registered Entity" with respect to its performance of the FRCC Registered Functions.

~~V.~~ IV. To avoid any appearance of a lack of independence in compliance monitoring and enforcement for FRCC Registered Functions, SERC and FRCC hereby ~~Notwithstanding the provisions of Section 6 of the NERC-FRCC Delegation Agreement, the Commission has ruled that FRCC's performance of compliance monitoring and enforcement functions with respect to compliance with Reliability Standards by FRCC's registered reliability functions results in a lack of independence in compliance monitoring and enforcement for FRCC operational functions. The Commission therefore directed NERC and FRCC to remedy this deficiency.In light of the Commission's directive, SERC and FRCC~~ agree, subject to approval by NERC and the Commission, that SERC should assume responsibility for the Compliance Monitoring and Enforcement Program ("CMEP") with respect to the FRCC Registered Functions within the FRCC Region, and that the terms on which responsibility for the CMEP with respect to the FRCC Registered Functions within the FRCC Region shall be ~~transferred to and~~ performed by SERC should be memorialized in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the Parties, intending to be bound, agree as follows:

**1. Responsibilities of SERC**.

(a) Beginning on the Effective Date, SERC will perform all responsibilities of the Compliance Enforcement Authority ("CEA") as specified in the NERC uniform CMEP, Appendix 4C to the NERC Rules of Procedure ("ROP"), as amended from time to time (the "NERC Uniform CMEP"), within the FRCC Region with respect to the FRCC Registered Functions.

(b) Without limiting the scope of SERC's responsibilities as stated in Ssubsection 1(a) of this Agreement, SERC agrees to perform the following activities:

(1) Administer all compliance processes in Section 3.0 of the NERC Uniform CMEP with respect to the FRCC Registered Functions, in accordance with the NERC Annual CMEP Implementation Plan required by Section 4.1 of the NERC Uniform CMEP for each year. If at any time, the FRCC's registration status Registered Functions changes, SERC will monitor the Registered Functions in effect at that time.

(2) Lead all compliance audits and compliance violation investigations ("CVI") of the FRCC Registered Functions.

(i) SERC shall conduct a scheduled compliance audit of the FRCC Registered Functions in accordance with the frequency established by NERC in the CMEP. As FRCC is currently registered, SERC will audit the RC function at least once every three (3) years and shall conduct a scheduled compliance audit of the PA function, at least once every six (6) years.

(ii) Scheduled compliance audits of the FRCC Registered Functions shall be shall include all actively monitored standards in accordance with the NERC Annual CMEP Implementation Plan.

(iii) As required by the NERC ROP, all compliance audits of the FRCC RC function shall be conducted on site. Spot checks or other compliance monitoring methods may be completed off site.

(3) Determine if Notice of Possible Violations and nNotices of Alleged Violations, as those terms are defined in the CMEP, and proposed penalties or

sanctions should be issued to FRCC Member Services Division with respect to the FRCC Registered Functions, and calculate or determine any proposed penalties or sanctions in accordance with the NERC *Sanction Guidelines*.

(4) Administer processes as specified in Section 5.0 of the NERC Uniform CMEP with respect to any ~~notices of~~ Alleged Violations, as that term is defined in the CMEP, and proposed penalties or sanctions issued with respect to the FRCC Registered Functions.

(5) Review and approve proposed Mitigation Plans submitted by a FRCC Registered Function, and monitor implementation and completion of approved Mitigation Plans, in accordance with Section 6.0 of the NERC Uniform CMEP.

(6) Determine if Remedial Action Directives should be issued to FRCC Member Services Division with respect to a FRCC Registered Function, and issue such Remedial Action Directives if determined to be necessary, in accordance with Section 7.0 of the NERC Uniform CMEP.

(7) Conduct settlement negotiations for any violations of Reliability Standards discovered by SERC per this agreement, if requested by FRCC Member Services Division, in accordance with Section 5.4 of the NERC Uniform CMEP.

(8) Provide due process hearings for the FRCC Registered Functions with respect to notices of Alleged Violations, proposed penalties and sanctions, disputed Mitigation Plans, and disputed Remedial Action Directives, as requested by FRCC Member Services Division, in accordance with Attachment 2, Hearing Procedures, to the NERC Uniform CMEP.

(c) Compliance audit teams, ~~CVI~~CI teams, and review teams for self-certifications, spot check responses, periodic data submittals, self-reports, exception reports and complaints submitted by or relating to a FRCC Registered Function shall not include any employees of FRCC, but may include employees of other Regional Entities, NERC and Commission staff members. Provided, that in accordance with Section 2(c) of this

Agreement, SERC may request and obtain technical advice and assistance from FRCC employees, acting in a consulting or advisory capacity, who are not employed in a FRCC Registered Function.

**2. Responsibilities of FRCC.**

(a) ~~As the Registered Entity for the FRCC Registered Functions,~~ FRCC Member Services Division shall establish and designate to SERC a primary compliance contact for each FRCC Registered Function, in accordance with Section 2.0 of the NERC Uniform CMEP.

(b) ~~As the Registered Entity for the FRCC Registered Functions,~~ FRCC Member Services Division shall timely respond to and comply with all notices, requests for information and schedules issued by SERC as the CEA pursuant to the NERC Uniform CMEP.

(c) FRCC shall provide subject-matter experts ("SME~~s~~") as requested by SERC to provide technical advice and assistance to SERC, in SERC's discretion, in carrying out the CMEP with respect to the FRCC Registered Functions. A SME provided by FRCC may be an employee of FRCC or an industry volunteer, provided, that no SME provided by FRCC may be employed by FRCC in a FRCC Registered Function. The Parties agree that SMEs provided by FRCC shall only be used by SERC in a consulting or advisory capacity to provide expertise and advice on technical matters pertaining to the FRCC Registered Functions, shall have no decision-making responsibilities with respect to any compliance processes or compliance enforcement matters, and shall not be a member of any compliance audit team, C~~V~~I team, or review team for self-certifications, spot check responses, periodic data submittals, self-reports, exception reports or complaints submitted by or relating to a FRCC Registered Function.

(d) FRCC Regional Entity Division shall reimburse SERC the actual, reasonable costs of SERC's performance of the CMEP with respect to the FRCC Registered Functions, including an appropriate allocation of SERC's ~~G~~general and ~~A~~administrative costs, in

accordance with Section ~~5~~4 of this Agreement.

(e) Except as provided in this Agreement, FRCC Regional Entity Division shall continue to perform all CMEP responsibilities in the FRCC Region in accordance with the NERC-FRCC Delegation Agreement.

**3. Disposition of Penalties Paid by FRCC with respect to a FRCC Registered Function.**

Any penalties to be paid by FRCC Member Services Division for violations of Reliability Standards by a FRCC Registered Function~~,~~ shall be transmitted to NERC, to be used by NERC as a general offset to NERC's budget for its activities as the Electric Reliability Organization under the Federal Power Act for the following year, in accordance with the *NERC Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards*.

~~**4.Transfer of Responsibilities for CMEP Activities With Respect To FRCC Registered Functions That Are In Progress on the Effective Date.**~~

~~SERC shall assume full responsibility, as the CEA, for completion of all compliance processes with respect to the FRCC Registered Functions that are in progress as of the Effective Date, including without limiting the foregoing, (i) completion and issuance of reports of compliance audits and CVI of the FRCC Registered Functions, (ii) completion of review of, and issuance of any findings or reports concerning, any self-certifications, spot-checks, periodic data submittals, self-reports, exception reports or complaints, submitted by or pertaining to a FRCC Registered Function, (iii) determination of whether any notice of Alleged Violations and/or proposed penalties or sanctions should be issued to a FRCC Registered Function as a result of any such compliance processes, (iv) processing of any notices of Alleged Violations and/or proposed penalties or sanctions that were issued before the Effective Date, or are issued after the Effective Date as the result of compliance processes conducted before the Effective Date,~~

and (v) review, approval and monitoring of implementation and completion of any Mitigation Plans required of a FRCC Registered Function as the result of compliance processes conducted before the Effective Date.

**4. 5. Compensation to SERC for Performance of CMEP With Respect to the FRCC Registered Functions.**

Compensation for 2010.

For the period between the Effective Date of this Agreement and December 31, 2010, SERC shall invoice FRCC the amount of $5000 per quarter (pro-rated for any partial quarter) on or about the first day of each calendar quarter. The first invoice shall also include the amount for the partial quarter, if any between the Effective Date and the date of the first invoice. FRCC shall remit to SERC the amount of each invoice by check or electronic funds transfer to SERC within twenty (20) business days following the date of each invoice.

(a)Compensation for Years Subsequent to 2010.

(a) Compensation. (i) In its annual Business Plans and Budgets submitted to NERC and the Commission for the year 2011 and subsequent years within the term of this Agreement, SERC shall identify a portion of its CMEP budget (the "FRCC Registered Functions CMEP Budget"), including an appropriate allocation of SERC's Ggeneral and Aadministrative Ccosts, (the "FRCC Registered Functions CMEP Budget"), that is attributable to the performance of the CMEP with respect to the FRCC Registered Functions. SERC's allocation of resources to the performance of its obligations under this Agreement and the corresponding budgeted amount shall be subject to approval by NERC and by the Commission as part of their overall approval of SERC's business plan and budget. The amount of SERC's proposed FRCC Registered Functions CMEP Budget shall also be included in FRCC's business plan and budget that is submitted to NERC and to the Commission for approval. The amount of

the FRCC Registered Functions CMEP Budget for each year, as approved by the Commission, shall (i) ~~shall~~ be excluded from the calculation of SERC's assessments to Load-Serving Entities ("LSEs") in the SERC Region for each such year, and (ii) ~~shall~~ be included in the calculation of FRCC's assessments to LSEs in the FRCC Region for each such year.

~~(b) Billing SERC shall invoice FRCC Regional Entity Division for the amount of the FRCC Registered Functions CMEP Budget in four equal quarterly amounts during each year, with the invoices to be issued by SERC to FRCC on or about January 1, April 1, July 1 and October 1 and to be paid by FRCC by check or electronic funds transfer to SERC within twenty (20) business days following the date of the invoice.~~

~~(c) Reconciliation of Costs.~~

~~No later than 90 days after the end of a budget year, SERC shall provide to FRCC a statement of actual expenses incurred by SERC in the fulfillment of SERC's responsibilities under this agreement for that budget-year. The statement shall disclose the actual costs of labor, travel and meetings, and all other direct costs, as well as SERC's allocation of its actual General and Administrative Costs. The statement shall summarize the reasons for any variances as compared to the budget amount. SERC shall provide supporting documentation for the final statement upon request by FRCC. The total variance for the concluded budget year shall be incorporated as a compensating adjustment in both the SERC and FRCC budgets in the second year following the budget-year and, as approved by NERC and the Commission, reflected in the quarterly invoices from SERC to FRCC and quarterly payments by FRCC to SERC in such year.~~

~~(d) Supplemental Invoice.~~

~~If during any budget-year, including 2010, the actual cost of performing SERC's responsibilities under this agreement exceeds the budgeted funding by more than ten (10)~~

~~percent of SERC's budgeted cash reserve (for example as may be necessitated by the conduct of a compliance violation investigation or hearing), SERC shall have the right to issue supplemental invoices to FRCC to recover in full all actual costs incurredabove the budgeted funding. Upon receipt of such a supplemental invoice, FRCC shall pay the full amount of the invoice by check or electronic funds transfer to SERC within sixty (60) days.~~SERC will submit an itemized invoice to FRCC on or before the twentieth (20th) day of each month for actual costs (including an appropriate allocation of SERC's general and administrative costs) incurred during the previous month for work undertaken pursuant to this Agreement. FRCC shall pay SERC within sixty (60) days for the expenses SERC has incurred and for which it has submitted an invoice. SERC shall track the actual costs of the work as it is performed, and should actual costs be on track to exceed budgeted amounts, SERC shall notify the FRCC of this at the next billing cycle.

(c) True-up Reports. The Parties shall record their costs and revenues associated with the performance of this Agreement at the same level of line-item detail as is used for their budgets that are submitted to NERC for approval by NERC and by the Commission. Each Party shall include in its annual true-up report submitted to NERC a separate section showing the Party's actual and budgeted amounts of costs and revenues associated with performance of this Agreement for the year with explanations of variances.

**~~6.~~5. Term, Renewal Term, ~~Termination~~ and Early Termination.**

(a) ~~Initial~~ Term. ~~The Initial~~ Term of this Agreement shall be from the Effective Date of this Agreement to December 31, 2017~~2~~.

(b) Renewal Terms. This Agreement shall ~~not~~ automatically renew without notice or other action by either Party at the end of the ~~Initial~~ Term specified in (a) or any Renewal Term for a Renewal Term of five (5) years; provided, however, that either Party may give written notice to the other Party at least twelve months prior to the end of the Term specified in (a) of an intent not to renew this Agreement; and provided, further, that during a

Renewal Term either Party may terminate this Agreement by providing a written notice to the other Party at least twelve months prior to the desired termination date. Additionally, this Agreement shall not automatically renew if NERC gives written notice to the Parties, at least twelve (12) months prior to the end of the Term or Renewal Term, that the Parties should request NERC's approval to renew the Agreement, in which case the Parties shall submit a request to renew the Agreement to NERC at least nine (9) months prior to the end of such Term or Renewal Term. In the event of a termination of this Agreement SERC shall continue to perform the CMEP role with respect to the FRCC Registered Functions within the FRCC Region in accordance with the terms of this Agreement and the NERC Uniform CMEP until another entity acceptable to NERC and the Commission is selected to take, and takes, responsibility for performance of the CMEP role with respect to the FRCC Registered Functions. ~~without the express approval of NERC and the Commission. If either Party does not plan to seek approval for renewal of the agreement, that Party must give written notice to the other Party and NERC, at least one (1) year prior to the end of the Initial Term. In the event the Parties intend to renew the Agreement, they shall make a joint filing to NERC not later than April 1, 2012 requesting approval of the renewal.~~ In the event of termination of the Agreement, SERC will work with FRCC to transfer responsibility for any compliance activities in progress to the entity that will be the CEA for the FRCC Member Services Division.

(c) Early Termination. Notwithstanding the provisions of subsections ~~6~~5(a) and ~~6~~5(b) of this Agreement, Early Termination of this Agreement shall occur in the following events:

(i) If FRCC or SERC ceases to be a Regional Entity, this Agreement shall terminate as of the end of the calendar year that FRCC or SERC ceases to be a Regional Entity.

(ii) If FRCC ceases to be a Registered Entity in the FRCC Region, this Agreement shall terminate as of the last date that FRCC ceases to be a Registered

Entity for any FRCC Registered Function.

(iii) If both ~~p~~Parties agree in writing to terminate this Agreement at any time.

(iv) If any provision of this Agreement, or the application thereof to any person, entity or circumstance, is held by a court or regulatory authority of competent jurisdiction to be invalid, void, or unenforceable, or if a modification or condition to this Agreement is imposed by the Commission, the Parties shall endeavor in good faith to negotiate such amendment or amendments to this Agreement as will restore the relative benefits and obligations of the signatories under this Agreement immediately prior to such holding, modification or condition. If either Party finds such holding, modification or condition unacceptable and the Parties are unable to renegotiate a mutually acceptable resolution, either Party may unilaterally terminate this Agreement. Such termination shall be effective as of one (1) year following written notice by either Party to the other Party, or at such other time as may be mutually agreed by SERC and FRCC.

(vi) ~~Provided, that i~~In the event of the Early ~~t~~Termination of this Agreement, SERC will transfer responsibility for completion of all CMEP ~~compliance~~ processes that are in progress as of the date of Early Termination, or within a reasonable time thereafter as mutually agreed to by the ~~p~~Parties, to the entity that will be the CEA for FRCC Member Services Division.

(d) In the event of termination or Early Termination of this Agreement, the costs associated with the wind-down of this Agreement and transfer of any compliance processes in progress to the new CEA are payable by FRCC to SERC in accordance with Section 4~~5~~ of this Agreement.

**6. ~~7.~~ Representations of the Parties.**

(a) Representations of FRCC. FRCC represents and warrants to SERC that (i) FRCC is and shall remain during the term of this Agreement validly existing and in good standing pursuant to all applicable laws relative to this Agreement, (ii) no applicable law, contract or other legal obligation prevents FRCC from executing this Agreement and fulfilling its obligations hereunder, (iii) entry into this Agreement by FRCC is duly authorized under its governing corporate documents, and (iv) the person or persons executing this Agreement on behalf of FRCC are duly authorized to do so.

(b) Representations of SERC. SERC represents and warrants to FRCC that (i) SERC is and shall remain during the term of this Agreement validly existing and in good standing pursuant to all applicable laws relative to this Agreement, (ii) no applicable law, contract or other legal obligation prevents SERC from executing this Agreement and fulfilling its obligations hereunder, (iii) entry into this Agreement by SERC is duly authorized under its governing corporate documents, and (iv) the person or persons executing this Agreement on behalf of SERC are duly authorized to do so.

**~~8.~~ 7. Limitation of Liability.**

SERC and FRCC agree not to sue each other or their directors, officers, employees, and persons serving on their committees and subgroups based on any act or omission of any of the foregoing in the performance of duties pursuant to this Agreement or in conducting activities under the authority of Section 215 of the Federal Power Act, other than seeking a review of such action or inaction by the Commission. SERC and FRCC shall not be liable to one another for any damages whatsoever, other than for non-payment of or failure to remit compensation due pursuant to Section 4~~5~~ of this Agreement, including without limitation, direct, indirect, incidental, special, multiple, consequential (including attorneys' fees and litigation

costs), exemplary, or punitive damages arising out of or resulting from any act or omission associated with the performance of SERC's or FRCC's responsibilities under this Agreement or in conducting activities under the authority of Section 215 of the Federal Power Act, except to the extent that SERC or FRCC is found liable for gross negligence or intentional misconduct, in which case SERC or FRCC shall not be liable for any indirect, incidental, special, multiple, consequential (including without limitation attorneys' fees and litigation costs), exemplary, or punitive damages.

**~~9.~~8. No Third Party Beneficiaries.**

Nothing in this Agreement shall be construed to create any duty to, any standard of care with reference to, or any liability to any third party.

**~~10.~~9. Confidentiality.**

During the course of the Parties' performance under this Agreement, a Party may receive Confidential Information, as defined in Section 1500 of the NERC ROP. Except as set forth herein, the Parties agree to keep in confidence and not to copy, disclose, or distribute any Confidential Information or any part thereof, without the prior written permission of the issuing Party, unless disclosure is required by subpoena, law, or other directive of a court, administrative agency, or arbitration panel, in which event the recipient hereby agrees to provide the Party that provided the Confidential Information with prompt notice of such request or requirement in order to enable such issuing Party to (a) seek an appropriate protective order or other remedy, (b) consult with the recipient with respect to taking steps to resist or narrow the scope of such request or legal process, or (c) waive compliance, in whole or in part, with the terms of this Section 9~~10~~. In the event a protective order or other remedy is not obtained or the issuing Party waives compliance with the provisions, the recipient agrees to furnish only that portion of the Confidential Information which the recipient's counsel advises is legally required

and to exercise best efforts to obtain assurance that confidential treatment will be accorded to such Confidential Information. In addition, each Party shall ensure that its officers, trustees, directors, employees, subcontractors and subcontractors' employees, and agents to whom Confidential Information is exposed are under obligations of confidentiality that are at least as restrictive as those contained herein. This confidentiality provision does not prohibit reporting and disclosure by SERC, as the CEA with respect to the FRCC Registered Functions, in accordance with Section 8.0 and other provisions of the NERC Uniform CMEP.

**~~11.~~10. Amendment.**

Neither this Agreement nor any of the terms hereof, may be amended unless such amendment is made in writing and signed by the Parties.

**~~12.~~11. Dispute Resolution.**

In the event a dispute arises under this Agreement between SERC and FRCC, representatives of the Parties with authority to settle the dispute shall meet and confer in good faith in an effort to resolve the dispute in a timely manner. In the event the designated representatives are unable to resolve the dispute within thirty (30) days or such other period as the Parties may agree upon, each Party shall have all rights to pursue all remedies, except as expressly limited by the terms of this Agreement. Neither Party shall have the right to pursue other remedies until the Dispute Resolution procedures of this Section 11~~2~~ have been exhausted. This Section 11~~2~~ shall not apply to enforcement actions or Remedial Action Directives by SERC, as the CEA, against a FRCC Registered Function, or hearings conducted at the request of FRCC as the Registered Entity for a FRCC Registered Function, pursuant to the NERC Uniform CMEP.

**12. ~~13.~~ Notices.**

Whether expressly so stated or not, all notices, demands, requests, and other communications required or permitted by or provided for in this Agreement shall be given in writing to a Party at the address set forth below, or at such other address as a Party shall designate for itself in writing in accordance with this Section, and shall be delivered by hand or reputable overnight courier:

| If to SERC: | If to FRCC: |
|---|---|
| SERC Reliability Corporation<br>2815 Coliseum Centre Drive<br>Suite 500<br>Charlotte, NC 28217 | Florida Reliability Coordinating Council<br>1408 N Westshore Blvd<br>Suite 1002<br>Tampa, FL 33607 |
| Attn: Marisa Sifontes<br>Facsimile: 704-357-7914 | Attn: Reva Maskewitz<br>Facsimile: 813-289-5646 |

Provided, that the foregoing notice provision shall not be applicable to notices and other communications between SERC, as the CEA, and FRCC as the Registered Entity for a FRCC Registered Function, which notices and other communications shall instead be provided or transmitted in accordance with the NERC Uniform CMEP.

**~~14.~~13. Governing Law.**

When not in conflict with or preempted by federal law, this Agreement will be governed by and construed in accordance with the laws of Delaware without giving effect to the conflict of law principles thereof. The Parties recognize and agree not to contest the exclusive or primary jurisdiction of the Commission to interpret and apply this Agreement; provided however, that if the Commission declines to exercise or is precluded from exercising jurisdiction of any action arising out of or concerning this Agreement, such action shall be brought in any state or federal court of competent jurisdiction in Delaware. All Parties hereby consent to the jurisdiction of any state or federal court of competent jurisdiction in Delaware for the purpose of hearing and

determining any action not heard and determined by the Commission.

**~~15.~~14. Headings.**

The headings and captions in this Agreement are for convenience of reference only and shall not define, limit, or otherwise affect any of the terms or provisions hereof.

**~~16.~~15. Entire Agreement.**

This Agreement constitutes the entire agreement, and supersedes all prior agreements and understandings, both written and oral, among the Parties with respect to the subject matter of this Agreement.

**~~17.~~16. Execution of Counterparts.**

This Agreement may be executed in counterparts and each counterpart shall have the same force and effect as the original.

**NOW, THEREFORE,** the Parties have caused this Agreement to be executed by their duly authorized representatives, to be effective as of the Effective Date.

| | |
|---|---|
| SERC RELIABILITY CORPORATION | FLORIDA RELIABILITY COORDINATING COUNCIL |
| By: _____ | By: _____ |
| Name: R. Scott Henry | Name: Sarah Rogers |
| Title: President and CEO | Title: President and CEO |
| Date: _____ | Date: _____ |

# AGREEMENT BETWEEN SERC RELIABILITY CORPORATION AND SOUTHWEST POWER POOL REGIONAL ENTITY CONCERNING COMPLIANCE MONITORING AND ENFORCEMENT OF SOUTHWEST POWER POOL, INC. REGISTERED FUNCTIONS

THIS AGREEMENT ("Agreement") made effective as of _____ (the "Effective Date"), between the SERC Reliability Corporation ("SERC"), an organization established to develop and enforce Reliability Standards, and Southwest Power Pool Regional Entity ("SPP RE") a division of Southwest Power Pool, Inc. ("SPP"), an organization established to develop and enforce Reliability Standards within the geographic boundaries identified on Exhibit A (referred to herein as the "SPP RE Region") to the "Amended and Restated Delegation Agreement between the North American Electric Reliability Corporation ("NERC") and "SPP", and for other purposes. SERC and the SPP RE may be individually referred to herein as "Party" or collectively as "Parties".

## RECITALS

I. SERC is a party to a certain "Amended and Restated Delegation Agreement between NERC and SERC" (the "NERC-SERC Delegation Agreement"), which has been approved by the Federal Energy Regulatory Commission ("Commission") and which states in Section 6 thereof, in pertinent part, that SERC shall enforce Reliability Standards (including Regional Reliability Standards) through a compliance monitoring and enforcement program set forth in Exhibit D to the NERC-SERC Delegation Agreement.

II. SPP is a party to a certain "Amended and Restated Delegation Agreement between NERC and SPP (the "NERC-SPP Delegation Agreement"), which has been approved by the Commission and which states in Section 6 thereof, in pertinent part, that the SPP RE shall enforce Reliability Standards (including Regional Reliability Standards) within the geographic boundaries set forth in Exhibit A to the NERC-SPP Delegation Agreement through a

compliance monitoring and enforcement program set forth in Exhibit D to the NERC-SPP Delegation Agreement.

III. SPP serves as a Regional Transmission Organization and is currently registered as an Interchange Authority ("IA"), Planning Authority ("PA"), Reliability Coordinator ("RC"), Reserve Sharing Group ("RSG"), Transmission Planner ("TP"), and Transmission Service Provider ("TSP") in the SPP RE Region. In this Agreement, the IA, PA, RC, RSG, TP and TSP functions are sometimes referred to as the "SPP Registered Functions", and SPP is referred to as the "Registered Entity" with respect to its performance of the SPP Registered Functions.

IV. To avoid any appearance of a lack of independence in compliance monitoring and enforcement for SPP Registered Functions, SERC and the SPP RE hereby agree, subject to approval by NERC and by the Commission, that SERC should assume responsibility for the Compliance Monitoring and Enforcement Program ("CMEP") with respect to the SPP Registered Functions within the SPP RE Region, and that the terms on which responsibility for the CMEP with respect to the SPP Registered Functions within the SPP RE Region shall be performed by SERC should be memorialized in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the Parties, intending to be bound, agree as follows:

**1. Responsibilities of SERC**.

(a) Beginning on the Effective Date, SERC will perform all responsibilities of the Compliance Enforcement Authority ("CEA") as specified in the NERC uniform CMEP, Appendix 4C to the NERC Rules of Procedure ("ROP"), as amended from time to time (the "NERC Uniform CMEP"), within the SPP RE Region with respect to the SPP Registered Functions.

(b) Without limiting the scope of SERC's responsibilities as stated in subsection 1(a) of this Agreement, SERC agrees to perform the following activities within the SPP RE Region:

(1) Administer all compliance processes in Section 3.0 of the NERC Uniform CMEP with respect to the SPP Registered Functions, in accordance with the NERC

Annual CMEP Implementation Plan required by Section 4.1 of the NERC Uniform CMEP for each year. If at any time SPP Registered Functions change, SERC will monitor the Registered Functions in effect at that time.

(2) Lead all compliance audits and compliance investigations ("CI") of the SPP Registered Functions.

(i) SERC shall conduct a scheduled compliance audit of the SPP Registered Functions in accordance with the frequency established by NERC in the CMEP. As SPP is currently registered, SERC will audit the RC function at least once every three (3) years and shall conduct a scheduled compliance audit of the remaining functions at least once every six (6) years.

(ii) Scheduled compliance audits of the SPP Registered Functions shall be in accordance with the NERC Annual CMEP Implementation Plan.

(iii) As required by the NERC ROP, all compliance audits of the SPP RC function shall be conducted on site. Spot checks or other compliance monitoring methods may be completed off site.

(3) Determine if Notices of Possible Violations and Notices of Alleged Violations, as those terms are defined in the CMEP, and proposed penalties or sanctions should be issued to SPP with respect to the SPP Registered Functions, and calculate or determine any proposed penalties or sanctions in accordance with the NERC *Sanction Guidelines*.

(4) Administer processes as specified in Section 5.0 of the NERC Uniform CMEP with respect to any Alleged Violations, as that term is defined in the CMEP, and proposed penalties or sanctions issued with respect to the SPP Registered Functions.

(5) Review and approve proposed Mitigation Plans submitted by an SPP Registered Function, and monitor implementation and completion of approved Mitigation Plans, in accordance with Section 6.0 of the NERC Uniform CMEP.

(6) Determine if Remedial Action Directives should be issued to SPP with respect to an SPP Registered Function, and issue such Remedial Action Directives if determined to be necessary, in accordance with Section 7.0 of the NERC Uniform CMEP.

(7) Conduct settlement negotiations for any violations of Reliability Standards discovered by SERC per this agreement, if requested by SPP, in accordance with Section 5.4 of the NERC Uniform CMEP.

(8) Provide due process hearings for the SPP Registered Functions with respect to notices of Alleged Violations, proposed penalties and sanctions, disputed Mitigation Plans, and disputed Remedial Action Directives, as requested by SPP, in accordance with Attachment 2, Hearing Procedures, to the NERC Uniform CMEP.

(c) Compliance audit teams, CI teams, and review teams for self-certifications, spot check responses, periodic data submittals, self-reports, exception reports and complaints submitted by or relating to an SPP Registered Function shall not include any employees of SPP, but may include employees of other Regional Entities, NERC and Commission staff members. Provided, that in accordance with Section 2(c) of this Agreement, SERC may request and obtain technical advice and assistance from SPP employees, acting in a consulting or advisory capacity, who are not employed in an SPP Registered Function.

**2. Responsibilities of SPP.**

(a) SPP shall establish and designate to SERC a primary compliance contact for each SPP Registered Function, in accordance with Section 2.0 of the NERC Uniform CMEP.

(b) SPP shall timely respond to and comply with all notices, requests for information and schedules issued by SERC as the CEA pursuant to the NERC Uniform CMEP.

(c) The SPP RE shall provide subject-matter experts (“SMEs”) as requested by SERC to provide technical advice and assistance to SERC, in SERC’s discretion, in carrying out

the CMEP with respect to the SPP Registered Functions. A SME provided by the SPP RE may be an employee of SPP or an industry volunteer, provided, that no SME provided by the SPP RE may be employed by SPP in an SPP Registered Function. The Parties agree that SMEs provided by the SPP RE shall only be used by SERC in a consulting or advisory capacity to provide expertise and advice on technical matters pertaining to the SPP Registered Functions, shall have no decision-making responsibilities with respect to any compliance processes or compliance enforcement matters, and shall not be a member of any compliance audit team, CI team, or review team for self-certifications, spot check responses, periodic data submittals, self-reports, exception reports or complaints submitted by or relating to an SPP Registered Function.

(d) The SPP RE shall reimburse SERC the actual costs of SERC's performance of the CMEP with respect to the SPP Registered Functions, including an appropriate allocation of SERC's general and administrative costs, in accordance with Section 4 of this Agreement.

(e) Except as provided in this Agreement, the SPP RE shall continue to perform all CMEP responsibilities in the SPP RE Region in accordance with the NERC-SPP Delegation Agreement.

**3. Disposition of Penalties Paid by SPP with respect to an SPP Registered Function.**

Any penalties to be paid by SPP for violations of Reliability Standards by an SPP Registered Function shall be transmitted to NERC, to be used by NERC as a general offset to NERC's budget for its activities as the Electric Reliability Organization under the Federal Power Act for the following year, in accordance with the *NERC Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards*.

**4. Compensation to SERC for Performance of CMEP With Respect to the SPP Registered Functions.**

(a) Compensation.

In its annual Business Plans and Budgets submitted to NERC and the Commission for years within the term of this Agreement, SERC shall identify a portion of its CMEP budget (the

"SPP Registered Functions CMEP Budget"), including an appropriate allocation of SERC's general and administrative costs that is attributable to the performance of the CMEP with respect to the SPP Registered Functions. SERC's allocation of resources to the performance of its obligations under this Agreement and the corresponding budgeted amount shall be subject to approval by NERC and by the Commission as part of their overall approval of SERC's business plan and budget. The amount of SERC's SPP Registered Functions CMEP Budget shall also be included in the SPP RE's business plan and budget that is submitted to NERC and to the Commission for approval. The amount of the SPP Registered Functions CMEP Budget for each year, as approved by the Commission, shall (i) be excluded from the calculation of SERC's assessments to Load-Serving Entities ("LSEs") in the SERC region for each such year, and (ii) be included in the calculation of the SPP RE's assessments to LSEs in the SPP RE Region for each such year.

(b) Billing

SERC will submit an itemized invoice to the SPP RE, on or before the twentieth (20th) day of each month, for actual costs (including an appropriate allocation of SERC's general and administrative costs) incurred during the previous month for work undertaken pursuant to this Agreement. The SPP RE shall pay SERC within sixty (60) days for the expenses SERC has incurred and for which it has submitted an invoice. SERC shall track the actual costs of the work as it is performed, and should actual costs be on track to exceed budgeted amounts, SERC shall notify the SPP RE of this at the next billing cycle.

(c) True-up Reports

The Parties shall record their costs and revenues associated with the performance of this Agreement at the same level of line-item detail as is used for their budgets that are submitted to NERC for approval by NERC and by the Commission. Each Party shall include in its annual true-up report submitted to NERC a separate section showing the

Party's actual and budgeted amounts of costs and revenues associated with performance of this Agreement for the year with explanations of variances.

**5. Term, Renewal Term, Termination and Early Termination.**

(a) Term. The Term of this Agreement shall be from the Effective Date through December 31, 2017.

(b) Renewal Terms. This Agreement shall automatically renew without notice or other action by either Party, at the end of the Term specified in (a) or any Renewal Term for a Renewal Term of five (5) years; provided, however, that either Party may give written notice to the other Party at least twelve (12) months prior to the end of the Term specified in (a) of an intent not to renew this Agreement; and provided, further, that during a Renewal Term either Party may terminate this Agreement by providing a written notice to the other Party at least twelve (12) months prior to the desired termination date. Additionally, this Agreement shall not automatically renew if NERC gives written notice to the Parties, at least twelve (12) months prior to the end of the Term or any Renewal Term, that the Parties should request NERC's approval to renew the Agreement, in which case the Parties shall submit a request to renew the Agreement to NERC at least nine (9) months prior to the end of such Term or Renewal Term. In the event of a termination of this Agreement, SERC shall continue to perform the CMEP role with respect to the SPP Registered Functions within the SPP RE Region, in accordance with the terms of this Agreement and the NERC Uniform CMEP until another entity acceptable to the Commission is selected to take, and takes, responsibility for performance of the CMEP with respect to the SPP Registered Functions.

(c) Early Termination. Notwithstanding the provisions of subsections 5(a) and 5(b) of this Agreement, Early Termination of this Agreement shall occur in the following events:

(i) If SPP or SERC ceases to be a Regional Entity, this Agreement shall terminate as of the end of the calendar year that SPP ceases to be a Regional Entity.

(ii) If SPP or SERC ceases to be a Registered Entity in the SPP RE Region, this Agreement shall terminate as of the last date that SPP or SERC ceases to be a Registered Entity for any SPP Registered Function.

(iii) If both parties agree in writing to terminate this Agreement at any time.

(iv) If any provision of this Agreement, or the application thereof to any person, entity or circumstance, is held by a court or regulatory authority of competent jurisdiction to be invalid, void, or unenforceable, or if a modification or condition to this Agreement is imposed by the Commission, the Parties shall endeavor in good faith to negotiate such amendment or amendments to this Agreement as will restore the relative benefits and obligations of the signatories under this Agreement immediately prior to such holding, modification or condition. If either Party finds such holding, modification or condition unacceptable and the Parties are unable to renegotiate a mutually acceptable resolution, either Party may unilaterally terminate this Agreement. Such termination shall be effective as of one (1) year following written notice by either Party to the other Party, or at such other time as may be mutually agreed by SERC and the SPP RE.

(v) In the event of the Early Termination of this Agreement, SERC will transfer responsibility for completion of all CMEP processes that are in progress as of the date of Early Termination~~,~~ or within a reasonable time thereafter as mutually agreed to by the Parties, to the entity that will be the CEA for SPP.

(d) In the event of termination or Early Termination of this Agreement, the costs associated with the wind-down of this Agreement and transfer of any compliance processes in progress to the new CEA are payable by the SPP RE to SERC in accordance with Section 4 of this Agreement.

**6. Representations of the Parties.**

(a) Representations of the SPP RE. The SPP RE represents and warrants to SERC that: (i) the SPP RE is and shall remain during the term of this Agreement validly existing and in good standing pursuant to all applicable laws relative to this Agreement, (ii) no applicable law, contract or other legal obligation prevents the SPP RE from executing this Agreement and fulfilling its obligations hereunder, (iii) entry into this Agreement by the SPP RE is duly authorized under its governing corporate documents, and (iv) the person or persons executing this Agreement on behalf of the SPP RE are duly authorized to do so.

(b) Representations of SERC. SERC represents and warrants to SPP that: (i) SERC is and shall remain during the term of this Agreement validly existing and in good standing pursuant to all applicable laws relative to this Agreement, (ii) no applicable law, contract or other legal obligation prevents SERC from executing this Agreement and fulfilling its obligations hereunder, (iii) entry into this Agreement by SERC is duly authorized under its governing corporate documents, and (iv) the person or persons executing this Agreement on behalf of SERC are duly authorized to do so.

**7. Limitation of Liability.**

SERC and the SPP RE agree not to sue each other or their directors, trustees, officers, employees, and persons serving on their committees and subgroups based on any act or omission of any of the foregoing in the performance of duties pursuant to this Agreement or in conducting activities under the authority of Section 215 of the Federal Power Act, other than seeking a review of such action or inaction by the Commission. SERC and the SPP RE shall not be liable to one another for any damages whatsoever, other than for non-payment of or failure to remit compensation due pursuant to Section 4 of this Agreement, including without limitation, direct, indirect, incidental, special, multiple, consequential (including attorneys' fees and litigation costs), exemplary, or punitive damages arising out of or resulting from any act or omission associated with the performance of SERC's or the SPP RE's responsibilities under this Agreement or in conducting activities under the authority of Section 215 of the Federal Power Act, except to the extent that SERC or the SPP RE is found liable for gross negligence or intentional misconduct, in which case SERC or SPP RE shall not be liable for any indirect, incidental, special, multiple, consequential (including without limitation attorneys' fees and litigation costs), exemplary, or punitive damages.

**8. No Third Party Beneficiaries.**

Nothing in this Agreement shall be construed to create any duty to, any standard of care with reference to, or any liability to any third party.

**9. Confidentiality.**

During the course of the Parties' performance under this Agreement, a Party may receive Confidential Information, as defined in Section 1500 of the NERC ROP. Except as set forth herein, the Parties agree to keep in confidence and not to copy, disclose, or distribute any Confidential Information or any part thereof, without the prior written permission of the issuing Party, unless disclosure is required by subpoena, law, or other directive of a court,

administrative agency, or arbitration panel, in which event the recipient hereby agrees to provide the Party that provided the Confidential Information with prompt notice of such request or requirement in order to enable such issuing Party to (a) seek an appropriate protective order or other remedy, (b) consult with the recipient with respect to taking steps to resist or narrow the scope of such request or legal process, or (c) waive compliance, in whole or in part, with the terms of this Section 9. In the event a protective order or other remedy is not obtained or the issuing Party waives compliance with the provisions, the recipient agrees to furnish only that portion of the Confidential Information which the recipient's counsel advises is legally required and to exercise best efforts to obtain assurance that confidential treatment will be accorded to such Confidential Information. In addition, each Party shall ensure that its officers, trustees, directors, employees, subcontractors and subcontractors' employees, and agents to whom Confidential Information is exposed are under obligations of confidentiality that are at least as restrictive as those contained herein. This confidentiality provision does not prohibit reporting and disclosure by SERC, as the CEA with respect to the SPP Registered Functions, in accordance with Section 8.0 and other provisions of the NERC Uniform CMEP.

**10. Amendment.**

Neither this Agreement nor any of the terms hereof, may be amended unless such amendment is made in writing and signed by the Parties.

**11. Dispute Resolution.**

In the event a dispute arises under this Agreement between SERC and the SPP RE, representatives of the Parties with authority to settle the dispute shall meet and confer in good faith in an effort to resolve the dispute in a timely manner. In the event the designated representatives are unable to resolve the dispute within thirty (30) days or such other period as the Parties may agree upon, each Party shall have all rights to pursue all remedies, except as expressly limited by the terms of this Agreement. Neither Party shall have the right to pursue

other remedies until the Dispute Resolution procedures of this Section 11 have been exhausted. This Section 11 shall not apply to enforcement actions or Remedial Action Directives by SERC, as the CEA, against an SPP Registered Function, or hearings conducted at the request of SPP as the Registered Entity for an SPP Registered Function, pursuant to the NERC Uniform CMEP.

**12. Notices.**

Whether expressly so stated or not, all notices, demands, requests, and other communications required or permitted by or provided for in this Agreement shall be given in writing to a Party at the address set forth below, or at such other address as a Party shall designate for itself in writing in accordance with this Section, and shall be delivered by hand or reputable overnight courier:

| If to SERC: | If to the SPP RE: |
|---|---|
| SERC Reliability Corporation<br>2815 Coliseum Centre Drive<br>Suite 500<br>Charlotte, NC 28217<br>Attn: Marisa Sifontes<br>Facsimile: 704-357-7914 | Southwest Power Pool Regional Entity<br>415 North McKinley,<br>Suite 140<br>Little Rock, AR 72205<br>Attn: Stacy Dochoda<br>Facsimile: 501-821-8726 |

Provided, that the foregoing notice provision shall not be applicable to notices and other communications between SERC, as the CEA, and SPP as the Registered Entity for an SPP Registered Function, which notices and other communications shall instead be provided or transmitted in accordance with the NERC Uniform CMEP.

**13. Governing Law.**

When not in conflict with or preempted by federal law, this Agreement will be governed by and construed in accordance with the laws of Delaware without giving effect to the conflict of law principles thereof. The Parties recognize and agree not to contest the exclusive or primary jurisdiction of the Commission to interpret and apply this Agreement; provided, however, that if the Commission declines to exercise or is precluded from exercising jurisdiction of any action arising out of or concerning this Agreement, such action shall be brought in any state or federal

court of competent jurisdiction in Delaware. All Parties hereby consent to the jurisdiction of any state or federal court of competent jurisdiction in Delaware for the purpose of hearing and determining any action not heard and determined by the Commission.

**14. Headings.**

The headings and captions in this Agreement are for convenience of reference only and shall not define, limit, or otherwise affect any of the terms or provisions hereof.

**15. Entire Agreement.**

This Agreement constitutes the entire agreement, and supersedes all prior agreements and understandings, both written and oral, among the Parties with respect to the subject matter of this Agreement.

**16. Execution of Counterparts.**

This Agreement may be executed in counterparts and each counterpart shall have the same force and effect as the original.

**NOW, THEREFORE,** the Parties have caused this Agreement to be executed by their duly authorized representatives, to be effective as of the Effective Date.

| | |
|---|---|
| SERC RELIABILITY CORPORATION | SOUTHWEST POWER POOL, INC. |
| By: _____ | By: _____ |
| Name: R. Scott Henry | Name: Stacy Dochoda |
| Title: President and CEO | Title: General Manager<br>SPP Regional Entity |
| Date: _____ | Date: _____ |

**AGREEMENT BETWEEN**
**SERC RELIABILITY CORPORATION AND ~~and~~**
**SOUTHWEST POWER POOL REGIONAL ENTITY**
**CONCERNING COMPLIANCE MONITORING AND ENFORCEMENT**
**OF ~~SPP~~ SOUTHWEST POWER POOL, INC. REGISTERED FUNCTIONS**

THIS AGREEMENT ("Agreement") made effective as of _____ ~~July 12, 2010~~ (the "Effective Date"), between the SERC Reliability Corporation ("SERC"), an organization established to develop and enforce Reliability Standards, and Southwest Power Pool Regional Entity ("SPP RE") a division of ~~SPP~~ Southwest Power Pool, Inc. ("SPP"), an organization established to develop and enforce Reliability Standards within the geographic boundaries identified on Exhibit A (referred to herein as the "SPP RE Region") to the "Amended and Restated Delegation Agreement between the North American Electric Reliability Corporation ("NERC") and ~~Southwest Power Pool, Inc."~~ SPP" ~~(referred to herein as the "SPP RE Region")~~, and for other purposes. SERC and the SPP RE may be individually referred to herein as "Party" or collectively as "Parties~~."~~.

**RECITALS**

I. SERC is a party to a certain "Amended and Restated Delegation Agreement ~~B~~between NERC~~the North American Electric Reliability Corporation~~ and SERC" ~~Reliability Corporation~~ (the "NERC-SERC Delegation Agreement"), which has been approved by the Federal Energy Regulatory Commission ("Commission") and which states in Section 6 thereof, in pertinent part, that SERC shall enforce Reliability Standards (including Regional Reliability Standards) through a compliance monitoring and enforcement program set forth in Exhibit D to the NERC-SERC Delegation Agreement.

II. SPP is a party to a certain "Amended and Restated Delegation Agreement ~~B~~between ~~the North American Electric Reliability Corporation~~NERC and SPP"~~Southwest Power Pool, Inc."~~ (the "NERC-SPP Delegation Agreement"), which has been approved by the Commission and which states in Section 6 thereof, in pertinent part, that the SPP RE shall

enforce Reliability Standards (including Regional Reliability Standards) within the geographic boundaries set forth in Exhibit A to the NERC-SPP Delegation Agreement through a compliance monitoring and enforcement program set forth in Exhibit D to the NERC-SPP Delegation Agreement.

III. SPP serves as a Regional Transmission Organization and is currently registered as an Interchange Authority ("IA"), Planning Authority ("PA"), Reliability Coordinator ("RC"), Reserve Sharing Group ("RSG"), Transmission Planner ("TP"), and Transmission Service Provider ("TSP") in the SPP RE Region. In this Agreement, the ~~RC~~ IA, PA, RC, RSG, TP and TSP functions are sometimes referred to as the "SPP Registered Functions~~,~~", and SPP is referred to as the "Registered Entity" with respect to its performance of the SPP Registered Functions.

IV. To avoid any appearance of a lack of independence in compliance monitoring and enforcement for SPP Registered Functions, SERC and the SPP RE hereby agree, subject to approval by NERC and by the Commission, that SERC should assume responsibility for the Compliance Monitoring and Enforcement Program ("CMEP") with respect to the SPP Registered Functions within the SPP RE Region, and that the terms on which responsibility for the CMEP with respect to the SPP Registered Functions within the SPP RE Region shall be ~~transferred to and~~ performed by SERC should be memorialized in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the Parties, intending to be bound, agree as follows:

**1. Responsibilities of SERC**.

(a) Beginning on the Effective Date, SERC will perform all responsibilities of the Compliance Enforcement Authority ("CEA") as specified in the NERC uniform CMEP, Appendix 4C to the NERC Rules of Procedure ("ROP"), as amended from time to time (the "NERC Uniform CMEP"), within the SPP RE Region with respect to the SPP Registered Functions.

(b) Without limiting the scope of SERC's responsibilities as stated in ~~S~~subsection 1(a) of this Agreement, SERC agrees to perform the following activities within the SPP RE Region:

(1) Administer all compliance processes in Section 3.0 of the NERC Uniform CMEP with respect to the SPP Registered Functions, in accordance with the NERC Annual CMEP Implementation Plan required by Section 4.1 of the NERC Uniform CMEP for each year. If at any time~~,~~ SPP Registered Functions change, SERC will monitor the Registered Functions in effect at that time.

(2) Lead all compliance audits and compliance ~~violation~~ investigations ("C~~V~~I") of the SPP Registered Functions.

(i) SERC shall conduct a scheduled compliance audit of the SPP Registered Functions in accordance with the frequency established by NERC in the CMEP. As SPP is currently registered, SERC will audit the RC function at least once every three (3) years and shall conduct a scheduled compliance audit of the remaining functions at least once every six (6) years.

(ii) Scheduled compliance audits of the SPP Registered Functions ~~shall include all actively-monitored standards~~ shall be in accordance with the NERC Annual CMEP Implementation Plan.

(iii) As required by the NERC ROP, all compliance audits of the SPP RC function shall be conducted on site. Spot checks or other compliance monitoring methods may be completed off site.

(3) Determine if Notices of Possible Violations and N~~n~~otices of Alleged Violations, as those terms are defined in the CMEP, and proposed penalties or sanctions should be issued to SPP with respect to the SPP Registered Functions, and calculate or determine any proposed penalties or sanctions in accordance with the NERC *Sanction Guidelines*.

(4) Administer processes as specified in Section 5.0 of the NERC Uniform CMEP with respect to any ~~notices of~~ Alleged Violations, as that term is defined in the CMEP, and proposed penalties or sanctions issued with respect to the SPP Registered Functions.

(5) Review and approve proposed Mitigation Plans submitted by an SPP Registered Function, and monitor implementation and completion of approved Mitigation Plans, in accordance with Section 6.0 of the NERC Uniform CMEP.

(6) Determine if Remedial Action Directives should be issued to SPP with respect to an SPP Registered Function, and issue such Remedial Action Directives if determined to be necessary, in accordance with Section 7.0 of the NERC Uniform CMEP.

(7) Conduct settlement negotiations for any violations of Reliability Standards discovered by SERC per this agreement, if requested by SPP, in accordance with Section 5.4 of the NERC Uniform CMEP.

(8) Provide due process hearings for the SPP Registered Functions with respect to notices of Alleged Violations, proposed penalties and sanctions, disputed Mitigation Plans, and disputed Remedial Action Directives, as requested by SPP, in accordance with Attachment 2, Hearing Procedures, to the NERC Uniform CMEP.

(c) Compliance audit teams, ~~CVI~~CI teams, and review teams for self-certifications, spot check responses, periodic data submittals, self-reports, exception reports and complaints submitted by or relating to an SPP Registered Function shall not include any employees of SPP, but may include employees of other Regional Entities, NERC and Commission staff members. Provided, that in accordance with Section 2(c) of this Agreement, SERC may request and obtain technical advice and assistance from SPP employees, acting in a consulting or advisory capacity, who are not employed in an SPP Registered Function.

**2. Responsibilities of SPP.**

(a) ~~As the Registered Entity for the SPP Registered Functions,~~ SPP shall establish and designate to SERC a primary compliance contact for each SPP Registered Function, in accordance with Section 2.0 of the NERC Uniform CMEP.

(b) ~~As the Registered Entity for the SPP Registered Functions,~~ SPP shall timely respond to and comply with all notices, requests for information and schedules issued by SERC as the CEA pursuant to the NERC Uniform CMEP.

(c) The SPP RE shall provide subject-matter experts ("SMEs") as requested by SERC to provide technical advice and assistance to SERC, in SERC's discretion, in carrying out the CMEP with respect to the SPP Registered Functions. A SME provided by the SPP RE may be an employee of SPP or an industry volunteer, provided, that no SME provided by the SPP RE may be employed by SPP in an SPP Registered Function. The Parties agree that SMEs provided by the SPP RE shall only be used by SERC in a consulting or advisory capacity to provide expertise and advice on technical matters pertaining to the SPP Registered Functions, shall have no decision-making responsibilities with respect to any compliance processes or compliance enforcement matters, and shall not be a member of any compliance audit team, ~~CVI~~CI team, or review team for self-certifications, spot check responses, periodic data submittals, self-reports, exception reports or complaints submitted by or relating to an SPP Registered Function.

(d) The SPP RE shall reimburse SERC the actual costs of SERC's performance of the CMEP with respect to the SPP Registered Functions, including an appropriate allocation of SERC's ~~G~~general and ~~A~~administrative costs, in accordance with Section 4~~5~~ of this Agreement.

(e) Except as provided in this Agreement, the SPP RE shall continue to perform all CMEP responsibilities in the SPP RE Region in accordance with the NERC-SPP Delegation Agreement.

**3. Disposition of Penalties Paid by SPP with respect to an SPP Registered Function.**

Any penalties to be paid by SPP for violations of Reliability Standards by an SPP Registered Function~~,~~ shall be transmitted to NERC, to be used by NERC as a general offset to NERC's budget for its activities as the Electric Reliability Organization under the Federal Power Act for the following year, in accordance with the *NERC Accounting, Financial Statement and Budgetary Treatment of Penalties Imposed and Received for Violations of Reliability Standards*.

~~**4. Transfer of Responsibilities for CMEP Activities With Respect to SPP Registered Functions That Are In Progress on the Effective Date.**~~

~~SERC shall assume full responsibility, as the CEA, for completion of all compliance processes with respect to the SPP Registered Functions within the SPP RE Region that are in progress as of the Effective Date, including without limiting the foregoing, (i) completion and issuance of reports of compliance audits and CVICI of the SPP Registered Functions, (ii) completion of review of, and issuance of any findings or reports concerning, any self-certifications, spot checks, periodic data submittals, self-reports, exception reports or complaints, submitted by or pertaining to a SPP Registered Function, (iii) determination of whether any notice of Alleged Violations and/or proposed penalties or sanctions should be issued to a SPP Registered Function as a result of any such compliance processes, (iv) processing of any notices of Alleged Violations and/or proposed penalties or sanctions that were issued before the Effective Date, or are issued after the Effective Date as the result of compliance processes conducted before the Effective Date, and (v) review, approval and monitoring of implementation and completion of any Mitigation Plans required of a SPP Registered Function as the result of compliance processes conducted before the Effective Date.~~

**~~5.~~4. Compensation to SERC for Performance of CMEP With Respect to the SPP Registered Functions.**

(a) ~~Compensation for 2010through December 31, 2012.~~

~~For the period between the Effective Date of this Agreement and December 31, 2010, SERC shall invoice SPP RE the amount of $40,000 in for invoices of $10,000 each. The first such invoice will be issued on or about the Effective Date and the remaining three invoices shall be issued at approximately equal intervals between the Effective Date and December 31, 2010. SPP RE shall remit to SERC the amount of each invoice by check or electronic funds transfer to SERC within twenty (20) business days following the date of each invoice.~~

~~(b)~~ Compensation ~~for Years Subsequent to 2010~~.

~~(i)~~ In its annual Business Plans and Budgets submitted to NERC and the Commission for ~~the year 2011 and subsequent~~ years within the term of this Agreement, SERC shall identify a portion of its CMEP budget (the "SPP Registered Functions CMEP Budget"), including an appropriate allocation of SERC's ~~G~~general and ~~A~~administrative ~~costsC~~costs ~~(the "SPP Registered Functions CMEP Budget").~~ that is attributable to the performance of the CMEP with respect to the SPP Registered Functions. SERC's allocation of resources to the performance of its obligations under this Agreement and the corresponding budgeted amount shall be subject to approval by NERC and by the Commission as part of their overall approval of SERC's business plan and budget. The amount of SERC's SPP Registered Functions CMEP Budget shall also be included in the SPP RE's business plan and budget that is submitted to NERC and to the Commission for approval. The amount of the SPP Registered Functions CMEP Budget for each year, as approved by the Commission, shall (i) ~~shall~~ be excluded from the calculation of SERC's assessments to Load-Serving Entities ("LSEs") in the SERC region for each such year, and (ii) ~~shall~~ be included in the calculation of the SPP RE's assessments to LSEs in the SPP RE Region for each such year. ~~SERC shall invoice SPP RE for the amount of the SPP Registered Functions CMEP Budget in four equal quarterly amounts during each year, with the invoices to be issued by SERC to SPP RE on or about January 1, April 1, July 1 and October 1 and to be paid by SPP RE by check or electronic funds transfer to SERC within (20) business days following the date of the invoice.~~

~~(c) Reconciliation of Costs.~~

~~No later than 90 days after the end of a budget year, SERC shall provide to SPP RE a statement of actual expenses incurred by SERC in the fulfillment of SERC's responsibilities under this agreement for that budget year. The statement shall disclose the actual costs of labor, travel and meetings, and all other direct costs, as well as SERC's allocation of its General and Administrative costs. The statement shall summarize the reasons for any variances as compared to the budget amount. SERC shall provide supporting documentation for the final statement upon request by SPP RE. The total variance for the concluded budget year shall be incorporated as a compensating adjustment in both the SERC and SPP RE budgets in the second year following the budget year and, as approved by NERC and the Commission, reflected in the quarterly invoices from SERC to SPP RE and quarterly payments by SPP RE to SERC in such year.~~

~~(d) Supplemental Invoice.~~

~~If during any budget year, including the initial budget year~~2012~~, the actual cost of performing SERC's responsibilities under this agreement exceeds the budgeted funding by more than ten (10) percent of SERCs budgeted cash reserve (for example as may be necessitated by the conduct of a compliance violation investigation or hearing), SERC shall have the right to issue supplemental invoices to SPP RE to recover in full all actual costs incurred above the budgeted funding. Upon receipt of such a supplemental invoice, SPP RE shall pay the full amount of the invoice by check or electronic funds transfer to SERC within sixty (60 days).~~

~~(be~~(b) Billing

SERC will submit an itemized invoice to the SPP RE, on or before the twentieth (20th) day of each month, for actual costs (including an appropriate allocation of SERC's general and administrative costs) incurred during the previous month for work undertaken pursuant to this Agreement. The SPP RE shall pay SERC within sixty (60) days for the expenses SERC has

incurred and for which it has submitted an invoice. SERC shall track the actual costs of the work as it is performed, and should actual costs be on track to exceed budgeted amounts, SERC shall notify the SPP RE of this at the next billing cycle.

~~SERC shall invoice SPP RE for the amount of the SPP Registered Functions CMEP Budget in four equal quarterly amounts during each year, with the invoices to be issued by SERC to SPP RE on or about January 1, April 1, July 1 and October 1 and to be paid by SPP RE by check or electronic funds transfer to SERC within twenty (20) business days following the date of the invoice.~~

(c) True-up Reports

The Parties shall record their costs and revenues associated with the performance of this Agreement at the same level of line-item detail as is used for their budgets that are submitted to NERC for approval by NERC and by the Commission. Each Party shall include in its annual true-up report submitted to NERC a separate section showing the Party's actual and budgeted amounts of costs and revenues associated with performance of this Agreement for the year with explanations of variances.

**~~6~~5. Term, Renewal Term, Termination and Early Termination.**

(a) ~~Initial~~Term. The ~~Initial~~Term of this Agreement shall be from the Effective Date through December 31, ~~2012~~2017.

(b) Renewal Terms. This Agreement shall automatically ~~not~~ renew without notice or other action by either Party, at the end of the ~~Initial~~ Term specified in (a) or any Renewal Term for a Renewal Term of five (5) years; provided, however, that either Party may give written notice to the other Party at least twelve (12) months prior to the end of the Term specified in (a) of an intent not to renew this Agreement; and provided, further, that during a Renewal Term

either Party may terminate this Agreement by providing a written notice to the other Party at least twelve (12) months prior to the desired termination date. Additionally, this Agreement shall not automatically renew if NERC gives written notice to the Parties, at least twelve (12) months prior to the end of the Term or any Renewal Term, that the Parties should request NERC's approval to renew the Agreement, in which case the Parties shall submit a request to renew the Agreement to NERC at least nine (9) months prior to the end of such Term or Renewal Term. In the event of a termination of this Agreement, SERC shall continue to perform the CMEP role with respect to the SPP Registered Functions within the SPP RE Region, in accordance with the terms of this Agreement and the NERC Uniform CMEP until another entity acceptable to the Commission is selected to take, and takes, responsibility for performance of the CMEP with respect to the SPP Registered Functions. ~~without the express approval of NERC and the Commission. If either p~~Party ~~does not plan to seek approval for renewal of the agreement, that Party must give written notice to the other Party and NERC, at least one (1) year prior to the end of the Initial Term. In the event the Parties intend to renew the Agreement, they shall make a joint filing to NERC not later than April 1, 2012 2014 requesting approval of the renewal. In the event of termination of the Agreement, SERC will work with SPP RE to transfer responsibility for any compliance activities in progress to the entity that will be the CEA for SPP.~~

(c) Early Termination. Notwithstanding the provisions of subsections ~~6~~5(a) and ~~6~~5(b) of this Agreement, Early Termination of this Agreement shall occur in the following events:

(i) If SPP or SERC ceases to be a Regional Entity, this Agreement shall terminate as of the end of the calendar year that SPP ceases to be a Regional Entity.

(ii) If SPP or SERC ceases to be a Registered Entity in the SPP RE Region, this Agreement shall terminate as of the last date that SPP or SERC ceases to be a Registered Entity for any SPP Registered Function.

(iii) If both parties agree in writing to terminate this Agreement at any time.

(iv) If any provision of this Agreement, or the application thereof to any person, entity or circumstance, is held by a court or regulatory authority of competent jurisdiction to be invalid, void, or unenforceable, or if a modification or condition to this Agreement is imposed by the Commission, the Parties shall endeavor in good faith to negotiate such amendment or amendments to this Agreement as will restore the relative benefits and obligations of the signatories under this Agreement immediately prior to such holding, modification or condition. If either Party finds such holding, modification or condition unacceptable and the Parties are unable to renegotiate a mutually acceptable resolution, either Party may unilaterally terminate this Agreement. Such termination shall be effective as of one (1) year following written notice by either Party to the other Party, or at such other time as may be mutually agreed by SERC and the SPP RE.

(v)~~Provided, that i~~In the event of the Early ~~t~~Termination of this Agreement,

~~(i)~~ SERC will transfer responsibility for completion of all CMEP ~~compliance~~ processes that are in progress as of the date of Early Termination~~,~~ or within a reasonable time thereafter~~.~~ as mutually agreed to by the ~~p~~Parties, to the entity that will be the CEA for SPP.

(d) In the event of termination or Early Termination of this Agreement, the costs associated with the wind-down of this Agreement and transfer of any compliance processes in progress to the new CEA are payable by the SPP RE to SERC in accordance with Section ~~5~~4 of this Agreement.

**~~7~~6. Representations of the Parties.**

(a) Representations of the SPP RE. The SPP RE represents and warrants to SERC that: ~~-~~(i) the SPP RE is and shall remain during the term of this Agreement validly existing and in good standing pursuant to all applicable laws relative to this Agreement, (ii) no applicable law,

contract or other legal obligation prevents the SPP RE from executing this Agreement and fulfilling its obligations hereunder, (iii) entry into this Agreement by the SPP RE is duly authorized under its governing corporate documents, and (iv) the person or persons executing this Agreement on behalf of the SPP RE are duly authorized to do so.

(b) Representations of SERC. SERC represents and warrants to SPP that: (i) SERC is and shall remain during the term of this Agreement validly existing and in good standing pursuant to all applicable laws relative to this Agreement, (ii) no applicable law, contract or other legal obligation prevents SERC from executing this Agreement and fulfilling its obligations hereunder, (iii) entry into this Agreement by SERC is duly authorized under its governing corporate documents, and (iv) the person or persons executing this Agreement on behalf of SERC are duly authorized to do so.

**~~8~~7. Limitation of Liability.**

SERC and the SPP RE agree not to sue each other or their directors, trustees, officers, employees, and persons serving on their committees and subgroups based on any act or omission of any of the foregoing in the performance of duties pursuant to this Agreement or in conducting activities under the authority of Section 215 of the Federal Power Act, other than seeking a review of such action or inaction by the Commission. SERC and the SPP RE shall not be liable to one another for any damages whatsoever, other than for non-payment of or failure to remit compensation due pursuant to Section ~~5~~4 of this Agreement, including without limitation, direct, indirect, incidental, special, multiple, consequential (including attorneys' fees and litigation costs), exemplary, or punitive damages arising out of or resulting from any act or omission associated with the performance of SERC's or the SPP RE's responsibilities under this Agreement or in conducting activities under the authority of Section 215 of the Federal Power Act, except to the extent that SERC or the SPP RE is found liable for gross negligence or intentional misconduct, in which case SERC or SPP RE shall not be liable for any indirect,

incidental, special, multiple, consequential (including without limitation attorneys' fees and litigation costs), exemplary, or punitive damages.

**~~9~~8. No Third Party Beneficiaries.**

Nothing in this Agreement shall be construed to create any duty to, any standard of care with reference to, or any liability to any third party.

**~~10~~9. Confidentiality.**

During the course of the Parties' performance under this Agreement, a Party may receive Confidential Information, as defined in Section 1500 of the NERC ROP. Except as set forth herein, the Parties agree to keep in confidence and not to copy, disclose, or distribute any Confidential Information or any part thereof, without the prior written permission of the issuing Party, unless disclosure is required by subpoena, law, or other directive of a court, administrative agency, or arbitration panel, in which event the recipient hereby agrees to provide the Party that provided the Confidential Information with prompt notice of such request or requirement in order to enable such issuing Party to (a) seek an appropriate protective order or other remedy, (b) consult with the recipient with respect to taking steps to resist or narrow the scope of such request or legal process, or (c) waive compliance, in whole or in part, with the terms of this Section ~~10~~9. In the event a protective order or other remedy is not obtained or the issuing Party waives compliance with the provisions, the recipient agrees to furnish only that portion of the Confidential Information which the recipient's counsel advises is legally required and to exercise best efforts to obtain assurance that confidential treatment will be accorded to such Confidential Information. In addition, each Party shall ensure that its officers, trustees, directors, employees, subcontractors and subcontractors' employees, and agents to whom Confidential Information is exposed are under obligations of confidentiality that are at least as restrictive as those contained herein. This confidentiality provision does not prohibit reporting

and disclosure by SERC, as the CEA with respect to the SPP Registered Functions, in accordance with Section 8.0 and other provisions of the NERC Uniform CMEP.

**~~11~~10. Amendment.**

Neither this Agreement nor any of the terms hereof, may be amended unless such amendment is made in writing and signed by the Parties.

**~~12~~11. Dispute Resolution.**

In the event a dispute arises under this Agreement between SERC and the SPP RE, representatives of the Parties with authority to settle the dispute shall meet and confer in good faith in an effort to resolve the dispute in a timely manner. In the event the designated representatives are unable to resolve the dispute within thirty (30) days or such other period as the Parties may agree upon, each Party shall have all rights to pursue all remedies, except as expressly limited by the terms of this Agreement. Neither Party shall have the right to pursue other remedies until the Dispute Resolution procedures of this Section ~~12~~11 have been exhausted. This Section ~~12~~11 shall not apply to enforcement actions or Remedial Action Directives by SERC, as the CEA, against an SPP Registered Function, or hearings conducted at the request of SPP as the Registered Entity for an SPP Registered Function, pursuant to the NERC Uniform CMEP.

**~~13~~12. Notices.**

Whether expressly so stated or not, all notices, demands, requests, and other communications required or permitted by or provided for in this Agreement shall be given in writing to a Party at the address set forth below, or at such other address as a Party shall designate for itself in writing in accordance with this Section, and shall be delivered by hand or reputable overnight courier:

| If to SERC: | If to the SPP RE: |
|---|---|
| SERC Reliability Corporation | Southwest Power Pool Regional Entity. |

2815 Coliseum Centre Drive

Suite 500
Charlotte, NC 28217
Attn: Marisa Sifontes
Facsimile: 704-357-7914

415 North McKinley,
Suite 140~~16101 La Grande~~
~~Suite 103~~
Little Rock, AR 722052~~3~~
Attn: Stacy Dochoda
Facsimile: 501-821-8726

Provided, that the foregoing notice provision shall not be applicable to notices and other communications between SERC, as the CEA, and SPP as the Registered Entity for an SPP Registered Function, which notices and other communications shall instead be provided or transmitted in accordance with the NERC Uniform CMEP.

**~~14~~13. Governing Law.**

When not in conflict with or preempted by federal law, this Agreement will be governed by and construed in accordance with the laws of Delaware without giving effect to the conflict of law principles thereof. The Parties recognize and agree not to contest the exclusive or primary jurisdiction of the Commission to interpret and apply this Agreement; provided, however, that if the Commission declines to exercise or is precluded from exercising jurisdiction of any action arising out of or concerning this Agreement, such action shall be brought in any state or federal court of competent jurisdiction in Delaware. All Parties hereby consent to the jurisdiction of any state or federal court of competent jurisdiction in Delaware for the purpose of hearing and determining any action not heard and determined by the Commission.

**~~15~~14. Headings.**

The headings and captions in this Agreement are for convenience of reference only and shall not define, limit, or otherwise affect any of the terms or provisions hereof.

**~~16~~15. Entire Agreement.**

This Agreement constitutes the entire agreement, and supersedes all prior agreements and understandings, both written and oral, among the Parties with respect to the subject matter of this Agreement.

**~~17~~16. Execution of Counterparts.**

This Agreement may be executed in counterparts and each counterpart shall have the same force and effect as the original.

**NOW, THEREFORE,** the Parties have caused this Agreement to be executed by their duly authorized representatives, to be effective as of the Effective Date.

| | |
|---|---|
| SERC RELIABILITY CORPORATION | SOUTHWEST POWER POOL, INC. |
| By: _____ | By: _____ |
| Name: R. Scott Henry | Name: Stacy Dochoda |
| Title: President and CEO | Title: General Manager<br>SPP Regional Entity |
| Date: _____ | Date: _____ |

Agenda Item 9
Board of Trustees Meeting
May 9, 2012

# MRC Standards Process Input Group (SPIG) Recommendations

## Action

Discussion of Member Representatives Committee (MRC) input.

## Background

In February 2012, the MRC was asked to commence a working group to provide policy input and recommendations for specific improvements to the existing NERC reliability standards development process. The Standards Process Input Group (SPIG) commenced in March and sought industry input and feedback on a variety of issues which included:

- Quality of standards, to include process and product
- Timeliness
- Efficiency and effectiveness
- Importance and significance of meeting ANSI requirements

The SPIG gathered valuable input and insight on a number of significant issues related to standards development and compiled a report consisting of five recommendations. The MRC followed by the Standards Oversight and Technology Committee (SOTC) plan to discuss, during May 8, these recommendations to determine:

- Which have merit and which need additional refinement;
- If concerns relative to production, efficiency and quality, raised by stakeholders and regulators, have been addressed;
- Whether additional changes to the governance of the standards development process are needed to supplement the SPIG's report; and
- What oversight the SOTC and Board of Trustees will want to see over how implementation issues are analyzed and ultimately proposed for endorsement, acceptance, or approval.

The MRC plans to discuss, during its May 8 meeting, these recommendations to determine which have merit and which need additional refinement. Once the SPIG has received the MRC's input it will finalize a proposal for the implementation of the recommendations before providing a package to the Board of Trustees for their endorsement and action at a later date. In some cases, changes to the Rules of Procedure may be required for final implementation, which will take additional time to develop and gain approval.

The SPIG will present the draft report and its recommendations to the MRC and SOTC for additional discussion and targets the final report and recommendations for Board of Trustees approval in late May 2012.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda Item 9
Attachment 1
Board of Trustees Meeting
May 9, 2012

# Recommendations to Improve the NERC Standards Development Process

## Member Representatives Committee (MRC)
## Standards Process Input Group (SPIG)

Draft — April 2012

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Preface

## Formation of the Standards Process Input Group

At its February 9, 2012 meeting, the NERC Board of Trustees (BOT) requested the assistance of the NERC Member Representatives Committee (MRC) to provide policy input, and a proposed framework, for specific improvements needed to the standards development process. The MRC Chair and Vice Chair invited several members of the MRC, two NERC Board of Trustees members, the NERC CEO, and the Standards Committee (SC) Chair to join with them as participants in the Standards Process Input Group (SPIG) in developing recommendations to improve the standards development process in the following areas:

- Clarity on the reliability objectives, technical parameters, scope, and the relative priority of the standards project.
- The drafting process (developing the specific technical content of the standard).
- Standards project management and workflow.
- Formal balloting and commenting.

To help ensure that the SPIG focused its efforts on the best areas for improvement, they began their process by gathering input from subject matter experts (SMEs), including the regions, MRC, Standard Drafting Team leaders, NERC staff, and other stakeholders by asking the following:

- What are the issues that are keeping the process from improving the reliability benefits of the standards?
- What are the impediments to improving the efficiency of completing a new standard or standard revision?
- Are stakeholder resources being used efficiently? If not, then why?

**SPIG Timeline for Input**

- Trades input was provided to NERC BOT in January 2012
- Outreach Survey comments received from 105 stakeholders in late February
- SPIG conference call with FERC staff and initial SPIG planning meeting conducted in early March
- SPIG provides preliminary report to MRC for input in early April
- Input from MRC received by April 13
- Additional SPIG planning meeting to consider MRC input conducted April 19-20
- Report revised, finalized, and posted with MRC agenda on April 25
- MRC discussion at MRC meeting on May 8
- Final report to NERC BOT in late May

# Table of Contents

Preface ..... i

Executive Summary ..... 1

Introduction ..... 3

Recommendations from the SPIG ..... 5

Recommendation 1: American National Standards Institute ..... 5

Recommendation 2: Reliability Issues Steering Committee (RISC) ..... 6

Recommendation 3: Interface with Regulatory and Governmental Authorities ..... 10

Recommendation 4: Standards Product ..... 12

Recommendation 5: Standards Development Process and Resources ..... 14

# Executive Summary

The Standards Process Input Group (SPIG) organized by the NERC Member Representatives Committee (MRC) is proposing in this report a number of changes to the way NERC develops Reliability Standards and other solutions intended to improve the priority, product and process of standards development. Inherent in these proposed changes is an effort to better understand, articulate and incorporate, into the standards development process, the appropriate accountabilities for standards development.

For example, Section 215 of the Federal Power Act creates accountability for the Federal Energy Regulatory Commission (FERC), first to certify an Electric Reliability Organization (ERO) for the purpose of establishing and enforcing reliability standards for the bulk power system, and then to approve the standards developed by the ERO. As such, FERC is accountable to the U.S. Congress, which passed the law that created Section 215.

Section 215 also creates accountability for NERC by requiring that the ERO, certified by FERC, have a demonstrated ability to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system. This accountability extends to the NERC management to see that high quality standards are developed in an efficient and effective way and to the NERC Board of Trustees (Board) that must approve those standards before they are filed with governmental regulatory authorities in the U.S. and Canada.

Finally, the stakeholders, whose technical expertise is essential to the development of the standards, have a shared accountability with NERC and with each other to see that the right standards are developed in a fair, open, balanced and inclusive way.

One of the principal recommendations of the SPIG, is the creation of a Reliability Issues Steering Committee (RISC) that is intended to address these issues of accountability by ensuring that NERC develops the right standards, in the right way, and in a timely and efficient manner. To accomplish this, the RISC will conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

In addition to recommending the creation of the RISC, the SPIG also recommends that Reliability Standards Audit Worksheets (RSAWs) be developed concurrent with their associated standards and posted along with those standards for comment. The purpose here is to make sure that the RSAWs are aligned with the intent and wording of the standards to reduce the need for Interpretations and Compliance Application Notices.

Lastly, the SPIG is recommending a redesign of the composition and process used by Standards Drafting Teams to make more efficient and effective use of the subject matter expertise resident in the industry, and to provide those experts with additional support resources in terms of project management and facilitation, legal expertise, and technical writing support.

The recommendations also aim to strengthen consensus building, first on the need for a standard and then on the requirements themselves.

Collectively, these recommendations suggest a major revision of how decisions to develop standards are determined in the first place and, once the decision is made that a new or revised standard is needed, to see that it is developed in the most efficient, effective, and timely way, taking into account throughout the process the costs, benefits and justification for all standards.

# Introduction

*Priority, product and process* are the three main focus areas addressed by the recommendations of the SPIG regarding their review and analysis of the NERC standards development process.

The SPIG provides five recommendations designed for action and for discussion. The analysis of feedback received throughout this project indicates that more discussion should occur around the variety of the changes, improvements, and implementation being proposed in these recommendations, as listed below and described in more detail in this report.

**Recommendation 1: American National Standards Institute** — NERC should continue to meet the minimum requirements of the American National Standards Institute (ANSI) process to preserve ANSI accreditation.

**Recommendation 2: Reliability Issues Steering Committee** — The NERC Board is encouraged to form a Reliability Issues Steering Committee (RSIC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

**Recommendation 3: Interface with Regulatory and Governmental Authorities** — The NERC Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.

**Recommendation 4: Standards Product Issues** — The NERC board is encouraged to require that the standards development process address:

- The use of results–based standards (RBS);
- Cost effectiveness of standards and standards development;
- Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and
- The retirement of standards no longer needed to meet an adequate level of reliability.

**Recommendation 5: Standards Development Process and Resource Issues** — The NERC Board is encouraged to require the standards development process to be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:

- Formal and consistent project management; and
- Efficient formation and composition of Standard Drafting Teams (SDTs).

These recommendations were derived from a synthesis of stakeholder responses categorized into the following three concentrated areas:

*I. ANSI: Accreditation*

- Preserve ANSI accreditation in order to ensure openness, transparency, consensus building, balance of interests and due process
- Ensure checks and balances of the ANSI process
- Limit application of requirements that can hinder progress
- Limit negative ballots without comment
- Consider other options if ANSI prevents efficiency gains

*II. PRODUCT: Quality of Standards*

- Consider the cost effectiveness (limited value justification)
- Improve clarity in terms of the reliability objective and benefit
- Ensure auditability
- Improve supporting documentation or administrative records
- Improve registered entity and auditor understanding
- Involve industry, NERC and FERC in the quality review earlier in the standards development process
- Seek clarity and technical justification upfront
- Be sensitive not to gear towards compliance risk rather than reliability risk

*III. PROCESS: Efficiency, Timeliness and Effectiveness*

- Address the SDT composition (need expertise in legal, technical writing, compliance, etc.)
- Improve timeliness and effectiveness in terms of commenting/balloting (need to consider the manual effort and timing associated with posting, grouping and responding)
- Manage the number of standards coming through the process at the same time (to ensure the right number can be processed efficiently)
- Seek convergence on consensus (to avoid taking too long to achieve)
- Improve efficiencies (to avoid taking too long)
- Implement a project manager and facilitator (need within the SDT and the back office of NERC)
- Improve communications and coordination between industry, NERC and FERC staff; especially in terms of the compliance/enforcement process

# Recommendations from the SPIG

## Recommendation 1: American National Standards Institute

### Issue

Should NERC continue using the American National Standards Institute (ANSI) process for developing standards?

### Recommendation

***NERC should continue to meet the minimum requirements of the ANSI process to preserve ANSI accreditation.***

### Background

The SPIG's initial survey of the industry asked "How important are ANSI accreditation and ANSI principles (openness, transparency, consensus-building, fair balance of interests, and due process) to the NERC standards development process?" The majority of responses agreed that NERC standards development process should continue to at least meet the minimum ANSI requirements (Figure 1).

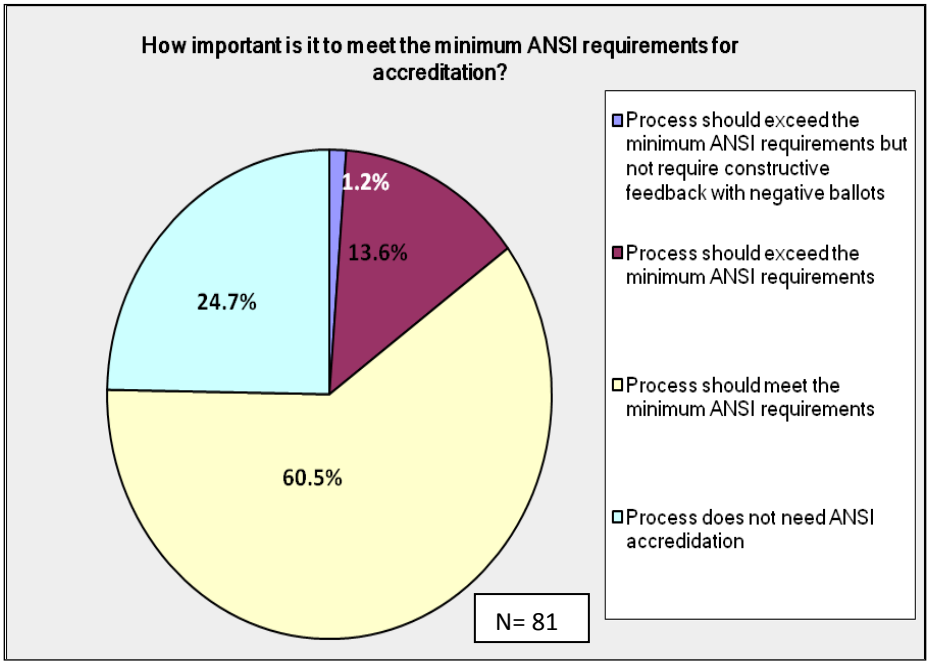



Figure 1: Results from SPIG survey of the Industry, April 2012

According to ANSI, accreditation signifies the standards developer is committed to an open, fair and time-tested consensus process that benefits stakeholders. Developers are accredited to the requirements contained in the *ANSI Essential Requirements: Due Process Requirements for American National Standards*. NERC staff confirms that the current standards process meets and in some cases exceeds the ANSI Essential Requirements.

## Recommendation 2: Reliability Issues Steering Committee (RISC)

### Issue

How should NERC determine:

- What actions are needed to address identified risks to reliability?
- Whether the development of a standard is necessary and its cost/benefit to reliability is justified?
- What should be the priority and timeline for standards development?

### Recommendation

***The Board is encouraged to form a Reliability Issues Steering Committee (RISC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.***

### Proposed Details

The RISC would:

- Be comprised of stakeholders including, but not limited to:
  - Chairs and vice chairs of the technical committees;
  - Select MRC members and other stakeholders;
  - Chair, approved by the Board; and
  - NERC Senior Staff member.
- Utilize a broad range of industry and other expertise.
- Analyze performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
- Advise the Board on key initiatives and priorities; recommends standards projects or alternatives (Figure 2).
- Report directly to Board (and not the MRC).
- Require Board review and approval of any significant new ERO initiatives or reordering of ERO strategic priorities.
- Not supersede the role of Standards Committee.
- Set milestones and timelines for standards projects.
- Conform to NERC Bylaws and Rules of Procedure.

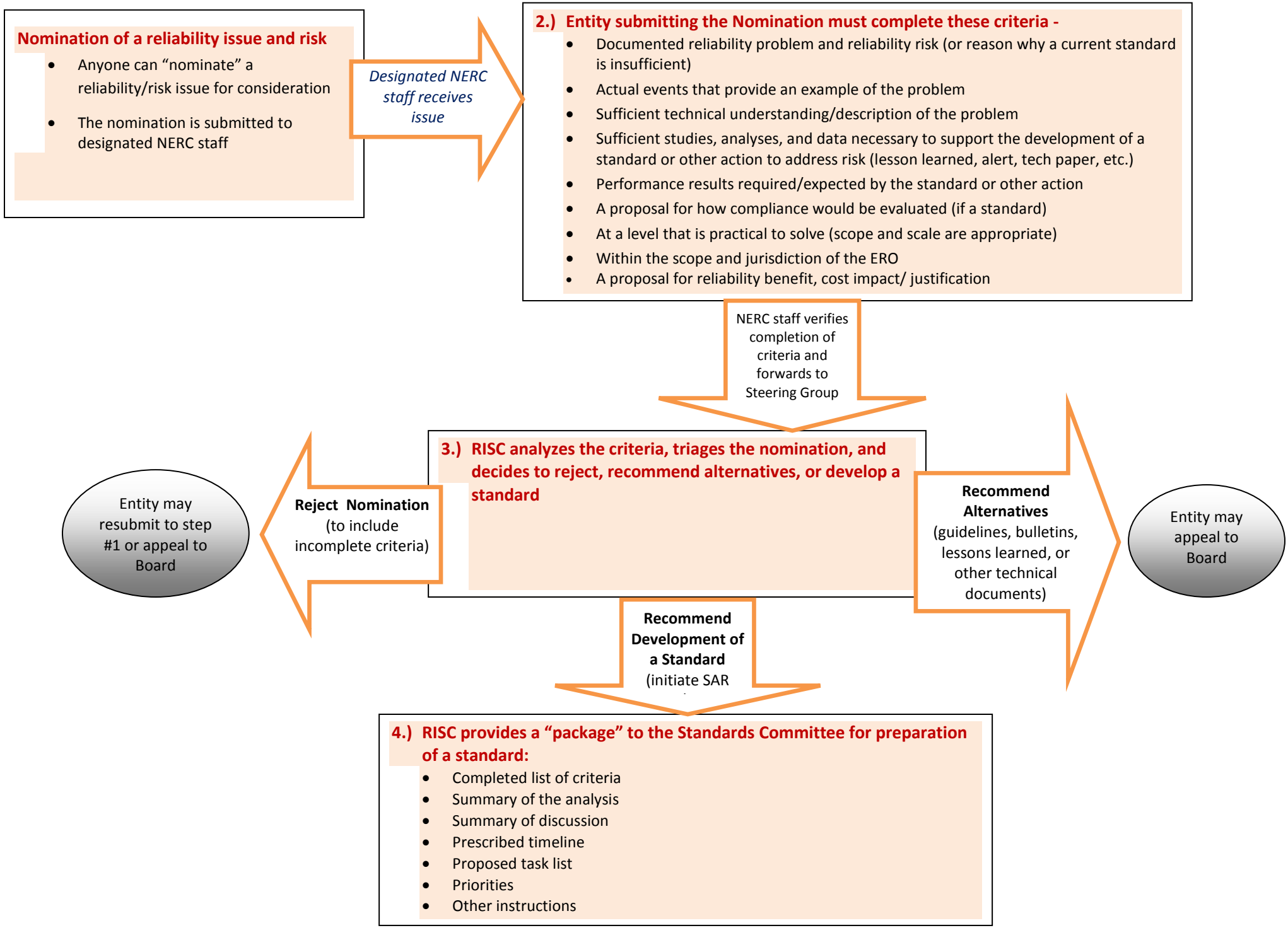
**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Role of the RISC in three-year reliability SDP.
- Modification to existing standards including elimination of duplicative or low value standards.
- Role of RISC with respect to FERC directives.
- Communication between the RISC, Standards Committee (SC), Standards Oversight and Technology Committee, MRC and Board and its technical committees.
- Relationship with governmental authorities.

## Explanation of Figure 2: Proposed Front-End Process Flow Chart

- Anyone can "nominate" a reliability/risk issue, via designated NERC staff, for consideration by the RISC. Upon verification and satisfactory completion of the nomination criteria, the RISC may decide to:
  1. Reject the nomination;
  2. Recommend alternative action other than standards; or,
  3. Develop a standard.
- If the nomination is rejected by the RISC, an appeals process will be available.
- Recommended alternatives to standards may include the development of guidelines, bulletins, alerts, lessons learned, best practices, technical documents, etc. If a standard is recommended, a project management "package" will be prepared by the RISC for the SC, including (as appropriate):
  - The completed list of criteria
  - Analysis of performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
  - Discussion
  - Timeline
  - Task list
  - Priorities
  - Other instructions
- The RISC may refer a "package" to the SC with instructions to prepare a standard. The RISC should also inform the MRC and Board of its actions.

## Figure 2: Proposed Front-End Process Flowchart (pathway for the Reliability Issues Steering Committee – RISC)



# Recommendation 3: Interface with Regulatory and Governmental Authorities

## Issue

How can NERC improve the communication and awareness of NERC's strategic initiatives on major risks to reliability to increase alignment of NERC with the concerns of state, federal, and provincial authorities?

## Recommendation

***The Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.***

### Proposed Details

- Interface with governmental authorities to align priorities and timing of reliability initiatives. Establish and align priorities early on during the nomination of the reliability issue.
- Develop methods to effectively communicate progress and manage expectations.
- Promote effective rules of engagement of state, federal, and provincial regulatory staff in accordance with jurisdictional requirements.
- Following successful ballot of standard and approval by the Board, pre-filing meetings will be held with FERC staff and individual Commissioners to help ensure FERC approval without conditions; and similar efforts will apply with governmental authorities in Canada.

### Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase

- Responsibility for managing the details above, concerning progress and expectations.
- Encourage regulatory authorities to permit staff to submit written comments to the drafting team during informal and formal comment periods.

## Background

The SPIG provides as additional reference and guidance the *Roles and Responsibilities: Standards Drafting Team Activities*, approved by the SC in July 2011, includes the following policy guidance, approved by the NERC Board at its October 29, 2008 meeting, to guide standard drafting teams' responses to regulatory authority staff involvement in standard drafting activities:

a. The standard drafting team has sole responsibility for drafting and approving the language in the proposed standards that are presented to the SC for ballot.

b. NERC and the SC support the involvement of regulatory authority staff in all standards drafting team activities, where permitted by law.

c. NERC recognizes that regulatory authority staff does not speak for the regulatory authority itself and, as such, the input they provide is considered advice.

d. In the event regulatory authority staff does choose to participate in drafting team activities, they should be treated as any non-voting observer or participant.

e. Standard drafting team members should seek out the opinion of regulatory authority staff, consider the regulatory staff input on its technical merits, and respond to written comments offered during a public posting period as it would seek opinions from, consider the technical merits of, and respond to comments offered by other industry stakeholders.

f. To the extent that regulatory authority staff advice is offered to the drafting team (or members thereof) in a forum that is not public and open to all industry participants, the standard drafting team should consider the input as advice.

g. If the team chooses to act on regulatory authority staff advice offered in a non public forum, the standard drafting team chair should either:

   - Request the regulatory authority staff to provide the advice during an open meeting or conference call of the drafting team; or,
   - Document his/her understanding of the issues or advice presented, and include the information in an open industry comment period with the accompanying changes to the proposed standards.

# Recommendation 4: Standards Product

**Issue**
How will standards be developed to effectively achieve reliability objectives through clear, high quality Results-Based Standards (RBS) requirements in a cost effective manner?

**Recommendation:**
***The Board is encouraged to require that the standards development process address:***

- ***The use of RBS;***
- ***Cost effectiveness of standards and standards development;***
- ***Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and***
- ***The retirement of standards that are no longer needed to meet an adequate level of reliability.***

**Proposed Details**

- Utilize RBS model as the basis for all standards.
  i. Evaluate all existing standards and revise to meet format of RBS.
  ii. Retire any existing standards that are not chosen to be modified into a RBS format per Board approval.
  iii. Develop all new standards in RBS format.
- Ensure cost effectiveness of standards through documentation of alternatives analysis.
- Include cost impact/reliability benefit analysis in the final standards package posted for ballot.
- Ensure clarity on reliability objectives and compliance obligations.
  i. SDT is responsible for the development of the standard including requirements and measures.
  ii. Compliance staff will develop RSAWs (that will be used in the auditing of compliance) in conjunction and coincident with the development of the standard.
  iii. Post entire package for stakeholder comment, including standards and RSAWs (RSAWs are not balloted).
  iv. Changes to RSAWS after the ballot body develops measure/standard require Board approval.
- Revise Essential Elements of the Standards Template to eliminate redundancies such as Violation Severity Levels (VSLs).
- Consider "applicability" provisions and criteria for those most impacted by implementing a standard.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Establish process to consider elimination of standards and standards requirements that have minimal value.
    i. The recent FERC Find, Fix, Track and Report (FFTR) Order encourages the reduction of unnecessary requirements and a structured process needs to be developed to achieve this.
    ii. Additional options may include a task to the RISC, Operating Committee, or Planning Committee, as determined by the Board.

# Recommendation 5: Standards Development Process and Resources

## Issue

How can the existing standards development process be improved upon and streamlined and how can resources be better utilized to ensure effective, efficient, and expeditious standards development?

## Recommendation

***The Board is encouraged to require the standards development process be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:***

- ***Formal and consistent project management***
- ***Efficient formation and composition of SDTs***

### Proposed Details

- The drafting team will post responses to each comment received during the *final,* formal comment period prior to the recirculation ballot. For other postings, there is no ANSI requirement to post responses to the comments.
- Modify the comment process to:
  i. Bundle responses to comments.
  ii. SDT will post draft standard for informal comment period of 30 days, but not be required to respond to comments.
  iii. Promote an automated system for managing comments.
  iv. Conduct industry webinars between successive ballots to enhance understanding of issues and facilitate consensus.
  v. Facilitate consensus by encouraging industry collaboration and submittal of coordinated comments through Regional Entities and trade groups.
- Ballot process shall:
  i. Use all votes cast by ballot pool member to establish quorum.
  ii. Provide options for voting “No” with guiding choices for the answer with a comment section on the ballot.
- Formalize the use of formal, rigorous project management (i.e., trained leaders, facilitators, scribes, etc.) within SDTs to ensure greater efficiency and effectiveness of the SDTs.
- Revise formation and composition of SDTs model.
  i. Incorporate the support of technical writers, legal, compliance and rigorous and highly trained facilitation support.

ii. Ensure adequate representation and competencies based on complexity of the issue.

- Promote efficiency and timeliness by setting milestones and progress reports.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Reinforce mechanisms to add during the commenting process.

i. Locked list of answer options (e.g., "risk to reliability," "cost concerns," etc.).

ii. "Other" option for the No vote list with a comment section that requires explanation that this approach will balance input to empower the SC to conduct a more thorough balloting process.

iii. Consider bolding of text instructions on all ballots that emphasize the importance of clarity.

iv. Consider the advantage/disadvantage to establishing voting record for each participant/entity.

Agenda Item 10
Board of Trustees Meeting
May 9, 2012

# 2012 State of Reliability Report

## Action
Review and accept.

## Background
The NERC *2012 State of Reliability* report continues to evolve from the 2011 foundational report, *2011 Risk Assessment of Reliability Performance*.[1] The 2012 report was prepared by the NERC Performance Analysis Subcommittee[2] (PAS) under the direction of the Planning Committee and NERC staff in collaboration with many technical groups,[3] analyzing specific indications of bulk power system reliability, including the:

- Operating Committee:
  - Resources Subcommittee (RS)
  - Frequency Working Group (FWG)
  - Operating Reliability Subcommittee (ORS)
- Planning Committee
  - Reliability Assessment Subcommittee (RAS)
  - System Protection and Control Subcommittee (SPCS)
  - Event Analysis Working Group (EAWG)
  - Transmission Availability Data System Working Group (TADSWG)
  - Generating Availability Data System Working Group (GADSWG)
  - Demand Response Availability Data System Working Group (DADSWG)

The goal of this report is to objectively review and assess the state of reliability based on metric trends to provide an integrated view of reliability performance. The key findings and recommendations serve as technical input to NERC's Reliability Standards and project prioritization, compliance operations process improvement, event analysis, reliability assessment, and critical infrastructure protection.

Among the 18 metrics that address the characteristics of an adequate level of reliability (ALR), trends indicate the bulk power system has been performing consistently well. There are no significant upward or downward trends from 2008 to 2011. Based on the data and its analysis, the following six key findings were identified:

1. Bulk power system reliability remains adequate.
2. Frequency response performance appears flat with no deterioration.
3. Protection system misoperations are a significant reliability issue.

[1] http://www.nerc.com/files/2011_RARPR_FINAL.pdf
[2] http://www.nerc.com/filez/pas.html
[3] http://www.nerc.com/page.php?cid=1|117

4. Equipment failure appears to be a significant reliability issue.
5. Wind generation and demand response growth call for performance assessment.
6. More data, time and research is needed to produce deeper understanding of root causes for significant reliability issues and develop effective action steps.

Agenda Item 11
Board of Trustees Meeting
May 9, 2012

# Severe Impact Resilience: Considerations and Recommendations Report

## Action

Review and accept the *Severe Impact Resilience: Considerations and Recommendations* report prepared by the Severe Impact Resilience Task Force (SIRTF) as part of the *Coordinated Action Plan*[1] to address high-impact, low-frequency (HILF) risks.

## Background

To help the electricity industry better understand HILF risks, NERC and the U.S. Department of Energy (DOE) issued a report titled, "*High-Impact, Low-Frequency Event Risk to the North American Bulk Power System*"[2]. In November 2010, the NERC Board of Trustees approved a *Coordinated Action Plan* under the leadership of the NERC Technical Committees to establish four task forces to address this work. The *Severe Impact Resilience: Considerations and Recommendations* report provides the conclusions of one of the task forces, the SIRTF.

The report provides guidance to industry asset owners and operators (entities) in the form of recommendations to enhance the resilience of the bulk power system (BPS). Three HILF scenarios were specifically considered as the initiating events, but the recommendations in this report may be applicable to any severe-impact scenario.

- **Coordinated physical attack** – A coordinated physical attack on key nodes of the BPS critically disables difficult to replace equipment in multiple generating stations or substations and could have a significant effect on the remainder of the system. A prolonged period of time is required to fully restore the BPS to normal operation.
- **Coordinated cyber attack** – A coordinated disruption disables or impairs the integrity of multiple control systems, or intruders take operating control of portions of the BPS such that generation or transmission system is damaged or mis-operated.
- **Geomagnetic disturbance**[3] – A severe geomagnetic disturbance damages difficult to replace generating station and substation equipment and causes a cascading effect on the remainder of the system. A prolonged period of time is required to fully restore the BPS to normal operation.

The guidance offered in this report reaches beyond the emergency response capabilities entities typically have in place. To emphasize this, the SIRTF developed two important concepts that run throughout this report; Severe Event and New Normal. A Severe Event is an emergency situation so catastrophic that complete restoration of electric service is not possible and the BPS is operated at a reduced state of reliability and supply for months or possibly years through a New Normal period.

The suggestions offered throughout this report are intended to prompt entities to develop their own approaches and flexible plans that would be applicable under a wide variety of

[1] Ref. Coordinated Action Plan http://www.nerc.com/docs/ciscap/Critical_Infrastructure_Strategic_Initiatives_Coordinated_Action_Plan_BOT_Apprd_11-2010.pdf
[2] Ref. High Impact Low Frequency report http://www.nerc.com/files/HILF.pdf
[3] Ref. *Interim Report: Effects of Geomagnetic Disturbances on the Bulk Power System* http://www.nerc.com/files/2012GMD.pdf. This report concluded that the loss of reactive power is the most likely outcome from a severe solar storm centered over North America.

circumstances. The report offers 33 key recommendations that are of a planning and operational nature, and entities are strongly encouraged to consider these from a strategic and leadership perspective, in particular:

- Enhance existing restoration drills and exercises to incorporate HILF scenarios that include interdependencies with other critical infrastructures such as telecommunications.
- Recognize that plans and operating practices will need to be continually assessed and adjusted as necessary over an extended period that could last months or years following a Severe Event.
- Involve neighboring jurisdictions and government agencies by sharing plans and building a better understanding of how these plans will be coordinated and implemented.

While the majority of the recommendations are intended for entity consideration, the NERC Operating Committee has identified several for further action. These efforts will be coordinated with the other Technical Committees and the Electricity Sub-sector Coordinating Council.

The *Severe Impact Resilience: Considerations and Recommendations* report has been reviewed and approved by the Operating Committee, Planning Committee, and Critical Infrastructure Protection Committee. The Electricity Sub-sector Coordinating Council has also endorsed the report.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda Item 11
Attachment 1
Board of Trustees Meeting
May 9, 2012

# Severe Impact Resilience:
## Considerations and Recommendations

Severe Impact Resilience Task Force

FINAL DRAFT

NOTE

This document is a final draft for approval by NERC's Technical Committees.

Following Technical Committee approval, NERC's Board of Trustees will be asked to endorse the report.

RELIABILITY | ACCOUNTABILITY

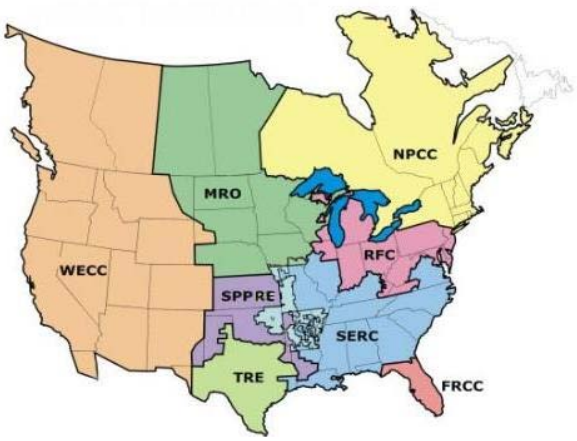





# NERC's Mission

The North American Electric Reliability Corporation (NERC) is an international regulatory authority established to enhance the reliability of the bulk power system (BPS) in North America. NERC develops and enforces Reliability Standards; assesses adequacy annually via a 10 year forecast and winter and summer forecasts; monitors the BPS; and educates, trains, and certifies industry personnel. NERC is the electric reliability organization (ERO) for North America, subject to oversight by the U.S. Federal Energy Regulatory Commission (FERC) and governmental authorities in Canada.[1]

NERC assesses and reports on the reliability and adequacy of the North American BPS, which is divided into eight regional areas, as shown on the map and table below. The users, owners, and operators of the BPS within these areas account for virtually all the electricity supplied in the U.S., Canada, and a portion of Baja California Norte, México.




| Table A: NERC Regional Entities | |
|---|---|
| **FRCC**<br>Florida Reliability Coordinating Council | **SERC**<br>SERC Reliability Corporation |
| **MRO**<br>Midwest Reliability Organization | **SPP**<br>Southwest Power Pool, Incorporated |
| **NPCC**<br>Northeast Power Coordinating Council | **TRE**<br>Texas Reliability Entity |
| **RFC**<br>Reliability*First* Corporation | **WECC**<br>Western Electricity Coordinating Council |

**Note:** *The highlighted area between SPP and SERC denotes overlapping regional area boundaries: For example, some load serving entities participate in one region and their associated transmission owner/operators in another.*

[1] As of June 18, 2007, the U.S. Federal Energy Regulatory Commission (FERC) granted NERC the legal authority to enforce Reliability Standards with all U.S. users, owners, and operators of the bulk power system, and made compliance with those standards mandatory and enforceable. In Canada, NERC presently has memorandums of understanding in place with provincial authorities in Ontario, New Brunswick, Nova Scotia, Québec, and Saskatchewan, and with the Canadian National Energy Board. NERC standards are mandatory and enforceable in Ontario and New Brunswick as a matter of provincial law. NERC has an agreement with Manitoba Hydro making reliability standards mandatory for that entity, and Manitoba has recently adopted legislation setting out a framework for standards to become mandatory for users, owners, and operators in the province. In addition, NERC has been designated as the "electric reliability organization" under Alberta's Transportation Regulation, and certain reliability standards have been approved in that jurisdiction; others are pending. NERC and NPCC have been recognized as standards-setting bodies by the Régie de l'énergie of Québec, and Québec has the framework in place for reliability standards to become mandatory. NERC's reliability standards are also mandatory in Nova Scotia and British Columbia. NERC is working with the other governmental authorities in Canada to achieve equivalent recognition.

# Table of Contents

Table of Contents ..... ii

1.0 Executive Summary ..... 1

Understanding a Severe Event ..... 2

Enhancing Resilience ..... 2

Recommendations ..... 3

Operations ..... 3

Monitoring the BPS ..... 4

Communications ..... 4

Short-term and Long-term System Planning ..... 4

Protection and Control ..... 5

Interdependencies with Other Critical Infrastructures ..... 5

Coordination with Government ..... 5

Taking Care of People ..... 6

Logistics and Self-Sustained Operations ..... 6

Preventing and Responding to Physical Attacks ..... 6

Emergency Financing ..... 6

Conclusions ..... 7

Recommendations for Entity Action ..... 7

NERC's Reliability Standards under a Severe Event ..... 7

Acknowledgements ..... 8

2.0 Introduction ..... 9

2.1 Background and Key Concepts ..... 10

2.1.1 Use of Terms ..... 10

2.1.2 Understanding a Severe Impact Event ..... 10
2.1.3 Impact of a Severe Event on the BPS ..... 10
2.1.4 Impact of a Severe Event on Society ..... 11
2.1.5 Understanding Resilience ..... 11
2.1.6 Understanding the New Normal ..... 14
2.1.7 New Normal Challenges ..... 16
2.1.8 The Applicability of NERC Standards During a Severe Event ..... 17
3.0 Operations ..... 18
3.1 Immediate Automatic Response ..... 19
3.2 Operational Authority ..... 20
3.3 Initial Operator Response ..... 21
3.4 Island Stability ..... 23
3.5 Load Shedding ..... 25
3.6 Generation Dispatch and Automatic Generation Control (AGC) ..... 28
3.7 Variable Generation ..... 29
3.8 Training ..... 30
4.0 Monitoring the BPS ..... 31
4.1 Generator Output ..... 32
4.2 Operating Limits ..... 33
4.3 Monitor Flows on BPS Facilities ..... 34
4.4 Loss of Control Centers – Both Primary and Backup ..... 36
5.0 Communications ..... 39
5.1 Communications Relationships ..... 40
5.2 General Communications Recommendations ..... 41
5.3 Communication Protocol Recommendations: ..... 44

5.4 Emerging Technology Recommendations ..... 45
6.0 Short-term and Long-term System Planning ..... 47
6.1 Consequences of a Severe Event on System Planning Functions ..... 48
6.2 Planning During the Mitigation Phase ..... 49
6.3 System Planning during the Return to Normal Phase ..... 51
6.4 Design Considerations ..... 51
7.0 Protection and Control ..... 54
7.1 Preparation Phase ..... 55
7.2 Mitigation Phase ..... 57
7.3 Restoration Phase ..... 58
7.4 Training ..... 60
8.0 Interdependencies with Other Critical Infrastructures ..... 62
8.1 Communications Sector ..... 64
8.2 Dams (hydroelectric) Sector ..... 65
8.3 Energy Sector ..... 65
8.4 Information Technology Sector ..... 66
8.5 Nuclear Sector ..... 67
8.6 Transportation Sector ..... 68
8.7 Critical Infrastructure Sectors that Depend on Electricity ..... 69
9.0 Coordination with Government ..... 71
9.1 Overview of Government Authorities ..... 71
9.2 Coordination and communications prior to an event: planning, exercising, and training 72
9.3 Initial Communication And Coordination ..... 74
9.4 Coordination and Communication During Restoration ..... 75
10.0 Taking Care of People ..... 77

10.1 Accommodation ..... 77
10.2 Safety Considerations ..... 78
10.3 Employee and Family Issues ..... 79
10.4 Respite Facilities ..... 80
10.5 Counseling ..... 81
11.0 Logistics and Self Sustained Operations ..... 83
11.1 Specialized Equipment ..... 83
11.2 Standard Equipment ..... 84
11.3 Fuel for Transportation and Backup Generators ..... 85
11.4 Transportation Routes ..... 86
11.5 Personnel and Facility Resources ..... 86
12.0 Preventing and Responding to Physical Attacks ..... 89
12.1 Challenges to Protecting the BPS ..... 90
12.2 Recommended Prevention Strategies ..... 90
12.3 Recommended Preparation Strategies ..... 91
12.4 Recommendations for Response and Mitigation Strategies ..... 95
12.5 Recommendations for Restoration Strategies ..... 96
13.0 Financing Emergency Operations ..... 97
13.1 Getting Prepared for Emergency Financing ..... 98
Appendix 1: Task Force Scope ..... 100
Appendix 2: Mitigations for Monitoring the BPS ..... 104
Appendix 3: Mitigations for Physical Attacks ..... 109
Appendix 4: Resilience Discussion Worksheet ..... 115
Introduction ..... 115
Decision Making ..... 115

Business Continuity and Restoration Plans ..... 116
Operations ..... 118
Logistics and Interdependencies ..... 120
Financing ..... 122
Appendix 5: Severe Event Response Checklist ..... 123
System Topology ..... 123
Generation ..... 124
Transmission Lines and Substations ..... 124
Key Equipment ..... 124
Communications ..... 125
Monitoring ..... 126
Financing ..... 126
Appendix 6: NERC SIRTF Roster ..... 127
Appendix 7: NERC SIRTF Report Drafting Team ..... 133

# 1.0 Executive Summary

The North American bulk power system (BPS) is one of the most critical of infrastructures, vital to society in many ways, but it is not immune to severe disruptions that could threaten the health, safety, or economic well-being of the citizens it serves. The electric power industry has well established planning and operating procedures in place to address "normal" emergency events (e.g., hurricanes, tornadoes, ice storms) that occur from time to time and disrupt electric reliability. However, the electricity industry has much less experience with planning for and responding to high-impact events that have a low probability of occurring.

To help the electricity industry better understand these low probability risks, NERC and the U.S. Department of Energy (DOE) issued a report titled, "High-Impact, Low-Frequency (HILF) Event Risk to the North American Bulk Power System"[2]. Subsequently, the NERC Board of Trustees approved a Coordinated Action Plan under the leadership of the NERC Technical Committees to establish four Task Forces to address this work. This report provides the conclusions of the Severe Impact Resilience Task Force (SIRTF).

The report provides guidance to industry asset owners and operators (entities) in the form of recommendations to enhance the resilience of the bulk power system. Three severe-impact HILF scenarios were specifically considered as the initiating events, but the recommendations in this report may be applicable to any scenario.

- **Coordinated physical attack** – A coordinated physical attack on key nodes of the BPS critically disables difficult to replace equipment in multiple generating stations or substations and could have a significant effect on the remainder of the system. A prolonged period of time is required to fully restore the BPS to normal operation.
- **Coordinated cyber attack** – A coordinated disruption disables or impairs the integrity of multiple control systems, or intruders take operating control of portions of the BPS such that generation or transmission system is damaged or mis-operated.
- **Geomagnetic disturbance** – A severe geomagnetic disturbance damages difficult to replace generating station and substation equipment and causes a cascading effect on the remainder of the system. A prolonged period of time is required to fully restore the BPS to normal operation.

The report offers 33 key recommendations that are of a planning and operational nature, and entities are strongly encouraged to consider these from a strategic and leadership perspective, in particular:

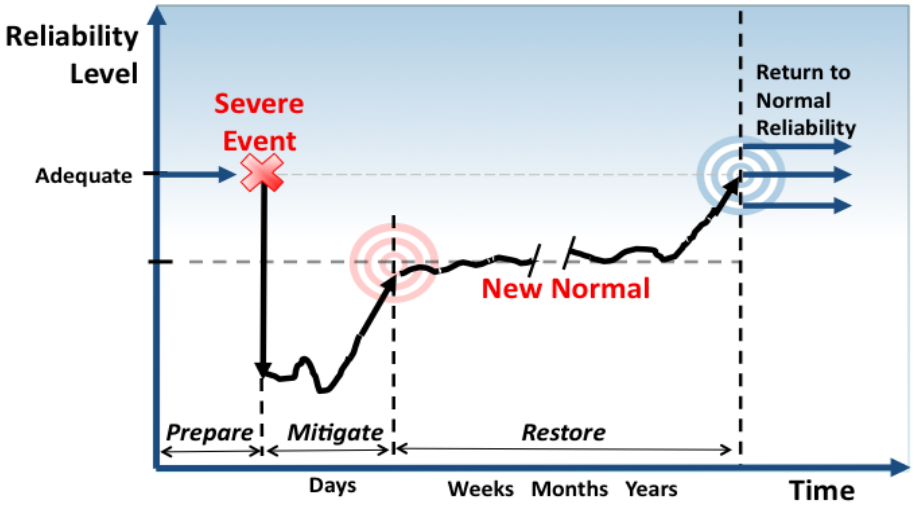
- Enhance existing restoration drills and exercises to incorporate HILF scenarios that include interdependencies with other critical infrastructures such as telecommunications.

[2] Ref. High Impact Low Frequency report http://www.nerc.com/files/HILF.pdf

- Recognize that plans and operating practices will need to be continually assessed and adjusted as necessary over an extended period that could last months or years following a severe event.
- Involve neighboring jurisdictions and government agencies by sharing plans and building a better understanding of how these plans will be coordinated and implemented.

## Understanding a Severe Event

The guidance offered in this report is intended to reach beyond the emergency response capabilities entities typically have in place. To emphasize this, the SIRTF developed two important concepts that run throughout this report; Severe Event and New Normal. A Severe Event is an emergency situation so catastrophic that complete restoration of electric service is not possible. The BPS is operated at a reduced state of reliability and supply for months or possibly years through the New Normal period as illustrated below.




## Enhancing Resilience

By definition, a Severe Event will present enormous challenges as entities within the electricity industry strive to restore and maintain reliable operations under rapidly changing circumstances never before experienced. It will not be possible to meet all electricity consumers' demands for rapid restoration of service as entities prioritize their work with limited resources. The recommendations and suggestions offered throughout this report are intended to prompt BPS entities to develop their own approaches and flexible plans that would be applicable under a wide variety of circumstances. These suggestions are in the form of industry guidelines that describe practices that may be used by individual entities according to local circumstances, as opposed to standards.

## Recommendations

The SIRTF has considered what aspects of emergency operation and restoration would be particularly challenged through a Severe Event and considered options to enhance the resilience of the BPS. Entities are encouraged to consider how they might apply the recommendations offered in this report to their own circumstances in a Severe Event scenario. Entities are encouraged to test their plans through drills or exercises that build further on the Severe Event scenarios.

The following summarizes the key recommendations of this report and are described in the body of the report in further detail.

## Operations

The Operations section of this report discusses the many challenges associated with operating the BPS following a Severe Event. Rather than operating as part of a large interconnected (and therefore more stable) grid, system operators may need to manage a number of small electrical islands and implement load shedding or rotating blackouts for extended periods of time (weeks, months or years). The Operations section proposes that entities consider the following key recommendations.

1. Consider which entities would take the independent actions and the tools needed to stabilize islands when communications capability is severely disrupted or unavailable.
2. Consider how operating reserve would be managed during islanded operation and frequent periods of insufficient supply to meet demand.
3. Consider ways to adopt and apply the terms critical load and priority load across all BPS entities to improve consistent use during a Severe Event.
4. Consider alternate means to dispatch generation if normal automated systems, including automatic generation control, are unavailable.
5. Consider if or how variable generation would be dispatched through restoration and islanded operation.
6. Consider enhancing regular restoration drills and exercises to train staff on communication protocols and independent control actions in the event of loss of or degraded telecommunications.
7. Consider using more extreme exercise scenarios that involve simulated rotating blackouts and islanded operations on a larger scale and for extended periods of time.

### Monitoring the BPS

The Monitoring the BPS section discusses the challenges associated with maintaining situational awareness in order to operate the BPS following a Severe Event. A Severe Event may disrupt the flow of data, tools, or facilities needed to operate the BPS. Alternate mechanisms and processes would be needed to maintain a wide area view of situational awareness when it is more important than ever. The Monitoring the BPS section proposes that entities consider the following key recommendations.

8. Consider developing processes to quickly study island configurations and develop suitable temporary operating limits.
9. Consider developing processes to monitor BPS flows in the absence of reliable automated systems and communications.
10. Consider the simultaneous loss of primary and backup control centers and how essential functions will continue to be performed.

### Communications

The Communications section discusses the challenges associated with restoring and operating the BPS when communications facilities are severely degraded or unavailable. The Communications section proposes that entities consider the following key recommendations.

11. Consider installing renewable generation (e.g., wind, solar) at critical BPS facilities to supplement standby generators.
12. Consider alternate means to communicate when primary means of communication are completely unavailable for extended periods of time.
13. Consider robust training, drills, and exercises to fully test critical restoration steps using alternative voice and data communications (e.g., satellite telephones).

### Short-term and Long-term System Planning

The Short-term and Long-term System Planning section discusses the challenges associated with providing sufficient personnel and facilities to prepare the necessary system studies and plans needed to support restoration and long-term recovery. This section proposes that entities consider the following key recommendations.

14. Consider the potential loss of planning resources (e.g., equipment, data) as well as damage to the system. Review business continuity plans to ensure that system planning resources are adequately considered.
15. Consider the appropriate use of key system planners who may be required immediately, and for prolonged periods, to perform studies not previously considered.
16. Consider performing selected studies in advance (e.g., equipment interchangeability) that could help speed restoration.
17. Consider the spare equipment critical to BPS restoration and ways to improve availability of these spares.

### Protection and Control

The Protection and Control section discusses the challenges associated with safely operating the BPS as its configuration continues to change to respond to the loss or unavailability of critical elements. This section proposes that entities consider the following key recommendations.

18. Consider ways to implement large-scale changes in system protection schemes to support islanded operation and changing BPS configurations, and what decision points would be needed.
19. Consider ways to quickly reconfigure relay settings in the event large-scale changes are needed.

### Interdependencies with Other Critical Infrastructures

The Interdependencies with Other Critical Infrastructures section discusses the contribution and impact that other industries such as communications, oil and natural gas, and water have on the ability of the electricity industry to restore and operate the BPS. This section proposes that entities consider the following key recommendations.

20. Consider working with communications service providers to identify which of their facilities are critical to BPS operations. Determine which BPS and distribution facilities supply them and what backup power capacity is in-place (e.g., batteries, standby generators).
21. Consider alternate suppliers, transportation paths, and agreements to support generating station fuel supply chains (e.g., coal, natural gas).
22. Consider working with information technology service providers that are critical to BPS operations and consider augmenting the subject matter expertise of staff and suppliers to support these systems.
23. Consider alternate means to supply BPS power to nuclear plants and confirm these loads as critical to restoration and public safety.

### Coordination with Government

The Coordination with Government section discusses the need to build effective relationships with the appropriate government agencies in order to help manage serious public health and safety issues. This section proposes that entities consider the following key recommendations.

24. Confirm the roles, authorities, and points of contact between BPS entities and as appropriate, local, state/provincial, and federal governments.
25. Coordinate with local and state/provincial government authorities and consumer stakeholders to identify priority loads to mitigate the impact on public health and safety.
26. Consider developing a list of regulatory exemptions or waivers that will materially improve restoration and operation (e.g., plant emissions, truck driver hours) and consult with state/provincial and federal agencies.

### Taking Care of People

The Taking Care of People section discusses how entities can assist with the extraordinary demands that employees and their families may face. This section proposes that entities consider the following key recommendation.

27. Consider ways to support the health, safety, and well-being of personnel and their families in the face of extraordinarily demanding circumstances.

### Logistics and Self-Sustained Operations

The Logistics and Self-Sustained Operations section discusses the challenges associated with the logistics of acquiring the equipment needed to restore and operate the BPS. This secton proposes that entities consider the following key recommendations.

28. Consider with fuel suppliers ways to prioritize the supply and delivery of fuel for emergency standby generators and essential work vehicles.
29. Consider how your business continuity or disaster recovery plan would change if you are unable to rely on mutual support arrangements.

### Preventing and Responding to Physical Attacks

The Preventing and Responding to Physical Attacks section discusses the unique challenges associated with physical attacks. This section proposes that entities consider the following key recommendations.

30. Consider actions that can be taken to protect BPS assets by involving local communities and law enforcement (e.g., reinforcing their awareness of BPS facilities that are critical to operations).
31. Consider ways to improve security when designing or refurbishing existing BPS facilities.
32. Consider ways to improve coordination and cooperation with local/state/provincial law enforcement.

### Emergency Financing

The Emergency Financing section briefly discusses the challenges associated with the extraordinary requirements for funds needed to restore the BPS when major facilities need to be rebuilt or replaced. This section proposes that entities consider the following key recommendation.

33. Consider how extreme financial challenges will be addressed in consultation with financial institutions, suppliers, and government agencies.

## Conclusions

This report addresses important aspects related to enhancing the resilience of the BPS in the face of a Severe Event. It provides entities with practical options to enhance their capabilities to prepare, mitigate and restore the operation of the BPS.

## Recommendations for Entity Action

This report examines the aspects of emergency operation and restoration that would be particularly challenged through a Severe Event and provides options to enhance the resilience of the BPS. The suggestions offered throughout this report are intended to prompt entities to develop their own approaches and flexible plans that would be applicable under a wide variety of circumstances. This report considers all aspects of resilience; robustness, resourcefulness, rapid recovery, and adaptability. Entities are encouraged to critically examine their current capabilities, and to consider what else they may need to do to manage restoration and operations during a Severe Event.

While the report offers 33 key recommendations that are of a planning and operational nature, entities are strongly encouraged to consider these from a strategic and leadership perspective, in particular:

- Enhance existing restoration drills and exercises to incorporate Severe Event scenarios that include interdependencies with other critical infrastructures such as telecommunications.
- Recognize that plans and operating practices will need to be continually assessed and adjusted as necessary over an extended period that could last months or years following a severe event.
- Involve neighboring jurisdictions and government agencies by sharing your plans and building a better understanding of how these plans will be coordinated and implemented.

## NERC's Reliability Standards under a Severe Event

While this report does not propose that new standards be developed to address a Severe Event, as entities consider and implement the recommendations in this report there may be opportunities to enhance existing standards.

The SIRTF discussed the applicability of the NERC[3] standards through a Severe Event, and whether entities should be exempt from possible compliance actions[4] under these circumstances. The SIRTF reviewed the NERC standards and concluded that standards support safe and reliable operation and should be applicable during a Severe Event. While it is conceivable that during a Severe Event an entity will violate certain standard requirements given the intensity of planning and operating challenges through the New Normal period, it would be impossible to predict these circumstances in advance.

[3] Ref. NERC Standards, http://www.nerc.com/page.php?cid=1|7

[4] NERC has the legal authority to enforce compliance with NERC Reliability Standards, which it achieves through a rigorous program of monitoring, audits and investigations, and the imposition of financial penalties and other enforcement actions for non-compliance.

On balance, the SIRTF concluded that entities do not need guidance on the applicability of standards during a Severe Event. Although a Severe Event may put entities in a position where they cannot comply with all standards, entities are in the best position to "do the right thing" for reliability and public safety, and self-report any violation of NERC standards as time and circumstances permit.

## Acknowledgements

This report was prepared by a team of industry subject matter experts with a broad understanding of what is needed to respond to emergency situations to reliably restore and operate the interconnected bulk power system. They contributed their knowledge, experience, and time to the SIRTF in technical areas such as power system operation, transmission planning, generating plant operation, protection and control, distribution operations, communications, logistics, emergency planning, crisis response, and cyber and physical security.

Members of the SIRTF Report Drafting Team are identified in Appendix 7 of this report.

Many other SIRTF members provided valuable feedback and are identified in Appendix 6.

# 2.0 Introduction

The North American bulk power system (BPS) is one of the most critical of infrastructures and is vital to society in many ways. The electric power industry has well established planning and operating procedures in place to address the "normal" emergency events (e.g., hurricanes, tornadoes, ice storms) that occur from time to time and disrupt electricity reliability[5]. However, the electricity industry has much less experience with planning for and responding to high-impact events that have a low probability of occurring or have not yet occurred.

To help the electricity industry better understand these low probability risks, in June 2010, NERC and the U.S. Department of Energy issued a report titled, "*High-Impact, Low-Frequency Event Risk to the North American BPS*"[6]. In November 2010, the NERC Board of Trustees (BOT) approved the Electricity Sub-sector Coordinating Council's (ESCC) *Critical Infrastructure Strategic Roadmap*[7] that provides the framework to identify the actions needed to enhance reliability and resilience under these high-impact low-frequency (HILF) scenarios. At the same time, the BOT approved a *Coordinated Action Plan*[8] developed by NERC and the leadership of the NERC Technical Committees that identifies specific initiatives, key deliverables, and milestones to implement the ESCC's Strategic Roadmap. The Coordinated Action Plan identified four task forces needed to address this work. This report provides the conclusions of one of them – the SIRTF.

The SIRTF was established in December 2010 by the NERC Operating Committee (OC) to develop guidance and options to enhance the resilience of the BPS to withstand and recover from three severe-impact HILF scenarios:

- Coordinated physical attack
- Coordinated cyber attack
- Geomagnetic disturbance

This effort has challenged the SIRTF in a number of ways.

- The industry has already demonstrated its ability to respond to large-scale emergencies such as the 2003 Northeast Blackout, Hurricane Katrina and more recently Hurricane Irene using flexible response plans that are designed to be effective regardless of the cause or consequences of the event. As a result, some entities may feel they are already prepared and nothing more needs to be done.
- By definition, HILF events have rarely or never occurred, and therefore it is very difficult to determine with confidence what additional action is required even by industry experts who are responsible for planning and operating the BPS through extreme emergency

[5] Ref. NERC Adequate Level of Reliability http://www.nerc.com/docs/standards/Adequate_Level_of_Reliability_Defintion_05052008.pdf
[6] Ref. High Impact Low Frequency report http://www.nerc.com/files/HILF.pdf
[7] Ref. Critical Infrastructure Strategic Roadmap http://www.nerc.com/docs/escc/ESCC_Critical_Infrastructure_Strategic_Roadmap.pdf
[8] Ref. Coordinated Action Plan http://www.nerc.com/docs/ciscap/Critical_Infrastructure_Strategic_Initiatives_Coordinated_Action_Plan_BOT_Apprd_11-2010.pdf

events. The Tohoku, Japan earthquake and tsunami that devastated the Fukushima nuclear plant is a vivid reminder that HILF events can occur.

- The postulated HILF events could cause service disruptions lasting weeks, months and perhaps years – well beyond the industry's experience over the past 100 years of reliable operation.

The SIRTF has recognized these challenges and through this report offers the electricity industry a wide range of suggestions and ideas. The diverse nature of HILF events does not lend itself to technical engineering solutions broadly applicable across the electricity industry. Therefore, the report does not propose mandatory requirements. Instead, the report offers suggestions and ideas to entities that own or operate the BPS. Entities are encouraged to consider these suggestions and apply them according to their own local circumstances and needs.

The SIRTF considered what aspects of emergency operation and restoration would be particularly challenged through these severe-impact events, and considered options to enhance the resilience of the BPS. In many cases, the suggestions can be applied to any HILF scenario, regardless of the specific threat.

## 2.1 Background and Key Concepts

At an early stage in its work, it became apparent that SIRTF members had different experiences and therefore no common view of what is meant by terms such as "severe impact" event, "resilience", and "New Normal" operation. The SIRTF needed to define these terms so that members would have a common platform from which to propose solutions that build on the electricity industry's current ability to respond to emergencies and prepare for worse in a consistent manner.

### 2.1.1 Use of Terms

A number of technical terms related to the planning and operation of the BPS are used throughout this report. Please refer to the NERC Glossary of Terms[9] for definitions.

### 2.1.2 Understanding a Severe Impact Event

A severe impact event (Severe Event) means that complete restoration is not possible and the BPS is operated at a reduced state of reliability and supply for an extended period of time, for months or possibly years – a New Normal. The following describes a Severe Event; one that stresses the electricity industry's capabilities well beyond its already robust emergency response capabilities.

### 2.1.3 Impact of a Severe Event on the BPS

- The event is beyond the planning criteria provided by NERC planning standards[10], such as System Performance Following Extreme BES Events.

[9] Ref. NERC Glossary of Terms http://www.nerc.com/files/Glossary_12Feb08.pdf
[10] Ref. NERC standard TPL-004, ref. http://www.nerc.com/files/TPL-004-0.pdf

- The event is beyond the scenarios typically exercised by entities as part of the NERC Emergency Preparedness and Operations standards[11].
- It is expected to take six months to a year to return the BPS to pre-event operations.
- As a result of insufficient generation and transmission resources, system operators must shed load without advanced notice and regularly implement rotating blackouts to manage BPS reliability.
- The duration and magnitude of these rotating blackouts have a direct societal impact and risk further degradation to the BPS as other critical infrastructures are affected by the electricity disruptions.
- Multiple information technology and communications systems have failed – entities contend with issues that restrict the ability of system operators to effectively communicate, operate, and monitor the BPS.
- The event is persistent or recurring throughout the mitigation and restoration phases, further hindering recovery and restoration.

### 2.1.4 Impact of a Severe Event on Society

- The media or government authorities describe the magnitude of the event using words such as “catastrophe”, “disaster” or “massive disruption”.
- BPS entity staff experience a high degree of physical and psychological demands for an extended period of time.
- The safety and well being of large numbers of the public, entity staff, or their families are at risk.
- The resources required to respond exceed the financial capacity of some entities.

### 2.1.5 Understanding Resilience

“Resilience” is generally defined as the ability to recover or adjust to misfortune or change. More specifically, the ASIS SPC.1-2009 standard on Organizational Resilience[12] defines, “Resilience is the ability of an organization to resist being affected by an event or the ability to return to an acceptable level of performance in an acceptable period of time after being affected by an event.” In recent years, in the context of strategies needed to enhance the reliable operation of critical infrastructures, resilience has come to be valued as much as protection. But what exactly is meant by resilient critical infrastructures? How is resilience measured and how do we determine how much is needed?

**Infrastructure Resilience**

Infrastructure resilience is the ability to reduce the magnitude and/or duration of disruptive events. The effectiveness of a resilient infrastructure or enterprise depends upon its ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event.

[11] NERC Emergency Planning and Operations standards, ref. http://www.nerc.com/page.php?cid=2|20
[12] ASIS SPC.1-2009, http://www.asisonline.org/guidelines/ASIS_SPC.1-2009_Item_No._1842.pdf

In October 2010, a study group[13] of the National Infrastructure Advisory Council issued its report "*A Framework for Establishing Critical Infrastructure Resilience Goals*[14]". The report provides a broader construct for resilience originally conceived by resilience expert Stephen Flynn. The construct is based on four features organized in a sequence of events prior to, during, and after a Severe Event.

[13] The NIAC Study Group included a number of representatives from the electricity industry, including several members of the Electricity Sub-sector Coordinating Council.

[14] Ref. http://www.dhs.gov/xlibrary/assets/niac/niac-a-framework-for-establishing-critical-infrastructure-resilience-goals-2010-10-19.pdf

**Figure 1: NIAC Resilience Construct**




| Table 1: NIAC Resilience Construct | |
|---|---|
| **Sequence** | **Feature** |
| **Prior to an Event** | **Robustness**—The ability to keep operating or to stay standing in the face of disaster. In some cases, it translates into designing structures or systems to be strong enough to take a foreseeable punch. In others, robustness requires devising substitute or redundant systems that can be brought to bear should something important break or stop working. Robustness also entails investing in and maintaining elements of critical infrastructure so that they can withstand low-probability but high-consequence events. |
| **During an Event** | **Resourcefulness**—The ability to skillfully manage a disaster as it unfolds. It includes identifying options, prioritizing what should be done both to control damage and to begin mitigating it, and communicating decisions to the people who will implement them. Resourcefulness depends primarily on people, not technology. |
| **After an Event** | **Rapid recovery**— The capacity to get things back to normal as quickly as possible after a disaster. Carefully drafted contingency plans, competent emergency operations, and the means to get the right people and resources to the right places are crucial.[15] |
| **At All Times** | **Adaptability**— The means to absorb new lessons that can be drawn from a catastrophe. It involves revising plans, modifying procedures, and introducing new tools and technologies needed to improve robustness, resourcefulness, and recovery capabilities before the next crisis. |

[15] "Rapid" recovery as used by the SIRTF does not mean rapid recovery to the pre-crisis operational level but to the New Normal.

### 2.1.6 Understanding the New Normal

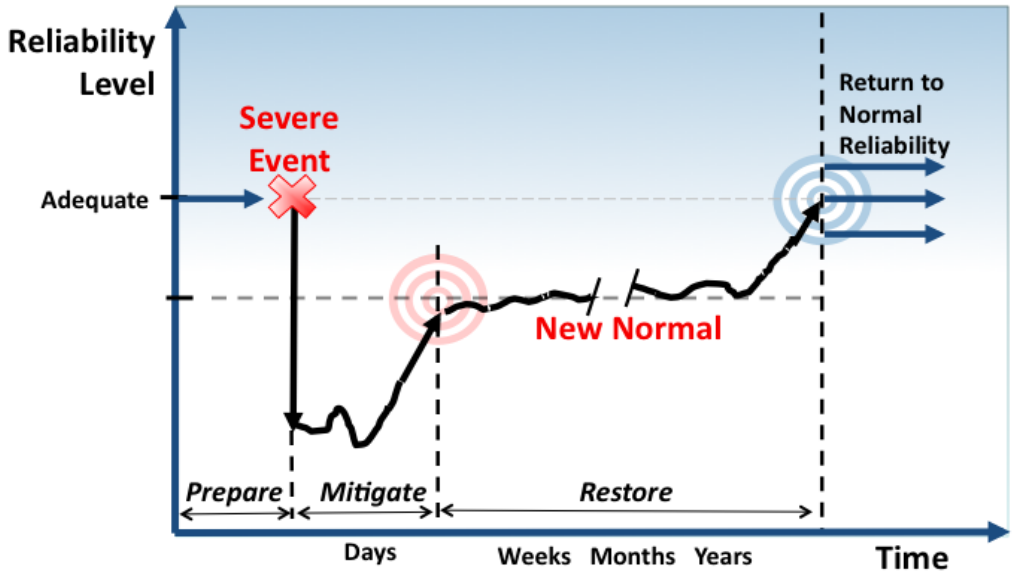
North America's BPS is one of the most reliable in the world. BPS owners and operators consistently demonstrate their ability to respond to emergencies and restore service under the most challenging and adverse circumstances.

> **Emergency Restoration**
>
> The entities that operate North America's BPS are well practiced in preparing for and responding to emergencies. North America experiences far more severe weather events such as hurricanes, tornadoes, and ice storms than any other continent. This challenge will continue, as extreme weather events appear to be increasing in both frequency and intensity.

The electricity industry makes extensive use of emergency and business continuity planning, risk modeling, supply chain management, accountable organizational structures, emergency exercises, tabletop drills, operator training, safety procedures, redundant and backup systems, mutual assistance, and effective operational communications protocols.

While this industry-wide capability has proven effective in responding to the "normal" emergencies we face from time to time, it is unlikely to be sufficient through a Severe Event. The SIRTF uses the term "New Normal" to describe degraded planning and operating conditions unlike anything the industry has ever experienced in North America that could exist for months or years.

**Figure 2: Severe Event Phases**




| Table 2: Severe Event Phases | | |
|---|---|---|
| **Phase** | **Duration** | **Characteristics** |
| **Prepare** | At all times | Entities enhance existing and develop new emergency response capabilities. |
| **Mitigate** | Days | Entities implement plans to minimize the impact on BPS equipment and maximize electricity service to consumers. Resources such as reserve capacity, spare equipment, and personnel are inadequate to return the BPS to normal operation. |
| **Restore** | Weeks, months, possibly years | There is a risk that further Severe Events may occur. Resources such as personnel, spare equipment, and manufacturing capacity become increasingly limited. Other critical infrastructures are affected, reducing communications services and the availability of water, food, fuel, medical care, fire and police response. Over time, consumer load patterns change as people re-locate or implement their own energy solutions. |
| **Return to Normal Reliability** | Months, possibly years | Reliability may not return to pre-event levels. Lessons-learned from the event may eventually increase reliability in some areas as the BPS is reinforced, or decrease in other areas where consequences of the event continue to impose operational limitations. |

### 2.1.7 New Normal Challenges

The following describes some of the challenges that would need to be managed through the weeks and months of New Normal operation. This is not an exhaustive list and is intended to illustrate conditions that owners and operators have not yet experienced and may have difficulty imagining.

- Although power is reliably restored to some consumers, planned and unplanned rotating blackouts disrupt service without warning as system operators manage BPS reliability with limited generation and transmission resources and unfamiliar operating conditions.
- Equipment damage and resource limitations force the BPS to be operated as a number of electrically disconnected islands, reducing the stability and reliability inherent in the large interconnected BPS.
- Other critical infrastructures are affected by electricity disruptions. For example, gasoline and diesel fuel shortages will occur as oil refineries take several days or longer to recover from each electricity service disruption.
- System operators need to dispatch generation and operate the transmission system manually using verbal direction that increases the likelihood of human error. Sporadic or limited electronic communications mean system operators need to rely on hardcopy documents that are less frequently updated.
- As a result of reduced generation and transmission resources and uncertain operating conditions, the BPS is operated with reduced efficiency and requires a larger margin of operating reserve, further aggravating the shortage of generation.
- Consumers experience large fluctuations in voltage and frequency that may trip sensitive electronic equipment.
- System protection devices configured for normal operation may be too restrictive for the voltage, current, and frequency variations inherent in a degraded operating state and would need to be adjusted to reflect these different operating conditions.
- Disrupted or unreliable automated trading or tagging systems limit the ability of balancing authorities and reliability coordinators to schedule and manage electricity flows between balancing areas.
- Extreme workload pressures on system operators, engineers, and other personnel limit the ability to meet certain standards requirements that do not compromise safe and reliable operations.

### 2.1.8 The Applicability of NERC Standards During a Severe Event

By definition, a Severe Event will present enormous challenges to electricity entities as they strive to restore and maintain reliable operations under rapidly changing circumstances never before experienced. It will not be possible to meet all electricity consumers' demands for early service restoration, as entities prioritize their work with limited human and material resources.

The SIRTF discussed the applicability of the NERC16 standards under these circumstances, and whether entities should be exempt from possible compliance actions17 through a Severe Event. The SIRTF reviewed the NERC standards and concluded that the vast majority of the standards support safe and reliable operation that would be equally applicable during a Severe Event, as they would during normal operation. While it is conceivable that an entity may decide to violate a certain standard in order to accelerate broader restoration objectives, it would be impossible to predict these circumstances in advance of any event, let alone a Severe Event.

Some of the NERC standards are administrative in nature and require, for example, that entities perform periodic documentation reviews in order to demonstrate compliance with the standards. Clearly, these activities would not be considered a high priority during a Severe Event. While there may be some merit in identifying these "administrative" standards as not applicable during a Severe Event, on balance, the SIRTF felt any discussion of standards and compliance during an event may be more of a distraction for entities, rather than help them remain focused on making the right operational decisions. Furthermore, as NERC's standards are evolving, and efforts are being made for all standards to become more performance and outcome-based. Over time, this will reduce or eliminate standards that are administrative in nature.

On balance, the SIRTF concluded that entities do not need guidance on the applicability of standards during a Severe Event. Although a Severe Event may put entities in a position where they cannot comply with all standards, entities are in the best position to "do the right thing" for reliability and public safety, and self-report any violation of NERC standards as time and circumstances permit.

[16] Ref. NERC Standards, http://www.nerc.com/page.php?cid=1|7

[17] NERC has the legal authority to enforce compliance with NERC Reliability Standards, which it achieves through a rigorous program of monitoring, audits and investigations, and the imposition of financial penalties and other enforcement actions for non-compliance.

# 3.0 Operations

This section identifies the challenges associated with operating the BPS following a Severe Event. Many aspects of operations in the New Normal are not entirely different from what we have experienced to date but will be much more challenging for a number of reasons. For example, island operation in itself is nothing new – we currently operate the North American grid in four large islands known as the Interconnections. The challenge in operating islands following a Severe Event scenario is that the islands will be much smaller, more numerous, may comprise areas that fall under the authority of several different operating entities, and last for significantly longer periods of time (weeks, months or years) than we have previously experienced. Load shedding activities are also likely to be similar to, and very likely based upon, existing load shedding and rotating blackout plans required to respond to EEA-3 conditions (interruption of firm load). However, our experience with implementing load shedding plans has been limited to relatively short periods of time – a few hours or at most a day or two. In contrast, under Severe Event conditions, rotating blackouts may need to be implemented for an extended period of time and for significantly longer rotation intervals.

Following a Severe Event on the BPS we should expect that it will not be possible to fully restore the BPS to pre-event conditions and the system will be significantly degraded. In order to operate the BPS it will likely be necessary to operate in multiple electrical islands[18], use emergency criteria, use rotating blackouts, and utilize a number of independent control actions[19] to maintain the supply and demand balance and manage frequency and voltage. Rotating blackouts help manage the supply and demand balance by rotating supply to different blocks of load, typically on a geographic basis, on a defined schedule or timeline.

The operation of these electrical islands may need to be performed by entities that are not normally responsible for system operator[20] functions such as Distribution Providers. As a result, these entities could become the system operator until such time as control is returned to the Balancing Authority or Transmission Operator for the balancing area. Following a Severe Event it is not possible to predict what islands will be formed and this is further complicated when these island boundaries cross the balancing areas that are very familiar during normal operation. In fact, this occurred following the August 14, 2003 blackout that affected large portions of the Midwest and Northeast United States and Ontario (see sidebar).

### Islanding Experience from the 2003 Northeast Blackout

Ontario's Beck and Saunders hydroelectric stations, along with some Ontario load, the New York Power Authority's Niagara and St. Lawrence hydroelectric stations and 765 kV AC interconnection with Quebec, remained connected to the western New York system, supplying load in upstate New York immediately following the event.

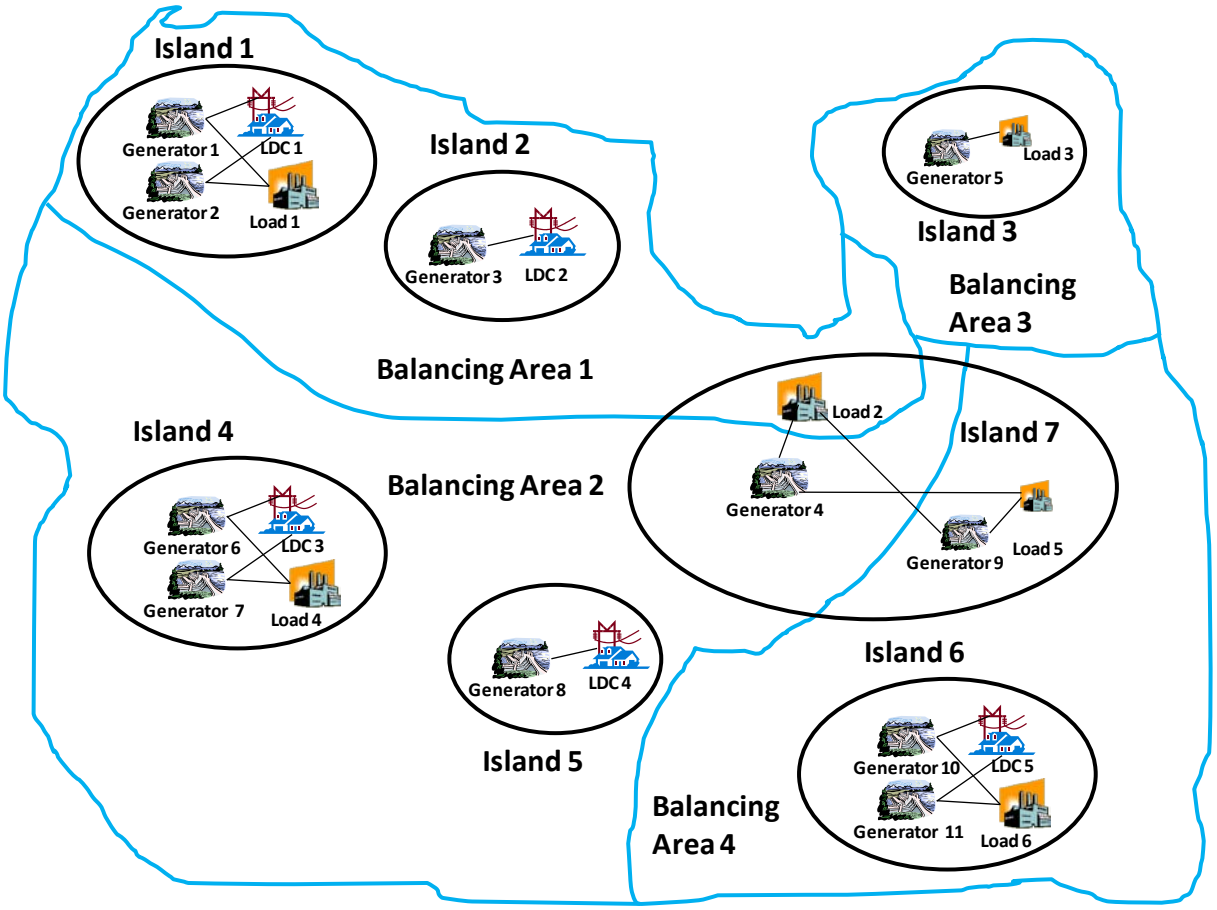
[18] Islanding is the complete separation of a portion of the power system from the remaining interconnected system following a system disturbance. Islands can be comprised of generation sources, transmission elements, distribution elements and loads.

[19] Independent actions are those operating actions required to enable power system restoration without prior communication to the Reliability Coordinator for approval.

[20] A System Operator is anyone who performs the system operator function as defined in NERC's Glossary of Terms.

The following diagram illustrates a likely scenario following a Severe Event. The BPS may form islands that do not respect traditional operator boundaries. While many islands depicted are within a single Balancing Authority (BA) Area, Island 7 is shown to exist in three distinct Balancing Areas.

**Figure 3: Islanded Operation**




The following sections provide more details around these challenges and the need for delegated authority and independent actions.

## Assumptions

This section assumes that a substantial number of supply resources are unavailable for an extended period of time and as much as or more than 50 percent of total instantaneous demand cannot be served in the islands. The cause(s) for this inability may vary significantly and are not limited to a lack of generation resources. The situation may be extremely widespread or it could be limited to specific areas within a single balancing area. At least initially, communication and control is impaired such that at least a portion of switching will need manual operations by field personnel.

### 3.1 Immediate Automatic Response

Immediately following the Severe Event islands are likely to form as transmission lines between areas of the system trip. Automatic under-frequency load shedding and generator tripping may

also occur as protective relays react to the transient voltages, frequency and power flows caused by the separation. Islands with small amounts of generation and load have less inertia and as such experience larger frequency swings, are harder to control, and are more likely to collapse from subsequent generation loss than are the existing four Interconnections.

Also, many of today's loads are frequency or voltage sensitive or both (such as computers, industrial control systems, other electronic devices) and may trip off-line as a result of these swings. The challenge with frequency or voltage sensitive load loss is that it will come back on the system once electrical parameters are within the prescribed range. Also this can be further complicated with the increase in automatic schemes within the distribution system for "self healing" (smart grids). This uncoordinated load restoration possibly increases the risk of island collapse.

**Recommendations**

Entities should develop policies on how to treat smart grid components and frequency or voltage sensitive loads in islanding situations. The appropriate management of these components will increase situational awareness.

## 3.2 Operational Authority

Following the immediate, automatic system response, it is critical to determine the extent of the islands and which entity(s) are in "control" of the surviving islands. This determination would likely be made by the Transmission Operators (TO). To be in control of an island an entity needs to have the ability and decision making authority to monitor and control the assets (generation, transmission and load) within the island's boundaries. Decisions may include the need to shed load, dispatch generation, put equipment in service, etc. Although the Reliability Coordinator maintains overall responsibility of the BPS, including the synchronization[21] of the islands, it may not have sufficient monitoring and communication to direct the operation of each island. With limited or no communication it is important that each of the entities know what independent actions they should take on loss of BPS supplied power.

**Recommendations**

- Reliability Coordinators (RC) and Balancing Authorities (BA) should consider developing loss of communications and delegation protocols for responsible entities in their footprint and with adjacent RCs and BAs to allow seamless transfer to the responsible entity during loss of communication or monitoring scenarios or when islands cross jurisdictions.

[21] Synchronization is the closing of a circuit breaker between two electrically disconnected, energized parts of the power system. When synchronizing islands it is crucial to match voltages on both sides of the circuit breaker before closing. If this matching or "synchronizing" process is not done correctly, a power system disturbance will result and equipment (including generators) can be damaged. In order to synchronize properly, three different aspects of the voltage across the circuit breaker must be closely monitored. The three aspects of the voltage are called the synchronizing variables and are:
1. The voltage magnitudes
2. The frequency of the voltages
3. The phase angle difference between the voltages

- Establish and practice through simulation or tabletop exercises the independent actions that entities are expected to take upon loss of BPS supplied power. This might include:
  - TO, Local Distribution Companies and directly connected wholesale customers opening all de-energized breakers under their operational control.
  - Generator Operators (GO) opening all de-energized unit and switchyard circuit breakers under their direct operational control, and beginning black start procedures for certified black start facilities.
  - GO securing station service with any available generation units in accordance with local instructions and agreements. This may include restarting hydroelectric generation units to run them at speed-no-load by closing the unit breaker (using synch bypass or synchronizing to other units).
  - For generation facilities with the capability to energize-out a portion of the BPS, GO would stabilize units and prepare them to energize transmission circuits as directed by the TOP.

    Note: It is important to establish the bounds for such independent actions to ensure that stability and reliability are not jeopardized.

| **Key Recommendation #1 \|** Operations |
| --- |
| Consider which entities would take the independent actions and the tools needed to stabilize islands when communications capability is severely disrupted or unavailable. |

## 3.3 Initial Operator Response

Following the immediate, automatic response the next priority is to take operating control actions to stabilize any islands of generation and load that remain.

### Recommendations for System Operators

In order to stabilize the island the System Operator should:

- Determine the extent of the island (i.e. its electrical boundaries) and monitor frequency.
- Determine if the energy management system is communicating with the power plant control systems. If so, then setting Automatic Generation Control (AGC) to flat frequency control is desirable to allow a faster response to frequency deviations. This may not be desirable if telemetered tie-lines to adjacent systems are part of the island.
- In the absence of AGC, determine which generating units can have their droop curves adjusted to operate as the 'driver' unit in isochronous mode. It may be appropriate to spread this control over a number of units and set the unit's basepoint to the mid range of its operation.
- Once the size of the island increases consider if and when it is appropriate to restore the droop setting on the 'driver' unit.

- Manage the load-generation balance by dispatching available generation and by using load shedding as necessary. Operators must also recognize the difficulty in solving for Area Control Error (ACE) with limited telemetry.

### Recommendations for Reliability Coordinators

In addition to the above System Operator actions, the RC may be in a position to perform some high level coordination tasks to facilitate a long term islanded operation, including:

- Generator fuel supply tracking, scheduling and prioritization[22].
- Providing situation assessments (e.g., status of nuclear plants) and future prognoses to stakeholders including government, the media, and the general public.
- Assisting system operators to operate their islands within the context of the situation. The RC may have a wider area view of the BPS and be able to coordinate operation and restoration activities across the various islands.
- Document and keep current the voice communications technologies and procedures available to communicate with other entities. Other entities could contact their RC to determine alternate means to communicate.

### Recommendations for Power Plant Operators

Rapidly changing frequency outside normal bounds is likely an indication that the plant has formed an island with some load on the system. As noted above, the operation of the island may need to be performed by entities that are not normally responsible for System Operator functions, so that the plant operator may well communicate with a different entity than its normal system operator (e.g., BA, TO). As a result of island formation, power plant operators should examine their plant outputs and consider doing the following:

#### MW Output

- For AGC plants, power plant operators should determine if the energy management system is communicating with the power plant control system and leave any units on AGC.
- If no longer receiving signals, place units in manual and try to contact the System Operator and maintain unit output.
- For all other units, follow protocols for loss of communication and await further instruction from the System Operator.

#### Frequency

- Maintain output and attempt to contact the System Operator.
- Utilize the NERC Y2K Constant Frequency Operations Guide[23] to inform operational strategy in the event of communication loss.

[22] In some jurisdictions, for example those within competitive electricity markets for generation, the Reliability Coordinator has no role in tracking, planning or scheduling generator fuel supplies.

- Make all available units ready for operation.
- If units trip, stabilize them and prepare to resynchronize following direction from the System Operator.
- Secure station service.

### Voltage

- Maintain Automatic Voltage Regulation (AVR) on automatic.
- When AVR is unavailable, minimize changes to MVAR output unless the plant is at risk.
- As directed by the System Operator, adjust power system stabilizer.

## 3.4 Island Stability

Large interconnected power grids are inherently stable because they have many sources of governor-controlled generation and relatively predictable load patterns. Conversely, small islands are 'high gain' systems where relatively small changes in generation or load can cause large changes in power system parameters such as voltage and frequency which may cause equipment to trip on existing protection settings. Although this action may impede restoration, these settings are critical to ensure that we do not damage critical assets essential to restoring the BPS. Also, many of the mechanisms and criteria that dictate how we manage the system may be unavailable or require significant rethinking.

System Operators should consider the following to build and maintain stable islands.

### Load

- Use distribution load controlled by SCADA to rapidly restore initial load, as time considerations may prohibit local manual operation.
- Maintaining the load-generation balance will require that System Operators anticipate the changing load pattern over time. This ability to forecast primary demand without historical data will be limited by a lack of detailed knowledge of the load in a portion of the normal balancing area. Although the peak load that can be served in the island is limited by available generation, the System Operator will need to understand the load pattern to manage frequency deviations as load picks up and drops off throughout the day. In addition, load levels in the island will likely be significantly lower than pre-event levels as industrial and commercial loads take time to recover following the severe event and resume some level of operation. The load will grow over time as operations resume but be limited by available generation.
- Prepare to limit restoring loads that are highly variable (e.g. smelter or arc furnace loads).

[23] Ref. NERC Constant Frequency Operations Guide, https://www.frcc.com/handbook/Shared Documents/COM - Communications/Constant Frequency Operations Guide 100208.pdf

- Local field personnel who are familiar with the characteristics of loads at the distribution level will be critical to the development of a workable plan to anticipate and respond to changing conditions as the New Normal evolves.

## Generation

- Maintaining the load-generation balance requires that we know the capability and limitations of the various generation types in the island, and have a means to dispatch them. Market mechanisms, schedules, and automatic generation control are likely to be unavailable or impaired.
- Governor response of the surviving units may be limited or may not be available. Also, in the absence of AGC, generators that can operate in isochronous mode become extremely important to maintain system frequency. Therefore the location and availability of generators that can operate in isochronous mode needs to be known to allow stable island operations. BA's should consider identifying the governor responses of generators within their balancing area and those that can operate in isochronous mode so this can be shared appropriately following a Severe Event.
- Variable generation, such as wind and solar, require special consideration which may require these generation sources be limited if they are in relatively small islands.
- Generation may be limited due to regulatory requirements or license conditions that are appropriate for normal operation but may need to be revised under New Normal conditions.
- Generators that remain off-line for extended periods of time require BPS-supplied power or backup generation to support station service, further limiting the generation resources available to serve other loads.

## Operating Reliability

Adequate operating reliability must be re-examined in the context of an island – normal operating reserve and system operating limits may no longer be appropriate.

- It is important to understand the limitations imposed by large voltage angle differences[24] and synch-check relays when reconnecting generation to the BPS. In order to protect nearby generators from high electromechanical transient stresses that occur during the switching of network elements, through studies, consider increasing the allowed maximum angle to accelerate or enable the restoration process or to allow reclosing.

### The Importance of Phase Angle Requirements

During the Italian blackout of 2003, auto-reclosers failed to restore key inter-tie lines due to the large voltage angle across them – about 42 degrees. During the 2003 Northeast Blackout, synch check relays hindered system restoration.

[24] UCTE, "Final Report of the Investigation Committee on the 28 September 2003 Blackout in Italy," ed, 2004 and NERC, "Final Report on the August 14, 2003 Blackout in the United States and Canada," ed, 2004.

- Adequate operating reliability must be re-examined in the context of an island. Normal operating reserve and System Operating limits may no longer make sense when all available generation needs to be on-line to serve as much load as possible. Manual and automatic load shedding may become the main source of operating reserve.
- The System Operator should consider how they might optimize operating reserve while operating is islands.

| **Key Recommendation #2 \|** Operations |
|---|
| Consider how operating reserve would be managed during islanded operation and frequent periods of insufficient supply to meet demand. |

## 3.5 Load Shedding

In the early stages of islanded operation System Operators need to quickly determine their energy and capacity situation. During this time, they are likely to manage the load-generation balance using load shedding. Load shedding plans need to consider the priority or importance of loads such as critical power system loads and other dependent critical infrastructures such as telecommunications. System Operators must also ensure that sufficient load remains available for automatic underfrequency load shedding (UFLS) to help protect the island from collapse. It is assumed that UFLS set points will not be adjusted initially following a Severe Event, as these levels are still required to arrest frequency decay, however may be examined periodically during the New Normal timeframe. This is discussed more thoroughly in the *Protection and Control* section of this report. As restoration progresses, system operators will be challenged to forecast anticipated load patterns for numerous smaller load pockets contained within each electrical island.

System Operators must also be aware of the different load types in the islands, particularly those prone to large swings in consumption such as electric arc furnaces and large motors. If not already shut down, these consumer loads may need to be severely curtailed until the island becomes sufficiently robust to cope with the load variability. Similarly, System Operators will need to know the maximum load block they can restore in an island as additional generation becomes available.

### Recommendations:

- It is important to define, up front, what are considered "critical"[25] and "priority" loads for system restoration and managing load shedding. These terms are defined in the table below. Ensure that critical power system loads and other critical infrastructure loads such as certain telecommunications centers are excluded from load shedding plans.
- Conversely, consider loads that might be non-essential (e.g., street lighting, billboards) which might be without power until full restoration (to the pre-event levels) is achieved.

[25] The term "critical load" is different than the term Critical Asset as defined in the NERC Standard CIP-002.

| Table 3: Critical and Priority Loads | |
|---|---|
| **Critical Loads** | **Priority Loads** |
| Critical loads are BPS loads essential to perform restoration and maintain reliability. In some cases, these loads are within distribution systems. During restoration, other loads may be designated as critical loads if they are essential to support restoration (e.g., load required to manage voltage). Examples of critical loads include:<br>• Station service at control centers, transmission substations and generating stations<br>• Power system communications facilities<br>• Protective relays and schemes<br>• Monitoring and control systems | Priority loads are important consumer loads that need to be restored promptly to mitigate the impact on public health and safety, the environment, or the economy. Priority loads connected to the high voltage transmission system or to the distribution system are often excluded from load shedding schedules. Some examples of priority loads include:<br>• Oil refineries and pipelines<br>• Telecommunications centers<br>• Hospitals<br>• Water treatment and sewage plants<br>• Key military facilities. |

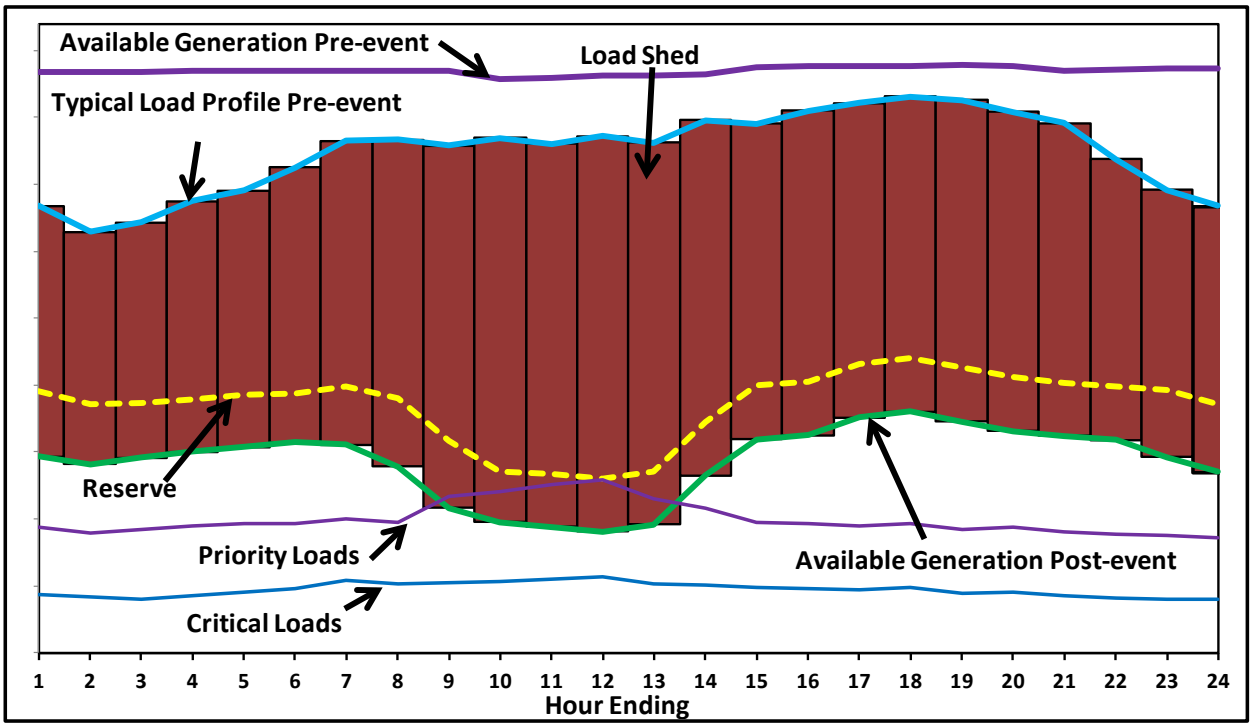
| **Key Recommendation #3 \|** Operations |
|---|
| Consider ways to adopt and apply the terms "critical load" and "priority load" across all BPS entities to improve consistent use during a Severe Event. |

- In the event of sustained rotational load shedding (rotating blackouts) communication becomes a key factor to ensure that affected areas understand what power supply they will have, at what time and for how long. Due to the potential impacts on public health and safety, these communications need to be carefully considered and coordinated with local distribution companies, local law enforcement agencies, emergency responders and government officials. Although the specifics of this communication cannot be established ahead of time, entities should develop a communication strategy in consultation with key stakeholders.
- Develop mechanisms to predict new load patterns in each island.
- Identify loads characterized by large swings in demand. Detailed knowledge of the types of loads in each island will allow the system operator to appropriately manage them to maintain island operating reliability.
- Develop, through system studies and industry experience, rules of thumb to help the operators determine the maximum size of a block of load that can be safely added to an island, based on the available MVA of synchronized generation.

- Since it is impossible to predict the extent of islanding formation following a Severe Event it may not be practical to share operational information ahead of time. It is important therefore that information-sharing strategies are established in preparation for such events to expedite this information dissemination and address any confidentiality concerns.

The ability to serve load within islands is expected to be limited following Severe Events. The red line in the figure below shows a typical load profile for an area under normal conditions. The green line represents the load that can be served following a Severe Event, the difference between the red and green lines is the total amount of load that will not be served, and the difference between the green line and the dashed yellow line represents generation or load shed reserved for contingencies.

**Figure 4: Inability to Serve All Load During Restoration**




## 3.6 Generation Dispatch and Automatic Generation Control (AGC)

Following the formation of islands, it may not be viable to have a centralized dispatch function based on bids and offers, so system operators will need to have an alternate means to dispatch. Similarly, AGC may not be available due to limitations on the number of islands it can control or loss of frequency or tie-line measurement. Even in the absence of AGC capability, the System Operator must have a reliable frequency measurement in the island. Also, one or more generators must be capable of isochronous operation (i.e. zero droop) to restore frequency following changes in load. System Operators need to have information on the capability and limitations of the various generation types in the island, including those that are energy limited or may have fuel supply or other operational restrictions.

### Recommendations

- Develop alternate dispatch mechanisms, including communication protocols.
- Investigate the viability of installing more frequency measuring devices to increase signal redundancy or using other sensing devices such as phasor measurement units.
  - Alternatively, coordinate with other infrastructures that may be monitoring frequency from distributed devices and develop the means to share this information.
- Investigate using multiple sources for tie-line flow measurement (e.g., Inter-Control Center Communication Protocol from neighboring entities, redundant metering capability).
- Consider the viability of using AGC to simultaneously control multiple islands.

- Consider mechanisms that allow the transfer of pockets of load and associated generation near a tie line to an adjacent BA for operation within the electrical borders of that BA. Generation within the pocket could be dispatched via voice communications at a relatively fixed level while the adjacent BA provides load following capability via the tie lines.
- Determine which generators can change their droop curves – modify governors as necessary.
- Plan that nuclear generation may be off line, and develop contingency plans in conjunction with the generator owners and operators to help ensure that BPS-supplied power is available.
- Document generator capabilities and limitations in an area so this information can be readily shared should the dispatch function be delegated to an entity that does not normally perform this role.
- Information sharing protocols should be developed ahead of time with organizations that are most likely to need this type of information following a Severe Event. These protocols may need non-disclosure agreements.

| **Key Recommendation #4 \|** Operations |
|---|
| Consider alternate means to dispatch generation if normal automated systems, including automatic generation control, are unavailable. |

## 3.7 Variable Generation

Variable generation (Wind and Solar) is becoming a more prevalent form of generation, and has unique characteristics that must be considered during restoration. Some (generally smaller) wind turbines are not truly dispatchable, but have variable output as a function of wind speed. For those wind generators connected to the distribution system, operators need to be aware of their impact but may not have real-time system monitoring of their output.

Normally, automatic controls connect and disconnect banks of wind generation according to the wind speed and any maximum cap set by the wind generator operator. This variability of output is not a concern when the system is in a normal state, but can be problematic during a restoration, particularly when trying to stabilize or synchronize islands.

### Recommendations

- System operators should consider developing policies on how they treat variable generation (i.e., wind, solar) during island operation. These policies could address such matters as:
  - Treatment variable generation when their varying outputs cause unacceptable voltage or frequency deviations.
  - The impact of disconnecting all wind and solar generation at once either through tripping or directed actions. This may cause the island to collapse if the variable generation exceeds a specific percentage of the island's generation capacity.

- Disconnecting wind generation in banks and the need to compensate with other generation or through load shedding to maintain frequency.
- In blacked-out areas, consider disconnecting these resources and leaving them out of service until the latter stages of restoration.
- Consider connecting variable generation to large-scale storage devices radially to optimize variable generation output.

| **Key Recommendation #5 \|** Operations |
|---|
| Consider if or how variable generation would be dispatched through restoration and islanded operation. |

## 3.8 Training

Consider enhancing existing training for system operators and field personnel to address the challenges of a Severe Event.

- Manual synchronization of islands.
- Islanded operations with local control area operators assuming control of certain islands.
- Communication tabletop exercises to verify and train on new coordination and communication protocols between various entities including a loss of, or significantly degraded, communications.
- Implementing rotating blackouts for extended periods of time.
- Identify, accommodate, and implement changes to priority loads.

| **Key Recommendation #6 \|** Operations |
|---|
| Consider enhancing regular restoration drills and exercises to train staff on communication protocols and independent control actions in the event of loss of or degraded telecommunications. |

| **Key Recommendation #7 \|** Operations |
|---|
| Consider using more extreme exercise scenarios that involve simulated rotating blackouts and islanded operations on a larger scale and for extended periods of time. |

# 4.0 Monitoring the BPS

The 2003 Blackout Report[26] emphasized the importance for system operators to maintain situational awareness of the BPS. In the case of Reliability Coordinators there is also the need to maintain situational awareness over a wide area that extends beyond their immediate operating zone. Due to the interconnected nature of the BPS, system operators also rely on the system conditions and data of their interconnected neighbors.

**August 2003 Northeast Blackout – Recommendation**

***"#22. Evaluate and adopt better real-time tools for operators and reliability coordinators."***

Since the 2003 Blackout the industry has continued to evaluate and adopt better tools that support real-time operation. System operators and Reliability Coordinators have enhanced their tools to provide decision support and situational awareness with greater granularity, accuracy, and a wider area view. In addition, NERC's reliability standards require minimal acceptable levels of this capability for system operators. Entities continue to explore and leverage state of the art technologies such as phasor measurement units and other new methods to monitor, anticipate, and respond to real-time thermal, voltage, and stability challenges.

To achieve and maintain situational awareness the electricity sector has over the past decades developed increasingly sophisticated tools consisting of metering points, communications networks and sophisticated software to monitor the BPS more frequently, accurately, and precisely than ever before. Within each entity, these tools typically monitor thousands of data points every few seconds at transmission sub-stations, lines, and generators.

While these tools are designed to be robust with availability rates of at least 99 percent, they do occasionally fail. Therefore, every operating entity has backup, call-out, and response plans to rapidly diagnose and address problems. Yet as strong as these regularly exercised plans are, a Severe Event could create such wide spread degradation of these tools or data that many operators throughout the interconnections may at best see only a portion of the BPS required to operate the system reliably.

System operators need to ensure that they have sufficient visibility and control in order to sustain a stable island. Inability to control the various parameters can lead to instability of the island and result in equipment damage. In this section, we offer options to continue to monitor the operation of the BPS, in spite of degraded system monitoring tools such as:

- **Energy Management System (EMS)** — provides system operators with data and analysis to monitor and operate the transmission system. An EMS includes several important functions.
  - The "model" of the EMS provides a mathematical representation of the BPS to enable contingency analysis and other monitoring functions.

[26] US-Canada Joint Power Outage Task Force https://reports.energy.gov/BlackoutFinal-Web.pdf

- The State Estimator uses the model to calculate data points that are not physically metered and can help validate data or estimate missing data in the event of metering failures.
- Security Analysis software provides sophisticated "What If" contingency analysis so operators can be prepared to take prompt action if BPS elements such as generating units or transmission lines become unavailable.
- Automatic Generation Control (AGC) to automatically raise or lower the output of certain generators to dynamically balance total generation output with consumer demand.

- **Generation Management System (GMS)** – provide power plant operators with data and analysis to monitor, control and operate multiple power plants to keep generation resources on schedule. GMS may also include AGC functions.

### Assumptions

This section assumes that the tools used to maintain BPS situational awareness are compromised or substantially degraded for an extended period of time. Telecommunications capabilities are also in a significantly degraded state. Entities must monitor and operate a BPS that is unfamiliar and likely in an unstudied state. Entities will need to communicate and share information both internal to its operating footprint and external to neighboring entities.

## 4.1 Generator Output

Either MW or MVAR output data is unavailable from the energy management systems or is of questionable quality. System operators should consider the below.

### Recommendations

- Following an event, create communication schedules to have power plant operators report current and projected MW and MVar output for each unit.
- Develop block loading schedules so that Generator Operators understand in advance what actions will be taken depending on system conditions (e.g., frequency readings, time of day, interconnection point voltage schedules).
- System operators could define specific operating ranges for generators that could assist in verifying that operating directives are reasonable and bona fide.
- Operating to such schedules might be difficult in the early stages of a Severe Event as the system may be less stable and operating with fewer resources. As a result, ranges may need to be larger to provide greater operating latitude, but as operating experience with the New Normal system is achieved operators might tighten these ranges.

## 4.2 Operating Limits

System operators must continually ensure they are operating equipment within established limits in order to avoid further damage to equipment and support reliability. Operating limits may need to be recalculated as configuration changes will alter system impedances and system flows will be radically different from normal operation. Operators will need to perform these recalculations periodically throughout the Severe Event. For each recalculation, affected entities will need to consider how close they should operate to the limit based on their understanding of the risk of the next contingency. If the risk is determined to be high, it may be better to operate further away from the limit but serve less load. If the risk is determined to be lower, it may be better to operate closer to the limit and serve more load.

### Recommendations

- **Hard Copy Reference Material** — Provide thermal limit ratings for each facility in hardcopy form. Periodically confirm these ratings with automated values when on-line calculations are available.
- **Standard Operating Procedures** — BPS entities change their facility ratings at particular triggers depending on system conditions. Some entities change their ratings seasonally, others have very granular temperature sets of ratings that are different for day and night operations. During a Severe Event, system operators could implement standard operating procedures for switching to different temperature sets at established times. This will help ensure that control actions are coordinated and both parties use the same limit at the same time and under the same conditions. However, these ideas would likely only be explored after the system has returned to a greater level of predictability. It is more likely that following a Severe Event the best recourse would be for operators to utilize conservative limits.
- **Conservative Limits** —System Operators could default to pre-studied conservative limits to provide additional robustness to the transmission system in order to absorb an anticipated threat. These conservative limits could represent N-2 or maximum credible contingencies and position the BPS in a more resilient mode of operation.
- **Revisit Design/Operating Assumptions** — Following an event, system operators may need to revisit the assumptions underpinning their limits (i.e., operating in a number of small islands will create far different flows on the system than during normal interconnected operation). Design assumptions that need to be reviewed include the type and amount of load, the interconnected/networked nature of the system, generation mix, and system transfers and flows.
    - The New Normal operating environment may require system operators to operate with far more risk of potentially damaging equipment and/or cascading islands. Redefining these operating assumptions may provide greater flexibility to serve more customers provided any short-term gains are balanced against potential long-term consequences.
    - Reassessment of operating limits may also be driven by physical damage or long-term unavailability of assets.

- If these changes in assumptions drive changes to limits, the operating entity should communicate these changes with its Reliability Coordinator and any interconnected neighbor.

| **Key Recommendation #8 \|** Monitoring the Bulk Power System |
| --- |
| Consider developing processes to quickly study island configurations and develop suitable operating limits. |

- **Operate to the Most Conservative Reading** – Normally when either a limit or the monitored flows are in question, operators should always operate to the most conservative readings/limits may require reconsideration in the New Normal. Entities should consider when this fundamental requirement might not be achievable in the New Normal. Example decision criteria might include:
  - Reconsider operating to the more conservative reading/limit when the result might create far greater social impact (e.g., inability to serve priority loads that have a clear impact on public safety).
  - What entities need to be consulted to understand possible consequences? Can emergency management organizations better help frame such decisions?
  - Safety of nuclear units may be put at greater risk if an operator were to default to the more conservative limit that would require switching a line providing BPS power out of service. Accepting the short-term risk of keeping the line in service, might be the more prudent and safe decision for the overall community.

### 4.3 Monitor Flows on BPS Facilities

Having system operators continually understand either the actual or modeled flows of tie lines and internal transmission facilities is essential in system operations (these readings are as critical as an altimeter is to a pilot). As such, an adversary could have either altered an EMS Model's representation of the topology of the system (altered which elements are modeled in service or out) or have changed the modeled flows and possible impacts (impacts to State Estimation and Security Analysis results)?

#### Recommendations

Consider operating without any state estimation, relying only on actual power system flows for weeks to months.

- Prior to an event, conduct studies with the EMS to understand the bare amount of data required to keep the current state estimation model and security analysis applications solving.
- Assess whether greater levels of load or generation aggregation could be used to reduce the amounts of required data.
- Consider if a simplified model with reduced granularity could be stored locally or on a separate portion of the Information Technology (IT) network. Consider if this model could be uploaded to the EMS and integrated with the state estimator and identify:

  - Subject matter experts needed.
  - Time and effort required.
  - Procedures needed to implement if subject matter experts are not available?
  - Testing and training.
- Assess what conservative operating restrictions may be needed to mitigate the reduced accuracy of the simplified model (e.g., conservative limits for certain facilities).
- Create a prioritized list of the data points most critical to understanding the operating state of a given operating area (the canaries in the coal mine).
- Consider the need to reconfigure study models to reflect an extended period of islanded operation, and at what stage of the New Normal this would be undertaken.
- Consider the field personnel and communications capabilities needed to sustain 24x7 manual monitoring at critical data points. To enhance this capability, consider:
  - Training required to provide accurate monitoring and maintain safety.
  - Developing procedures and reporting formats for each facility.
  - Using security personnel for some monitoring duties.
  - Communications equipment, facilities and methods.
  - Pre-arranged reporting times.
- If the Internet is available, consider using social media (e.g., Twitter feed) to facilitate reporting.

| **Key Recommendation #9\|** Monitoring the Bulk Power System |
|---|
| Consider developing processes to monitor BPS flows in the absence of reliable automated systems and communications. |

- **Use of Phasor Measurement Units** – Throughout the Eastern, Western and ERCOT interconnections, phasor measurement units (PMUs) are being installed to enhance the granularity of BPS data. PMUs provide system operators a paradigm shift in situational awareness. Rather than measuring the system every few seconds, PMUs can measure the system tens-of-times per second. It has been said that PMUs are to current EMS models as CATSCANs or MRIs are to X-rays. As exciting as these emerging possibilities are for operations, what is intriguing from a resilience perspective is that many of the new applications using PMU data provide new opportunities compared with traditional EMS applications and data communication links.
  - System operators are currently field testing new PMU applications and considering how these may provide a completely independent source of data.
  - PMU applications could be driven by data collected at particular points via data concentrators, and may provide system operators with essential data using far fewer PMU readings.

  - As these PMU applications are developed to become full production operations applications, organizations may consider how to keep the PMU applications independent of EMS applications and support hardware. The end result may be that PMU applications might not only enhance current operational reliability but support reliability and resilience in a New Normal environment.

- **Use of FNET** — Research into island detection based upon the use of frequency disturbance recorders (FDRs) originally installed as part of the frequency monitoring network[27] (FNET) program developed at Virginia Tech is currently under way as part of the GridEye[28] program managed by the University of Tennessee and the Oak Ridge National Laboratory. The proposed project seeks to combine FDR data and offline analysis to provide a practical, low cost implementation of island boundary visualization based upon existing technology and real-time/historical data.

## 4.4 Loss of Control Centers – Both Primary and Backup

This section addresses concerns and issues that would result when there has been a loss of both the primary and backup control centers for a BA, TO, or RC. Most likely the risk of losing both control centers is very remote. However, following the 2011 Fukushima disaster, the Chairman of the Nuclear Regulatory Commission commented that if such a disaster had occurred in the U.S., the Commission would have directed evacuations within 50 miles of the impacted plant(s). How many operating entities have both of their control centers in the 50 mile radius of a single, if not multiple, nuclear plants? There is no panacea for the numerous problems that would be manifested in this scenario; however, there are a number of things that could be addressed before, during, and after such an event that would lessen its impact. Yet the following recommendations are not intended to encourage the building of tertiary (back-up to backup capability); however these ideas are shared to elicit consideration of the how to avoid or respond to the very remote possibility of losing both control centers.

### Recommendations

- When considering a new location for the primary or alternate control centers consider building the new facility a distance from the other which would avoid common risks including natural and man-made concerns such as 1) earthquake fault zones, 2) hurricane or tornado zones, 3) evacuation radius for nuclear and chemical plants, 4) tsunami risks 5) volcano eruption zones 6) chemical spills from rail or highway accidents and manufacturers, or other risks. It is understood that the greater the distance between control centers the longer it would take to occupy the backup control center; as such there are inherent tradeoffs between the possibility of losing the ability of controlling a portion of the grid while the entity is occupying its backup control center.
- Consider developing arrangements with neighboring BA, TO, or RC, [Power Plant or Market Dispatch Office] to share or use their control facilities.
  - Share telemetry between entities.

[27] Ref. FNET, http://fnetpublic.utk.edu/
[28] Ref. Grid Eye, http://www.ornl.gov/sci/electricdelivery/pdfs/GridEye Fact Sheet.pdf

- Use Inter-Control Center Communication Protocol from a third party.

- Deploy multiple, diversely routed telemetry communications paths from selected critical remote terminal units to data concentration hubs which are not co-located with the control centers.
  - From each of those data concentration hubs, telemetry could be fed to both the primary and alternate control centers, or a 3rd party with which there is a contract to share their control center/capabilities.
  - A mini SCADA[29] SCADA or EMS could either be located at or mobilized to a data concentration hub to allow limited emergency system control with the loss of both control centers.
  - As the industry continues to deploy and leverage Phasor Measuring Units (PMU's) within operations, entities may consider concentrating the PMU data at a tertiary site away from the primary and back-up control centers. Having the PMU concentrator and user interfaces might provide for a bare bones tertiary control center.

- During the time the entity is required to operate at a location other than the primary and backup control center, physical security would have to be maintained at the alternate site. The physical design should enable this to be accomplished quickly and easily. Contracts should be developed in advance for any needed security services.

- Consideration should be given to the logistics required for self-sustained operations, at an alternate site. This would involve sufficient office space for engineering, computer, and dispatch personnel, as well as, the supplies and storage for food and water for an extended period.

- Consider building operator-training simulators at a location independent of both the primary and back up control centers. Though the simulator will not have the complete capabilities of the primary control center or backup control center, if connected to particular data concentration hubs it may permit operators to control portions of the BPS within the parameters of the New Normal.

- Should entities consider having their Storm/Emergency Response centers at tertiary sites with some limited level of system control and information?

- Often control centers of large areas have many subordinate control centers. These subordinate control centers could range from being a local control of a large transmission owner to a small municipal operating entity. Regardless of size and particular monitoring capabilities, these subordinate entities could participate in drills where they must operate in the absence of direction and oversight. As such, if a large entity were to lose both its primary and backup control centers, efficient BPS operations may have been impacted, but effective operations may still be maintained through a far

[29] A mini SCADA has less functionality and capacity than a primary SCADA, with fewer telemetry points and limited advanced applications, if any. It usually is capable of at least monitoring tie line flows with neighbors.

more diverse group of operating entities. In order to achieve effectiveness, parties may need to consider the training and drills needed to create the confidence and capabilities to achieve reliability under this distributed model.

- If there is a warning of a possible attack or major system event, operating entities may want to consider staffing each of the sites where it has some operating capability. In the event that anyone or multiple sites are damaged the remaining facility may be able to take control, if only partially.
- From a cybersecurity perspective, both control centers could be significantly degraded if the primary and backup control centers are simultaneously exploited through the means by which entities keep the facilities synchronized. In an environment of heightened cyber threat, operating entities may consider not keeping these facilities synchronized and utilizing different sets of cyber controls and hardware to ensure that both centers do not have common vulnerabilities to potential cyber threats.

| **Key Recommendation #10 \|** Monitoring the Bulk Power System |
| --- |
| Consider the simultaneous loss of primary and backup control centers and how essential functions will continue to be performed. |

# 5.0 Communications

The reliable operation of the BPS depends on a highly reliable communications infrastructure. North America's BPS has been described as the world's largest machine; generation resources, consumer load, field operations, and centralized controls are all separated by significant geographic distances and the actions of any single entity can significantly impact others. Although communication, both voice and data, is very important in normal operations, during a crisis situation it is absolutely critical[30].

During a Severe Event it is expected that communications will be degraded to some extent, and entities may experience the complete loss of normal communications. Despite this, operating entities must strive to continue to monitor the system and direct operations at all times regardless of circumstances. This section discusses alternatives to address the challenges associated with degraded communications.

### Assumptions

This section assumes that communications is degraded as a result of a Severe Event for a number of reasons:

- Impact on communications infrastructure from one or more of the following:
  - Loss of BPS power supply to telecommunications facilities.
  - Physical damage to telecommunications facilities.
  - The user volume of communications exceeds the capacity of communications facilities, especially cellular and satellite telephone networks.
- New and unfamiliar communications protocols that are not required during normal operation may need to be arranged with entities or individuals.
- Electricity market functions that depend on automated dispatch will be dramatically reduced or suspended, creating the need for manual operator control and direction.

[30] A cyber attack will pose particular risks to the systems used to operate the BPS. This is addressed by NERC Cyber Attack Task Force report, currently under development.

## 5.1 Communications Relationships

The need for reliable communications depends on the operating relationships between entities. The following table illustrates key working relationships and the types of communications most critical to BPS operations through a Severe Event.

**Table 4: Key Communications Relationships**

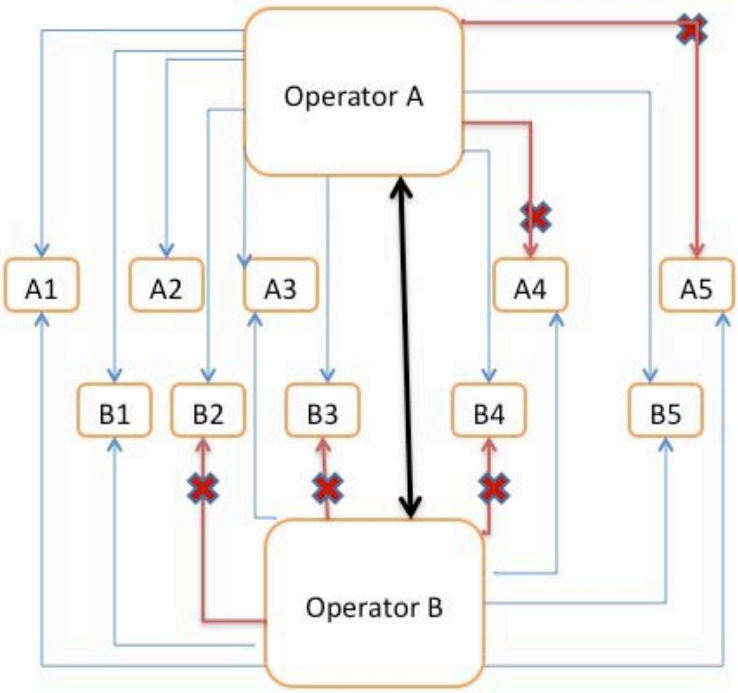
| Relationship | Key Communications |
|---|---|
| 1. Between field personnel, through the Distribution Provider and Transmission Operator, and the control center of the Transmission Operator | • Assess situation at remote facilities<br>• Manually read meters and equipment status indicators<br>• Operate equipment (e.g. opening and closing breakers) |
| 2. Between the Balancing Area and the Generator Operator within an island | • Determine generator status and schedule, including fuel and operating limitations<br>• Direct generation schedules (MW and Mvar)<br>• Monitor frequency<br>• Determine which unit could operate as the driver unit in isochronous mode |
| 3. Between the plant Generator Operator and its connected Transmission Operator | • Determine generator status, schedule, and constraints on unit output<br>• Determine transmission line and substation loadings<br>• Implement restoration sequence<br>• System configuration |
| 4. Between the generation/transmission operators and their suppliers of equipment and services | • Determine fuel, equipment, and other resource requirements<br>• Secure reliable delivery of essential fuel, equipment, and other resources |
| 5. Between the control centers of neighboring but not necessarily interconnected Transmission Owners, Transmission Operators, Balancing Authorities, and Reliability Coordinators | • Confirm generation and transmission status and limitations<br>• Methods of controlling generation to match load throughout the zone<br>• Decide plans to synchronize islands<br>• Identify opportunities to provide mutual assistance |
| 6. Between the Transmission Operator control centers and the Reliability Coordinator | • Discuss and coordinate restoration and operation options and strategy<br>• Confirm operating authorities |

| Table 4: Key Communications Relationships | |
|---|---|
| **Relationship** | **Key Communications** |
| 7. Communications with Government entities (e.g., local and state emergency operations centers) | • Assess situation<br>• Determine prognosis for restoration of service<br>• Identify needs and priorities<br>• Coordinate with other critical infrastructures<br>• Coordinate public communications (e.g. schedules for rotating blackouts)<br>• Identify safety and security needs and solutions<br>• Keep informed about status and manage expectations for service |
| 8. Between the consumer loads and the Distribution Service Provider | • Provide information regarding the nature of loads within the area such as priority loads, large or variable loads, issues related to cold load pickup<br>• Coordinate and communicate service restoration information and rotating blackout schedules<br>• Communicate restoration information and manage customer's expectations for service quality |

## 5.2 General Communications Recommendations

- The *Interdependencies with Other Critical Infrastructures* section of this report suggests ways to work with telecommunications service-providers to better understand interdependencies and mitigate the risks associated with BPS and telecommunications infrastructure disruptions.
- Consider co-locating BA and TO functions within the same work center in order to reduce communication requirements and assist with the synchronization complexity of restoration.
- When examining backup communications options, minimize the number of repeater hops to reduce the number of possible failure points. Configure satellite telephones so they operate point-to-point without the need for intermediate ground stations. Entities should be flexible and prepared to create a network that may include hops to other entities in their wider area through whom they can communicate as illustrated in the figure below.

**Figure 5: Alternate Communications Paths**




Operator A has communications with key facilities A1, A2, and A3 but does not have communications with A4 and A5. And Operator B cannot communicate with B2-B4. When Operator A confirmed it had communications with Operator B, it found Operator B could communicate with facilities A4 and A5. As such Operators A and B developed a communications relaying relationship. While Operator A is working to restore communications to all of its facilities , it is trying to assist Operator B with getting communications with facilities B2, B3, and B4.

- Entities should consider installing mobile radios compatible with those used by neighboring entities, and developing protocols to share assigned channels.
- When preparing for the Y2K transition period, many entities implemented satellite telephones and continue to rely on them in the event primary communications facilities are unavailable. NERC should consider assessing the extent to which they can presently be used to coordinate operations between entities within each Interconnection.
- Identify personnel in advance who have communications skills, such as HAM radio or social networking media such as Facebook or Twitter. If the Internet continues to be available these methods could be very effective in communicating rapidly to the public at large.
- Consider backup generation wind generation and solar cells at communications sites to prolong the power supply to these resources. Note that sources of variable generation will require significant energy storage capability.

| **Key Recommendation #11 \|** Communications |
|---|
| Consider installing renewable generation (e.g., wind, solar) at critical BPS facilities to supplement standby generators. |

- Prepare plans for long-term fuel delivery to backup generation at entity-owned communications sites.
- If time permits before a degradation of communications, increase the utilization of system "All-Call" and the NERC Reliability Coordinator Information System (RCIS) to notify operating entities of increased operating activity and the need to coordinate major system activities.
- If primary communication links to remote terminal units are down but other communication lines are functioning consider how an Operating Entity could leverage sub-station security communications capabilities (i.e., radios, fiber communications) to relay critical power system flows, without significantly jeopardizing these systems.
- Local emergency management services (e.g., police, fire, military) vehicle radios may provide both physical security and communications capabilities at critical sub-stations.
- Local HAM Radio chapters often have agreements with local emergency operations centers to provide communications in times of emergencies. Consider reaching out to these chapters[31] to integrate into business continuity planning and possibly drills and exercises.
- The military once had wire telephone communications gear. If available in local armories how could operating entities and the military use such wired communications between critical operating nodes within a particular island (this option would require physically laying the wire and staffing switch boards).

| **Key Recommendation #12\|** Communications |
|---|
| Consider alternate means to communicate when primary means of communication are completely unavailable for extended periods of time. |

[31] Radio Amateur Civil Emergency Service http://www.qsl.net/races/ and Amateur Radio Emergency Service http://www.arrl.org/ares

## 5.3 Communication Protocol Recommendations:

### Reporting Formats

- Know which are the critical data points are needed to assess the current operating state (review and refresh the protocols developed for Y2K to report critical operating data).
- If all sites are reporting during a single time period (or even staggered), prioritize which stations report first (e.g., by criticality of the information, alphabetical order, or other method). Structured and sequential communications will help manage communications volumes and delayed or missed calls.
- Develop a standardized reporting format so more information can be passed more effectively (i.e., location, reading 1, reading 2, issues, possible opportunities, actions).
- If spreadsheets are used to record the data, consider if dedicated laptops are needed to consolidate the data, or if hardcopy forms available at data collection points would be sufficient.

- **Consistent Conference Call Protocols** – The individuals providing information will change throughout the New Normal period. Communications must be clear and concise and the leader of the conference calls must drive participants to stay focused on the essential elements of information; the information needed to identify issues and decide the necessary actions.
- **Communications Protocols for Field Personnel** – Develop, train, and exercise field personnel on the communications protocols they will use.
  - Prepare a specific reporting format and common protocols.
  - If needed, assign each critical data point a reporting time, so that the various parties are coordinated.
  - Prepare for an extended period of degraded communications with field personnel (i.e., posting these procedures at the stations with critical data points).
- **Protocols for Releasing Information to the Public** – Throughout the New Normal period, people will need to understand how restoration is proceeding so they can make their own decisions to care for themselves, their family, and their community. If there is limited information available from media outlets, entities could consider posting important information (e.g., rotating blackout schedules) at government offices such as police stations or post offices and at locations where people will congregate (e.g., food and water delivery points).
- **Standing Orders for Personnel** — Standing orders are a prescribed set of instructions for people to take action in the absence of communications or leadership direction. Standing orders could be developed to direct key personnel to report to designated locations following a Severe Event or direct a sub-station technician to clear each bus and open each breaker following a large scale blackout.
- **Validating Sources of Information** — The New Normal may create different operating relationships with operators communicating with and being directed by people they do not know. Consider establishing validation protocols to confirm identities. Develop "challenge and password" protocols or other information known only to certain

persons. Consider how these passwords would be developed, shared, protected, and periodically changed.

| **Key Recommendation #13 \|** Communications |
| --- |
| Consider robust training, drills, and exercises to fully test critical restoration steps using alternative voice and data communications (e.g., satellite telephones). |

## 5.4 Emerging Technology Recommendations

NOTE: The following suggestions assume the Internet is available. The diverse and distributed nature of the Internet's network infrastructure makes it highly resilient. Local Internet Service Providers and the "last mile" of connectivity to the end user may be the weakest links if they are directly affected by the Severe Event.

- **Masked websites** — Entities could each develop masked (i.e., not listed under the entity's normal domain) websites to display critical readings.
  - Coordinate the development of these websites with other entities so they are designed, secured, and tested (these may require another web presence beyond your entity's currently "secure portal").
  - These websites could support data scraping so that other entities could scrape from multiple sites and upload to spreadsheets to assist in model updates or offline analysis of system conditions. To facilitate this, decide which common data format (e.g., XML, or RSS feeds) will be used. The data scraping could potentially dump the values into PSSE models or other off line studies or analysis.
- **Alternate use of security cameras** — If there is insufficient staff to read key metering points consider using security cameras be to monitor a meter (more acceptable when the threat is not a physical attack threat).
  - Consider using the physical security monitoring center to relay the meter readings to operations personnel.
  - If multiple entities require these readings consider uploading the camera feed to a webpage. This would significantly reduce the verbal reporting burden and multiple entities could access the data as their models or processes required.
- **Mobile devices** — Smart phones and tablet computers could be used as cameras, video cameras, or for conference calls.
- **Ad hoc networks** — Consider what was done during the Arab Spring uprising in Egypt to continue communications even when the Internet was significantly limited, using for example, Mobile Ad Hoc Networks (MANET). Below is an excerpt from IEEE *Building a Subversive Grassroots Communications Network*, Ritchie King, Jul 2011.
- **Social media** — Consider using social media such as Twitter feeds for reporting. Consider developing Twitter accounts that could be used to share critical data from sub-station to control center, and control center to neighbors. This could be an extension of

an entity's existing social network, but directed to system and field operations rather than consumers.

# 6.0 Short-term and Long-term System Planning

This section offers guidance for both short-term (also known as operational) and long-term system planning functions through a Severe Event. While long-term system planning functions may seem less immediately impacted by a Severe Event than other functions, both short-term and long-term system planners should be equally prepared to ensure their functional resilience.

This section considers the impact on system planners of a Severe Event that damages or degrades planning resources and capabilities.

### Experience from Hurricane Katrina

Following Hurricane Katrina, Entergy transmission planners were unable to enter their headquarters in downtown New Orleans for several weeks. This substantially affected their ability to provide timely support, and limited confidence and speed of restoration and reconstruction efforts.

## Affected System Planners

System planners are typically divided into short-term (or operational, less than 12 months time horizon) or long-term (greater than 12 months). While there are significant differences in these functions, there is sufficient similarity in how they are affected by a Severe Event that both are considered in this section. Where appropriate, differences are noted.

## System Planning Tools and Facilities

System planning engineers typically work as integrated groups in an office environment with a central computer network, telephone network, and access to real time information from operating centers.

Information and data needed for system planning is typically in several forms: traditional paper files, drawings, and maps are located in or near the planning center, records of in-progress current project work in both paper and digital form are at the planner's desk, and shared data such as system load flow base cases are likely to be located in computer servers which may be local or remotely accessible through the IT network. Maintaining backup copies of data is typically a challenge; paper records, even if duplicated, are unlikely to be maintained in a backup location. System planners may periodically create backups of in-progress work but the copies are typically maintained locally. Only the data located on servers is likely to be adequately and securely maintained with off-site backup.

System planning tools and software are typically concentrated at one or two locations. Some software such as load flow, fault analysis, stability, relay settings, and economic analysis will be installed on individual user laptop and desktop computers and many programs require software tokens or are locked to the user's computer. More complex software and associated databases may be installed on local or networked servers. Some short-term system planning software, such as an interface to a state estimator or other real-time system information, is more likely to be installed on dedicated computers in physically and electronically secure locations.

Other system planning tools such as calculators, drafting equipment, plotters, printers, & scanners, are typically located in a central planning office for general use.

## 6.1 Consequences of a Severe Event on System Planning Functions

The consequences of a Severe Event may include the following, discussed in further detail below and elsewhere in this report.

- Temporary loss of access to system planning offices and tools.
- Temporary loss of access to protected or backed up software.
- Loss of communications.
- Unusual demands on system planners for studies.
- A need for studies of systems with multiple BPS elements out of service.
- Loss of personnel, unable or unwilling to rejoin the system planning function.

### Loss of Access to Facilities, Software, and Data

Loss of access to system planning offices, tools, and communications are typically addressed in business continuity plans. In the event that tools and facilities become available, but data is inaccessible, essential information will need to be developed from other sources. Operations will have backup centers where versions of system planning cases may be found. Joint and interregional studies may also be a source for replacement information.

The particular concern with loss of access is that even though it is likely that facilities and tools can often be replaced, if attention is not paid to implementing and sustaining spare equipment and data backups, a significant delay can occur before system planners are able to function again.

| **Key Recommendation #14 \|** Short-term and Long-term System Planning |
|---|
| Consider the potential loss of system planning resources (e.g., equipment, data) as well as damage to the system. Review business continuity plans to ensure that system planning resources are adequately considered. |

### Unusual Demands on System Planners for Studies

Demands on system planners will be immediate, intense, and continuous as system conditions change and configurations evolve. For example, the April 27, 2011 tornadoes affecting TVA required analysis to operate multiple unplanned islands, and study previously unconsidered configurations. Similarly, the loss of the HV transmission cables supplying the Auckland, New Zealand central business district in 2006 required planners to incorporate the temporary overhead lines.

**Experience from the 2011 Japanese Earthquake**

The 2011 Japanese earthquake and tsunami and the destruction of all transmission facilities supplying the Fukushima nuclear plant required rapid multiple expedient responses that placed extreme demands on planners.

The tasks of system planners will evolve through the mitigation, restoration, and New Normal phases of a Severe Event.

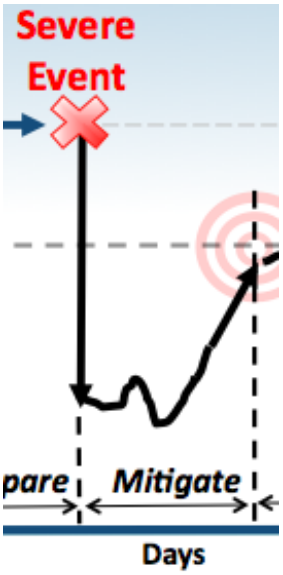
- **Mitigation Phase** — Establish and recover essential system planning facilities. Restore as much of the BPS as possible to reliable operation with a focus on supplying critical and priority loads. Perform essential studies to support BPS operation in unstudied states. Perform studies needed to support island synchronization, system reconfiguration, and potentially conflicting requirements for emergency supply to priority loads. Tasks may require only a limited number of system planners, but with specialized skills and local knowledge.
- **Restoration Phase** — Continue to recover and construct facilities adequate to support longer-term system planning. Develop the studies needed to consider options to return generation and transmission facilities to service. Begin to develop longer-term plans for new facilities. During this phase, the need for system planners may increase from a small core of specialists to a full complement of planning staff.
- **Return to Normal Phase** — Restore complete system planning capabilities. Reconcile short and long-term system planning requirements to improve BPS reliability. Resume long-term system planning functions.

| **Key Recommendation #15|** Short-term and Long-term System Planning |
|---|
| Consider the appropriate use of key system planners who may be required immediately, and for prolonged periods, to perform studies not previously considered. |

## 6.2 Planning During the Mitigation Phase

### Support Real-Time Operations

The first priority for system planners will be to establish communication with essential staff and recover essential planning facilities and data needed to begin work. Once this is done, the immediate priority will be to support system operators in their efforts to restore the BPS and supply electricity to customers to the extent possible on a prioritized basis. The initial surviving system will likely be in an "unstudied" state. Therefore, real time assessments will need to be performed and step-by-step restoration procedures confirmed by studies before control actions are taken.




The volume of work and the need for rapid response is likely to require that some long-term system planners be re-assigned to the short-term system planning effort during the mitigation phase and perhaps even into the early portions of the restoration phase.

If there is widespread damage to the system, system planning studies may need to consider using temporary configurations such as partially restored substations. Studies may include operation with less than normal margins, contingencies that may cause loss of load, reconsideration of breaker fault ratings, and reconsideration of transformer overloads. Normal design criteria such as voltage may not apply in the early stages following the Severe Event. System planners and management should re-evaluate planning requirements considering the consequences of the Severe Event.

### Temporary Facility Ratings

System planners may need to consider temporary above-normal ratings in order to restore the BPS quickly. An ability to quickly calculate and integrate such ratings should be available.

### Replacement Equipment

While entities have the ability to withstand normal emergencies events and quickly restore their systems from existing or quickly obtained spares, a Severe Event may render purchased spares unavailable for a prolonged period. In this case continuing operation with temporary design solutions using sub-optimal equipment may be required. Maintaining records and databases of equipment characteristics as reconstruction proceeds, particularly when equipment is substituted on a contingency basis, may be a challenge. While most entities have comprehensive transformer spares programs, use of spares in expedient restoration situations may result in unbalanced configurations. Studies may be required of protection and operating limits.

**Planning Following the April 27, 2011 Tornadoes**

Following the multiple tornados affecting the Tennessee Valley Authority, the Browns Ferry nuclear plant had lost all but one of its seven 500kV transmission connections. As the transmission lines were successively restored to service, multiple unstudied configurations had to be reviewed in coordination with plant restoration.

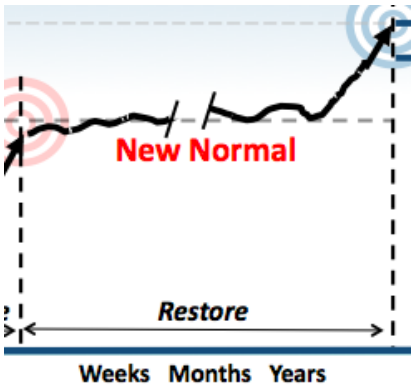
### Advance System Planning

Items of advance system planning should be considered as an aid to help speed the mitigation phase. Examples include:

- Perform system studies and maintain records of equipment interchangeability.
- Perform studies to identify the islands that would likely form during a Severe Event, and their sources of generation, including sources of generation (e.g., cogeneration at an industrial plant) not normally supplying the BPS.]

| **Key Recommendation #16|** Short-term and Long-term System Planning |
|---|
| Consider performing selected studies in advance (e.g., equipment interchangeability) that could help speed restoration. |

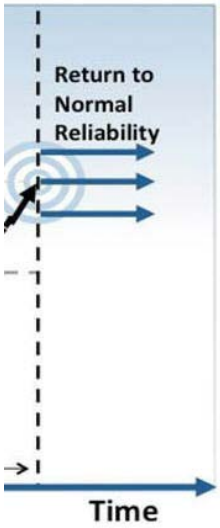
### System Planning during the Restoration Phase




As immediate real time operating demands are met, system planning will transition from the immediate mitigation phase to longer-term restoration of the BPS. Temporary staff reassignments are likely to continue. The system planning function will grow from an initial core of specific expertise and begin to approach pre-event capabilities. In study targets, it is possible that restoration and construction will be significantly different from the original BPS configuration. Factors may include:

- Long term loss of load, e.g., industrial or residential loads that may be lost for extended periods.
- Budget limitations as operations, maintenance and capital funds are reallocated to manage more immediate priorities. This is discussed further in the section *Emergency Financing* section of this report.

## 6.3 System Planning during the Return to Normal Phase




By this time the restoration of system planning capabilities will be complete, although it may differ from the original. System planning efforts may be required to reconcile short and longer-term plans with the requirements of the post-New Normal system and its remaining loads. System planning will likely have achieved restoration of regular planning schedules. Entities will be reflecting on their experiences and considering significant changes in long-term plans. Factors may include:

- Permanent loss of load, in particular, industrial load.
- Permanent budget changes, either lower or higher, and possibly new funding and approval mechanisms.
- Loss of experienced planning staff, expertise, and resources.

## 6.4 Design Considerations

While system planners are typically not responsible for the physical planning and design of lines and substations, they are well positioned to offer recommendations toward improving reliability, including the following.

### Critical Spare Equipment

Emergency spares may not be identical to the equipment they replace and may result in unbalanced configurations that require protection and operating limits studies.

Entities have spare equipment criteria for critical equipment such as transformers, transmission line and substation, and generating unit components. However, a Severe Event may render purchased spares insufficient or unavailable for a prolonged period. In this case, operation with temporary designs may be required. To further enhance resilience, line and substation planning could include:

- **Increase Equipment Standardization** — To promote greater interchangeability of components, increase the standardization of component specifications such as physical size and electrical rating. For example, TVA has minimized the number of single-phase 500 kV transformer designs that it currently purchases, and has extensive studies on file of the interchangeability of differing designs. Others have established standard sizes and ratings for transformers, breakers, conductors, and other equipment.

**Standardized 500 kV Transformers used by Tennessee Valley Authority**

Following two 500 kV transformer failures in 2001, TVA developed an approach that reduced costs and procurement time, and increased interchangeability of spares by limiting transformer purchases to seven standard designs, and using external rather than internal reactors.

- **Location of Spare Equipment** — The location of spare equipment may be important. The spare equipment should be readily assessable, but a physical distance from the equipment being replaced to minimize the possibility of damage as a result of collateral or intentional actions. In higher voltage substations using banks of 3 single phase transformers, a 4th spare transformer is typical and physical separation of the spare should be part of the station design.
- **In-Situ Spares** — It is common practice to situate spares (such as high voltage transformers) adjacent to in-service equipment within same station to minimize restoration times due to equipment failure. Again, physical separation of these transformers should be maximized and otherwise protected from the potential of collateral damage caused by the destruction of the other. Other means to separate in-service spares could include using blast walls, complete redundancy in switching devices (breakers) and relay protection.
- **Use of Adjacent Substations** — Maintaining a safer distance between in-service spares could also be accomplished, depending on application and location, through storage at adjacent substations.
- **NERC Spare Equipment Database**[32] — Consider contributing spare high-voltage transformer data as part of the NERC Spare Equipment Database program being implemented in 2012.

| **Key Recommendation #17|** Short-term and Long-term System Planning |
|---|
| Consider the spare equipment critical to BPS restoration and ways to improve availability of these spares. |

## Use of Rights-of-Way

Utilities that operate in areas prone to tornados recognize the possibility of simultaneous loss of all transmission lines on a single right-of-way. Other Severe Events such as earthquakes,

[32] Ref. NERC Spare Equipment Database http://www.nerc.com/filez/sedtf.html

unusually extreme ice storms, and physical or cyber attacks may also threaten multiple facilities using a common right-of-way.

- While it is common practice to concentrate multiple circuits onto a single right-of-way, consider minimizing the impact of a single mode failure on the facilities should be considered. For example, single circuit towers may be less vulnerable to disruption and facilitate energization when crews are working on adjacent structures.
- Some circuits could be built underground to reduce the vulnerability of all circuits along the right-of-way.

### Station Design

The implementation of the NERC Critical Infrastructure Protection (CIP) standards[33] have helped enhance physical and cybersecurity at substations. However, many substations are often not staffed and monitoring is limited to visual security cameras and alarms and control devices used for electrical operation. Suggestions to improve resilience include:

- Install electronic surveillance to facilitate remote visual inspection and assist in setting priorities for operation, repair, and identifying alternatives for restoration.
- Harden structures and control houses to minimize damage and improve restoration efforts.
- To reduce exposure to explosions, use physical separation or blast containment techniques.
- Standardize the use of protection and control devices and schemes to ease repair or replacement. Consider using alternate technologies for backup systems that are simple yet effective.

**Use of Modular Control Houses by American Electric Power**

AEP is working with suppliers to develop modular control houses with Faraday cage shielding of devices and protection cables that would harden critical cyber assets serving large metropolitan areas.

[33] NERC CIP-002 – CIP-009: http://www.nerc.com/page.php?cid=2|20

# 7.0 Protection and Control

This section identifies challenges associated with protection and control systems used to support the reliable operation of the BPS following a Severe Event and a prolonged period of New Normal operation. It is important to understand the differences between a power system protection engineer's two competing objectives.

| Dependability and Security | | |
|---|---|---|
| **Power system protection engineers must optimize the balance between the two conflicting goals of dependability and security. In general, enhancing dependability implies an intrinsic loss of security and vice versa.** | | |
| **Dependability** is "the degree of certainty that a relay or relay system will operate correctly"[34]. |  | **Security** is "the degree of certainty that a relay or relay system will not operate incorrectly"[35]. |

Protection and control plays a major role in BPS reliability. An analysis of historical NERC outage reports indicates that hidden failures[36] are involved in over 70 percent of cascading outages. The probability of a hidden failure occurring is likely greater under the stressed system conditions following a Severe Event. Therefore, the severity of the event and the prolonged duration of the New Normal justify a thorough assessment of protection and control systems to help ensure reliable operation.

Protection schemes depend entirely on the local configuration of the BPS and vary significantly from utility-to-utility and region-to-region. While this section does not provide step-by-step

[34] Ref. IEEE Standard for Relays and Relay Systems Associated With Electric Power Apparatus," *IEEE Std C37.90-2005 (Revision of IEEE Std C37.90-1989),* pp. 0_1-19, 2006.

[35] Ibid.

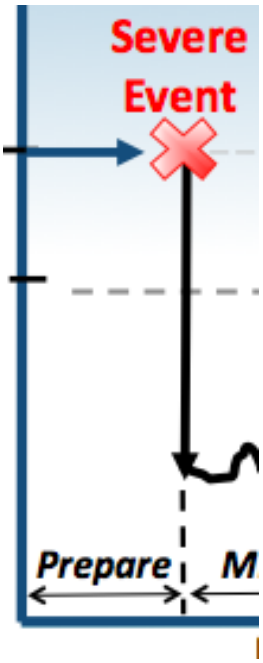
[36] A hidden failure is defined as a permanent defect on a relay system that will cause the incorrect removal of a circuit element as a direct consequence of another event [2] Tamroglak, "Analysis of Power System Disturbances due to Relay Hidden Failures," ECE, Virginia Tech, Blacksburg, VA, 1994. As conveyed by the definition, hidden failures remain dormant until a particular event causes its manifestation and associated relay miss-operation.

instructions or guidance on specific protection schemes, it does emphasize key considerations and potential mitigation actions to enhance reliable protection and control systems.

## 7.1 Preparation Phase

The NERC cybersecurity standards[37] require that critical cyber assets such as certain protection and control devices and systems be protected. The following offers industry practices best employed prior to a Severe Event.

### Physical and Cybersecurity




- Instead of using manufacturer default passwords, consider using strong[38] passwords, change them periodically, and use different passwords for each control house and/or each protection relay.
- Consider performing periodic comparisons between "as-left" relay setting files in the field with setting files at the main office.
- Consider monitoring access into substation, control house, and protection relays.
- Consider enhancing physical security of equipment in the switchyard.
- Emphasize "need-to-know" and restrict access to critical assets and information.
- Consider encrypting communications of all critical data.
- Consider having redundant secure communication paths to critical assets to decrease the impact of denial of service attacks and to provide an alternative path for alarm and mitigation action.
- Consider developing procedures to disable bi-directional data flow in substations to prevent network access to protection relays. The intent is to prevent intruders from being able to remotely log into relays and alter relay settings, yet still allow the relays to perform their normal protective function. The procedure should not compromise SCADA data; disable communications from the communication processor to relays, and therefore only allow uni-directional data flow from the relays to the communications processor.

### Power Supply to Protection and Auxiliary Systems

- Determine battery backup power requirements for substation loads such as the control house and station service under a Severe Event scenario.
- Consider installing permanent or portable backup generation to charge batteries at critical substations.

[37] NERC Cybersecurity standards CIP-002 – CIP-009 http://www.nerc.com/page.php?cid=2|20
[38] US-CERT Cyber Security Tip ST04-002 http://www.us-cert.gov/cas/tips/ST04-002.html

- Understand the interdependencies between stored energy in circuit breakers and substation off-site power. For example, spring-spring circuit breakers have stored energy for an open-close-open (O-C-O) operation. The motor to charge the spring mechanism may be AC or DC driven, or both. If the motor is AC driven and the station service transformer is out of service, then only an O-C-O operation is allowed.

### Communications Infrastructure

- It may not be possible to operate equipment remotely. Consider the logistics required to dispatch staff to multiple critical substations to monitor and manually operate equipment.
- Understand the interdependencies between protection systems and the communication infrastructure. As an example, consider a Direction Comparison Blocking (DCB) scheme. If the communication between substations is compromised, the scheme will lack security, i.e., the relay may misoperate for a fault outside the protected zone. However, the dependability of the scheme will not be affected.

### Control House

- Consider a mobile control house for rapid restoration of critical substations [3]. The design of a mobile control house should address transportation, flexibility to adapt to multiple protection schemes, battery and generator backup power, test and control switches, communication equipment, etc.

### Organizational Resilience:

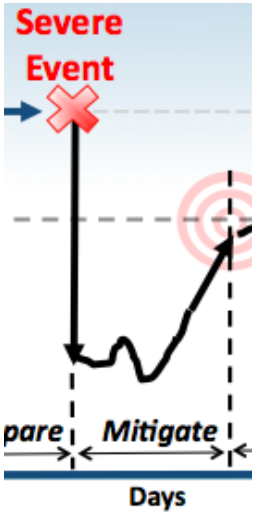
- Consider developing contacts and communication protocols to request the assistance of relay technicians and engineers from neighboring utilities that may not be as affected.
- Consider developing procedures to designate responsibilities to optimize protection and control under the New Normal. Consider tasks such as:
  - Creating a new system model for protection studies.
  - Identifying personnel to assess the adequacy of protection settings considering local circumstances under the New Normal.
  - Identifying personnel to update relay settings.
  - Developing a priority list for protection relays.
- Ensure that appropriate communication channels exist between protection systems engineers and power system operators.

### Particular Considerations

- Assess the potential impact of a geomagnetic disturbance on protection schemes. Harmonic distortion[39] may cause misoperations [4]. For example, certain shunt capacitor unbalance protection schemes may misoperate as a result of system harmonics. A potential mitigation is to use a voltage differential scheme to protect shunt capacitor banks. Consider the impact on the security-dependability balance on schemes that utilize harmonic restraint; e.g. transformer differential.
- Consider the potential impact of harmonic distortion on power system equipment such as harmonic filters, capacitor banks, SVC, communication equipment, generators.
- Assess the vulnerability of communications infrastructure to ensure data availability, integrity, and confidentiality: point-to-point fiber, power line carrier, synchronous optical networking (SONET) ring, third party provider network, etc.

## 7.2 Mitigation Phase

Immediately following the Severe Event, protection systems will respond according to predefined settings; adjusting protection relay settings as the event is evolving is not feasible. Response may be limited to confirming the status of protection systems.

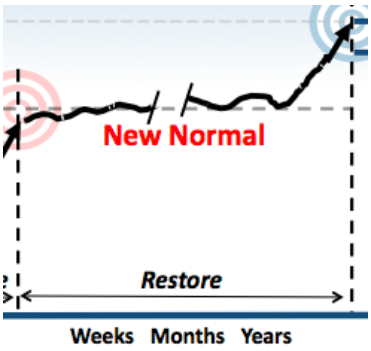



- If a cyber attack is suspected, compare "as-left" setting files in the field with setting files at the main office.
- Taking into consideration potential new islanded configurations, prioritize assessments at critical substations and generation facilities (ref. *Operations, Island Stability* section).

[39] Consider the operating quantity measured by protection relays: fundamental component (digital vs. analog filter), RMS values, etc.

## 7.3 Restoration Phase

Due to the severity of the event under consideration, a highly stressed system should be expected; e.g., potential islanded operation, rotating blackouts, lower system inertia and higher network impedance (i.e., reduced synchronizing torque), different short circuit currents and critical clearing times, reduced stability margins. Through the New Normal, protection relay settings may not be optimal and unwanted operations may occur.




### System Restoration and Control

- Consider station service at substations along restoration paths to be critical loads.
- Assess physical damage on protection and control communication channels: wave traps, fiber channels, microwave, etc. Non-pilot distance protection of transmission lines may become primary protection until infrastructure for pilot schemes (that require a communications channel) is provided.
- Remote power system control may be compromised. Dispatch personnel to critical substations for manual operation of equipment.
- Assess physical damage to substation control houses. Ensure adequate protection relay equipment is readily available.
- No damage to protection relay devices is expected after a GMD event. Current transformers may have remanence flux, which can shorten the time-to-saturation; this should not be a problem for high speed protection [4].
- If traditional telemetry or access to SCADA/EMS is compromised, consider utilizing monitoring and control capabilities embedded in microprocessor-based protection relays.

### Reliability of Protection Schemes

- Consider revisiting protection settings to enhance the security-dependability performance of the protective equipment. Protection relay settings are developed based on an assumed system state. Such settings may become unreliable under the New Normal; critical clearing times may be reduced, short circuit currents may change, and stability margins may be reduced. It may be possible to optimize the reach of protective zones.
- Consider a reliability bias towards security [7]. Traditionally, protection systems have been biased towards dependability. Under normal conditions, system topology and good stability margins justify such a design. For example, multiple transmission lines provide a number of alternate paths for power to flow and the BPS can withstand losing a single line as a result of conservative protection security provided the remaining transmission lines have sufficient loading margins. Under such conditions, not clearing a fault with primary protection has a greater impact on the system than a relay mis-operation due to lack of security. However, under New Normal conditions, the power system may be in a highly "stressed" state. Unnecessary line trips may further

exacerbate system conditions, contribute to the geographical propagation of the disturbance, and may even lead to cascading events and subsequent blackout.

- Consider studying cascading outages. The BPS may not be secure enough to withstand the next contingency (N-1); consider reviewing existing and developing new SPS and RAS schemes.
- If rotating blackouts are implemented, consider studying the impact of cold load pick-up on distribution protection with Distribution Service Providers.
- Assess source strength for distribution circuits. If short circuit currents do not allow protection coordination, consider implementing voltage supervision.
- With stability margins significantly reduced, under frequency load shedding (UFLS), under voltage load shedding (UVLS), and special protection schemes (SPS) may be essential to ensure a reliable operation of the power system. Review and ensure the appropriateness of existing UFLS, UVLS, and SPS schemes [8-14]. Consider deploying additional schemes to better suit the prevailing system state. The main three parameters involved in designing UFLS and UVLS schemes are:
  - When to shed load (threshold setting).
  - How much load to shed.
  - Where to shed load.

### Importance of Relay Setting Parameters

All three parameters are important. During the July 1996 WSCC blackout, [12] load was shed at the power sending side which caused several tie-lines to become overloaded which in turn led to a loss of synchronism. In the 1977 New York blackout [15] generator excitation protection tripped several machines after a voltage rise caused by load shedding.

| **Key Recommendation #18 \|** Protection and Control |
|---|
| Consider ways to implement large-scale changes in system protection schemes to support islanded operation and changing BPS configurations, and what decision points would be needed. |

| **Key Recommendation #19 \|** Protection and Control |
|---|
| Consider ways to quickly reconfigure relay settings in the event large-scale changes are needed. |

### Distribution System Impacts and Mitigations

Impacts and mitigation on protection and control on distribution systems[40] have been considered in this section.

- Large magnitude geomagnetically induced currents are not expected to flow in the distribution system. However, the impact of harmonic distortion should be considered.

## 7.4 Training

Due to the challenges posed by operating the power system under the New Normal, personnel training is a critical factor to ensure a resilience power system. Training opportunities may include:

- Consider cross training between distribution and transmission relay technicians and engineers to allow flexible reallocation of personnel.
- Consider developing an instruction manual describing the system protection philosophy. The intent is to facilitate the learning process in case system protection personnel are shared among utilities. The manual should address protection scheme designs, protection relays used, communication equipment needed, etc.
- Before attempting to synchronize islands, ensure that mechanisms are in place to identify and coordinate any changes to protection systems (i.e., SPS, UFLS, UVLS schemes) that could affect neighboring entities.

### References

[1] "IEEE Standard for Relays and Relay Systems Associated With Electric Power Apparatus," *IEEE Std C37.90-2005 (Revision of IEEE Std C37.90-1989),* pp. 0_1-19, 2006.

[2] Tamroglak, "Analysis of Power System Disturbances due to Relay Hidden Failures," ECE, Virginia Tech, Blacksburg, VA, 1994.

[3] R. Mazzatto, M. Leschuk, R. Glass, R. Brown, and D. Schmidt, "Case Study: Mobile Protection Unit for Rapid Power Restoration," *65th Annual Georgia Tech Protective Relaying Conference,* May 2011.

[4] "Geomagnetic disturbance effects on power systems," *Power Delivery, IEEE Transactions on,* vol. 8, pp. 1206-1216, 1993.

[5] UCTE, "Final Report of the Investigation Committee on the 28 September 2003 Blackout in Italy," ed, 2004.

[6] NERC, "Final Report on the August 14, 2003 Blackout in the United States and Canada," ed, 2004.

[7] E. Bernabeu, "Methodology for a Security-Dependability Adaptive Protection Scheme based on Data Mining," Ph.D., ECE, Virginia Tech, Blacksburg, VA, 2009.

[8] NERC, "Assessment of the Design and Effectiveness of UVLS Program," 2005.

[40] In general, non-pilot schemes (fuses, sectionalizers, reclosers, over-current relays, etc) are used in distribution systems. The size and radial characteristic of distribution systems dictates such protection philosophy.

[9] NERC, "UVLS System Maintenance and Testing," 2005.

[10] NERC, "Assuring Consistency with Regional UFLS Program Requirements," 2005.

[11] NERC, "Underfrequency Load Shedding Equipment Maintenance Programs," 2005.

[12] NERC, "Review of Selected 1996 Electric System Disturbances in North America," 2006.

[13] NERC, "Under-Voltage Load Shedding Program Data," 2006.

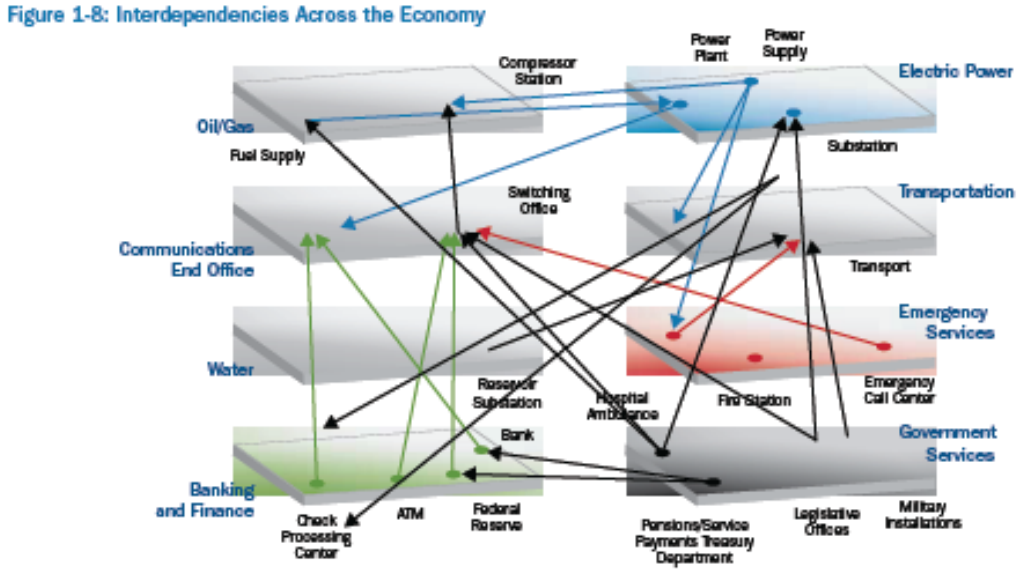
[14] NERC, "Under-Voltage Load Shedding Program Performance," 2006.

[15] FERC, "The Con Edison power failure of July 13 and 14, 1977: final staff report," ed. Washington, 1978.

# 8.0 Interdependencies with Other Critical Infrastructures

A Severe Event that broadly affects the BPS will in all likelihood have a significant impact on other critical infrastructures that depend on the reliable and continuous supply of electricity. Similarly, the BPS relies on other critical infrastructures that are necessary to support BPS restoration and operation. This section considers both aspects of these interdependencies.

- **Figure 6: Critical Infrastructure Interdependencies**[41]




The U.S. and Canadian governments have programs in place to encourage greater protection and resilience of our nations' critical infrastructures. In Canada, "The *National Strategy and Action Plan for Critical Infrastructure*[42] establishes a risk-based approach for strengthening the resiliency of Canada's vital assets and systems such as our food supply, electricity grids, transportation, communications and public safety systems". Similarly, in the United States, the *National Infrastructure Protection Plan*[43] prepared by the U.S. Department of Homeland Security identifies 18 critical infrastructures.

[41] Source: Department of Energy, Energy Sector Specific Plan http://www.dhs.gov/xlibrary/assets/nipp-ssp-energy-2010.pdf
[42] Public Safety Canada: http://www.publicsafety.gc.ca/prg/ns/ci/index-eng.aspx
[43] DHS Critical Infrastructure: http://www.dhs.gov/files/programs/gc_1189168948944.shtm

The table below illustrates the extent to which electricity is interdependent with many other infrastructures. These are discussed more fully in later sections.

**Table 5: Key BPS Interdependencies**

| Critical Infrastructure | BPS Depends on Infrastructure for: | Infrastructure Depends on Electricity for: |
|---|---|---|
| Banking and Finance | Funds transfer | Funds transfer, cash distribution, functioning of the economy |
| Communications | Voice and data services | Voice/data centers and networks, internet providers |
| Dams (hydroelectric) | Energy source | Station service |
| Defense Industrial Base | - | Military bases and defense production facilities |
| Energy – Coal, Oil & Natural Gas | Electricity generation fuel source<br>Backup generators, service vehicle fuel | Fuel production and transportation (pumping) |
| Energy – Electricity | Station service | Station service |
| Food and Agriculture | Food production (staff well-being) | Irrigation and food production |
| Government Facilities | - | Facility service |
| Healthcare | Staff well-being | Facility service |
| Information Technology | Automated tools | Facility service |
| Nuclear | Electricity generation fuel source | Station service, including safety systems |
| Transportation | Staff and equipment transportation | Communications and control systems operation |
| Water | Electricity generation cooling<br>Staff well-being | Pumping and processing |

The following describes some of the significant dependencies of the BPS on other critical infrastructures needed to support mitigation and restoration through a Severe Event.

## 8.1 Communications Sector

In addition to affecting the BPS, a Severe Event may also degrade the communications infrastructure. System operators may not be able to rely on telephone, cellular, email or dedicated broadband networks to communicate with entity staff, other entities, and key stakeholders. Alternative communications facilities need to be in-place and tested in advance of a Severe Event.

Effective BPS restoration and continued operation is highly dependent upon the ability to communicate, both voice and data, at all times. The highly interdependent aspect of BPS recovery and the communications infrastructure cannot be over-emphasized. Communications infrastructure and protocols are discussed in further detail in the Communications section.

**Recommendations:**

Entities should work closely with their communications service-providers to better understand mutual dependencies, identify priorities, and seek ways of mitigating the impact of severe disruptions.

- Identify specific interdependencies between telecommunication infrastructure and BPS infrastructure, such as voice and protection circuits, SCADA, remote terminal units and smart grid devices, necessary for BPS operations (e.g. key telecommunications facilities and their power system restoration paths and priorities).
- Ensure that critical telecommunications users are registered for priority wireless and land-line services such as:
  - U.S. Government Emergency Telecommunications Service[44] (GETS).
  - U.S. Government Wireless Priority Service (WPS)[45].
  - Industry Canada's Wireless Priority Service[46] (WPS).
- Identify risks and hazards such as failures, attacks, High Impact Low Frequency Events and/or congestion etc., that could impair the quality of service continuity, readiness, performance and time response of telecommunications.
- Explore opportunities and needs associated with emerging technologies ( e.g., future 700 MHz, 1.8 GHz bandwidth frequencies, WIMAX, wireless priority services).
- Take mitigation measures (e.g., operational procedure changes, changes to priorities and procedures in restoration plans, design considerations, inter-entity information exchange).

[44] U.S. GETS http://gets.ncs.gov/
[45] U.S. WPS http://wps.ncs.gov/use.html
[46] Canadian WPS http://www.ic.gc.ca/eic/site/et-tdu.nsf/eng/h_wj00016.html

| **Key Recommendation #20 \|** Interdependencies with other Critical Infrastructures |
|---|
| Consider working with communications service providers to identify which of their facilities are critical to BPS operations. Determine which BPS and distribution facilities supply them and what backup power capacity is in-place (e.g., batteries, standby generators). |

## 8.2 Dams (hydroelectric) Sector

Hydroelectric dams provide substantial generation in many regions of North America, and often provide critical blackstart services, as well as control water flows for irrigation, navigation, and elevation. Failure of key dams could have a significant effect on BPS operations.

### Recommendations:

- Operators should develop a comprehensive understanding of the location and characteristics of hydroelectric facilities in their area and consider their ability to restart these facilities following a blackout.
- Some dams may be of more critical importance in their role of navigation, such as enabling coal supply via barge to key generating stations. Operational plans should identify the generators dependent upon navigable inland waterway supply for fuel transport or cooling water.

## 8.3 Energy Sector

The energy sector, in addition to electricity, includes natural gas, petroleum, and coal. Disruption to any of these fuel infrastructures could seriously impede BPS restoration.

### Recommendations – Coal

- According to the U.S. Energy Information Administration, coal currently accounts for almost half of U.S. electricity generation[47]. Coal-fired generators are dependent upon frequent, in some cases daily, supply of coal from mine to power plant.
- Operators should ascertain and maintain cognizance of on-hand fuel supplies and storage capacity at coal fired generators.
- Operators should understand the coal transport routes in their area, consider possible supply disruption points, and explore alternate routes or transport modes.
- Operators should develop contingency plans around “out of fuel” scenarios in the coal fleet. What would New Normal operation look like in a short coal supply scenario?

[47] http://www.eia.gov/energyexplained

### Recommendations – Natural Gas

- Entities should understand[48] the gas pipeline networks and arrangements in place to supply gas-fired generators in their footprint (e.g., gas-fired generators and pipelines that supply them, communications protocols during normal operations and emergencies).
- System operators should know which pipeline compressor facilities are gas versus electric powered and what gas pressure drops might be in the event of a sustained BPS outage. System operators will need to work with gas counterparts to understand power outage impacts on gas supply, and vice versa, and identify which are priority loads.
- In the event of a physical or cyber attack on gas infrastructure (including gas SCADA systems), system operators should consider the impact on gas-fired generation, and encourage their gas counterparts to share their plans to respond and restore operation.
- System operators should coordinate with gas operations personnel concerning their load shedding priorities.

### Recommendations – Oil

- Oil is a relatively minor fuel source for the BPS, however system operators should assume these units will be unavailable due to unprecedented demand for diesel and gasoline fuel for standby and backup generators.
- Diesel fuel is needed for emergency standby generators at all critical BPS facilities that are without a reliable supply of power from the BPS during restoration. Entities should review contractual arrangements and establish priorities with fuel suppliers.
- Diesel and gasoline fuel is needed for transportation purposes. Regional Entities may wish to consider establishing regional fuel reserves for use in severe emergencies when normal fuel delivery channels may not be available for extended periods or when competing fuel demands (e.g., National Defense) take precedence for available supplies.

| **Key Recommendation # 21 \|** Interdependencies with Other Critical Infrastructures |
|---|
| Consider alternate suppliers, transportation paths, and agreements to support generating station fuel supply chains (e.g., coal, natural gas). |

## 8.4 Information Technology Sector

Reliable operation of the BPS is highly dependent on the IT sector. IT is in turn heavily dependent upon electricity. Over the past decade, many entities have chosen to purchase or lease commercially available IT[49] systems and networks rather than build and support their own. Cyber attacks continue to increase in frequency and sophistication. System operators should be aware of the extent to which they rely on IT infrastructure, and should develop plans

[48] Ref. NERC Natural Gas and Electric Power Interdependency report http://www.nerc.com/files/Gas_Electric_Interdependencies_Phase_I.pdf
[49] In the context of this section, IT refers to entity business systems, rather than operational EMS or SCADA systems.

and procedures to enable recovery and New Normal operations in the event of significant disruption to the IT infrastructure.

**Recommendations:**

- Operations staff should work with entity IT staff to develop a comprehensive understanding of the IT infrastructure on which BPS operations are dependent. Consider elements of the infrastructure outside entity direct control, network interfaces (if any) with operational systems such as EMS and SCADA, redundant systems and backup plans.
- Consider developing detailed operational plans in the event of major disruption to the internal or external IT infrastructure and Internet.
- Develop backup plans for telemetry that is critical to BPS operations in the event of a major IT infrastructure disruption.

| **Key Recommendation #22 \|** Interdependencies with Other Critical Infrastructures |
|---|
| Consider working with information technology service providers that are critical to BPS operations and consider augmenting the subject matter expertise of staff and suppliers to support these systems. |

## 8.5 Nuclear Sector

Nuclear power plants are of course a key part of the generation infrastructure, providing 20 percent of electricity in the U.S. and about 15 percent in Canada. This segment of the power sector has long been heavily regulated from a safety and security perspective. Because of its unique nature and national security importance, the nuclear sector was designated as its own critical infrastructure by the U.S. Department of Homeland Security, and has its own Sector Specific Plan under the National Infrastructure Protection Plan (NIPP). System operators are well versed in handling nuclear plant outages, and in the dependence of nuclear plants on BPS-supplied electricity. However, recent incidents, such as Fukushima, have focused renewed attention on the interdependencies of nuclear plants, the grid, backup fuel supply for cooling, and the transportation infrastructure to move that fuel. BPS restoration and New Normal operation should take into account the disruption of and potential long-term unavailablility of key nuclear power plants.

**Recommendations:**

- The industry is extensively studying the lessons learned from Fukushima. These lessons should be incorporated into BPS restoration and recovery plans.
- Nuclear plant operators and system operators should carefully calibrate plans and procedures[50] in the event of major disruption to either infrastructure.

[50] NERC standard NUC-001 Nuclear Plant Interface Coordination http://www.nerc.com/page.php?cid=2|20

- As we have seen from recent history, emergency cooling for nuclear plants highlights several key interdependencies: water, fuel, and transportation. Recovery plans and procedures should take account of these infrastructure interdependencies.
- Once off-line, nuclear plants can be out of service for extended periods. Recovery and New Normal operational plans should consider these implications carefully, particularly if nuclear generation provides a substantial source of energy to the area.

| **Key Recommendation #23 \|** Interdependencies with Other Critical Infrastructures |
|---|
| Consider alternate means to supply BPS power to nuclear plants and confirm these loads as critical to restoration and public safety. |

## 8.6 Transportation Sector

The transportation infrastructure is highly complex. It includes rail, waterborne transport, surface transport, and aviation as well as pipelines that transport natural gas, crude oil, petroleum products, and water. All of these infrastructures are critically important to BPS operations. Almost half of generation is dependent upon coal that is transported via rail and barge. (Barge transport can be very dependent upon river/navigation conditions, including flooding, low water, and accidents.) Pipelines move the natural gas that fuels a quarter of the generation fleet, and is forecast to increase over time. Surface transport moves fuel for backup generation and mobility. In the future, electric vehicles will introduce new interdependencies as they consume electricity and may provide new demand response opportunities. Disruptions to any of these infrastructures can heavily impact BPS restoration and New Normal operations.

**Recommendations:**

- Emergency plans should be developed that “work backward” to inventory the transport dependencies affecting BPS operations, including basic requirements such as transporting workers to and from work locations.
- Emergency plans should identify suppliers of diesel fuel and gasoline for service vehicles and emergency backup generation and review how these supplies will be prioritized through a Severe Event.
- Backup and re-routing plans should be developed in the event of major disruption to primary transport networks. This could include secondary and tertiary routing plans to move coal, gas, and petroleum products. Disablement of a key river lock or railroad bridge, or key pipeline, could seriously affect BPS restoration. Alternative routing/sourcing should be planned for in advance.
  - In addition to evaluating existing stockpiles at generating stations, Operators should consider re-establishing coal inventory needs if operating in an islanded configuration for a considerable period of time, and consider if coal can be re-dispatched to more critical generators.
  - Operators should work with rail service providers and government to consider how to prioritize the shipment of coal or other fuels to priority generators.

- Operators should consider consulting with government to consider establishing strategic reserves of key fuels to be used in the event of significant supply disruption. This could be a shared regional system, modeled on the U.S. Strategic Petroleum Reserve.
- Transportation dependencies go beyond fuels. The transportation of key pieces of equipment, such as transformers[51], and other spare parts essential to BPS restoration. The same planning should be considered for these other items, to include alternative sourcing and transport mechanisms.

## 8.7 Critical Infrastructure Sectors that Depend on Electricity

All critical infrastructures depend on electricity to varying degrees. System operators, working in consultation with other critical infrastructures and possibly local, state/provincial, or federal government authorities will need to prioritize loads and understand the extent to which they will be supplied through the mitigation and restoration phases following a Severe Event. Some of these infrastructure sectors and their importance in a Severe Event are briefly described below.

- **Government and Emergency Services:** In a Severe Event affecting the BPS, priority loads may include certain government loads, particularly those with no backup emergency power source. This may include police/fire, emergency services, command centers, and key military facilities. This will be critical to ensuring law and order and effective governance.
- **Defense Industrial Base:** Should a Severe Event be associated with an act of war, or a substantial threat to the National Security, supplying key elements of the defense community and its industrial base would become a priority load.
- **Water:** Water is essential for life. Failure to treat wastewater could result in widespread disease. Hence, supplying electricity for water and wastewater treatment plants and pumping stations will likely be a high priority load for restoration.
- **Healthcare:** Hospitals and healthcare facilities are always a high priority in an outage situation, and will be in any Severe Event to handle injuries or disease.
- **Agriculture and Food:** Food supply will be an important priority in a Severe Event. Electricity for irrigation pumping, food processing, and related purposes will be essential.
- **Banking and Finance:** An important priority will be to restore and maintain commerce. Thus the banking sector will be a priority load.

System operators should work with government authorities and other stakeholders to develop a plan for addressing these critical infrastructure sectors in the event of a severe BPS disruption. Most operators know their critical and priority loads under normal recovery operations, such as hurricanes and ice storms. However, new protocols may need to be

[51] Ref. NERC's Spare Equipment Database program http://www.nerc.com/filez/sedtf.html

developed to address these loads in the context of BPS restoration and New Normal operation after a Severe Event.

### Training and Exercises

Training will be an absolutely critical element for personnel at all levels in order to gain an understanding of what types of conditions may be encountered in all phases of an emergency, and what the key interdependencies could look like. System Operators, field, and support staff will need this training as will senior management and other key stakeholders, including Government officials, law enforcement, defense, etc. Representatives of interconnected infrastructures should also be included so that information can be shared on key interdependencies and likely response patterns (this can avoid recovery procedures working against each other). The concept of a multi-sector New Normal should be a main theme of this training.

The training cannot envision every possibility. A major part of the training (like survival training) is to engender resourcefulness and flexibility in operational personnel. They understand the outlines of the problem and can then react to the situations at hand.

Realistic exercises should be a key part of the program. Exercises should include BPS personnel at all levels, plus key government representatives, and subject matter experts from other critical infrastructures. The exercises should be carefully documented and thorough after action reports prepared so that learning can be factored into planning and continuous improvement.

These activities should also be coordinated with the National Infrastructure Protection Plan, the National Response Plan and similar coordination elements of the federal and state/provincial governments of both countries.

# 9.0 Coordination with Government

Local, state/provincial and federal governments (government authorities) are key stakeholders in the electricity industry's response to a Severe Event. These government authorities are responsible for emergency planning and response, developing energy security and reliability policies. In the event of a Severe Event that spans a broad geographic area, government authorities – and perhaps the military – will have a large role to play. Just as the response by electricity entities to any Severe Event will be driven through local and regional entities first and foremost, the response from government will also likely be foremost a local and state/provincial response. As such it is important to be prepared to work with government authorities at all levels:

- Plan for a Severe Event, share your plan with government authorities, and know their plans.
- Understand local and state/provincial government concerns and provide them with information that will help address these concerns.
- Understand in advance how government may be able to assist during a Severe Event. Government authorities may be able to assist by providing resources or information.

This section provides a number of recommendations to enhance communication and coordination on the following topics:

- Overview of government authorities
- Coordination and communications prior to a Severe Event: planning, exercising, and training
- Initial communication and coordination
- Coordination and communication during restoration

## 9.1 Overview of Government Authorities

In order for entities to determine the government agencies they will need to coordinate with, entities need to understand the roles that government and first responders play, as well as their authorities and legal responsibilities. This will avoid potential conflicts, enhance coordination, and help each other understand respective needs. Entities charged with directing response and restoration should be familiar with government procedures for declaring emergencies at the local, state/provincial and federal levels. The laws, regulations, and plans for declaring emergencies and invoking emergency authorities are readily available on government websites. Entities should review the relevant emergency-related legislation and plans, understand the roles and responsibilities, and determine in advance of a Severe Event their points of contact with the appropriate government authorities. Involving these points of contact in entity emergency exercises will enhance entity understanding of the role of government authorities and help build positive relationships.

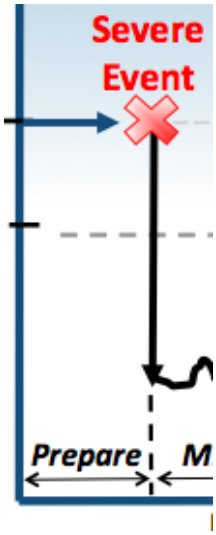
Some examples of government authorities involved in managing emergencies include:

- **Local and state/provincial emergency management** agencies and first responders, who prepare for and respond to all emergencies, especially those with responsibilities for the energy sector. These organizations are on the front line of emergency response at the local and state/provincial levels.
- **The lead authority for emergencies (usually activated at the Emergency Operations Center)**. State/provincial governments have a designated primary contact for managing emergencies.
- **State Governors** and provincial Premiers possess emergency authorities that they can exercise to mitigate the impacts of emergencies. Increasingly, state/provincial authorities (eg. **State Homeland Security Directors)** have protection and vulnerability assessment programs in place involving the critical infrastructure sectors.
- **State/Provincial regulators, such as public utility commissions**, who oversee and regulate multiple sectors and systems, such as natural gas, telecommunications, and water systems, as well as important elements of the transportation infrastructure. This provides them with the capability to connect information between interdependent systems, and may also provide a nexus of infrastructure information that crosses a number of sectors at once. **State/provincial energy offices** typically serve many energy-related functions at the state/provincial level, including coordinating responses to energy emergencies, developing state energy emergency plans, and developing practices to improve energy security and reliability at the state-level.

| **Key Recommendation #24 \|** Coordination with Government |
|---|
| Confirm the roles, authorities, and points of contact between BPS entities and as appropriate, local, state/provincial, and federal governments. |

## 9.2 Coordination and communications prior to an event: planning, exercising, and training

**Critical and priority loads**: Entities should work with government at all levels to inform them of the power system loads considered critical to power system restoration. Entities should also consult with government to identify priority loads that are essential to public health and safety. Establishing a common understanding of these loads prior to a Severe Event will help provide a basis to confirm or adjust these priorities, depending on the specific circumstances following a Severe Event.




| **Key Recommendation #25 \|** Coordination with Government |
|---|
| Coordinate with local and state/provincial government authorities and consumer stakeholders to identify priority loads to mitigate the impact on public health and safety. |

**Requesting regulatory exemptions and waivers**: Entities understand that its operations need to comply with all applicable international, federal, state/provincial, local laws, standards (e.g.,

NERC Reliability Standards, OSHA, and Department of Transportation), codes, executive orders and regulations. However, during a Severe Event, entities should consider seeking exemptions from certain regulations if this helps improve overall public safety.

Entities should identify waivers they may request from state/provincial and federal agencies to continue operations under stressed conditions (e.g., environmental emissions, truck driver hours). Identify entity and agency emergency contact information and know each waiver's limitations (i.e. expiration and renewal terms). Work with government authorities to confirm detailed procedures. Keep any required forms available and completed in advance to the extent possible, and review them annually.

| **Key Recommendation #26 \|** Coordination with Government |
| --- |
| Consider developing a list of regulatory exemptions or waivers that will materially improve restoration and operation (e.g., plant emissions, truck driver hours) and consult with state/provincial and federal agencies. |

**Credentialing**: Government first responders (e.g., police, fire, ambulance) have become more aware in recent years of the need to provide access to critical infrastructure work crews. Access to the affected area will be important as soon as it can be provided safely. If possible, access policies should be established with government authorities prior to a Severe Event. Areas with a history of reliance on mutual assistance for recurring disasters (such as for hurricane response) may have protocols in place; in the event of a Severe Event some protocols (depending on communications systems that may not be operational) may need to be available for use without transmittal, or a working access and credentialing protocol may be needed.

### Recommendations:

- Consider consulting with government authorities to understand what access policies may be in place during a Severe Event.
- Consider having entity staff meet with local law enforcement personnel to discuss access requirements and build a cooperative relationships.

### Considerations:

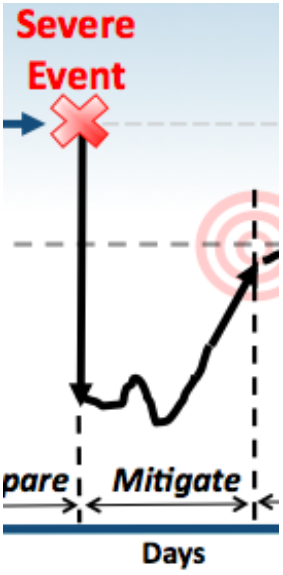
- Do you know what kind of documentation would be needed to reenter affected areas?
- Is there a plan in place to procure and disseminate the necessary documents if communications systems are down?
- Have you discussed an access plan with government authorities that cover you, your mutual aid, and contractors? Consider alternatives in case information technology is compromised.

**Building Trust with Decision Makers**: Realistic exercises that involve entity personnel at all levels, key government staff, and other critical infrastructures are essential to preparedness. Following exercises, participants should identify action items and next steps for future planning and continuous improvement.

**Budgets**: Governments have the means to declare a state of emergency and invoke the authorities needed to respond to the situation. Entity emergency management plans should recognize government roles and responsibilities when they exercise that authority, and how they will become aware of changes that may impact entity operations. Entities should engage with government to help ensure a common understanding of mutual needs.

## 9.3 Initial Communication And Coordination

It will be very important that entities begin communicating with the appropriate government authorities at a very early stage of a Severe Event to provide updates both on a scheduled basis, and as urgent developments occur. This will help ensure that decisions are made using the best available information.

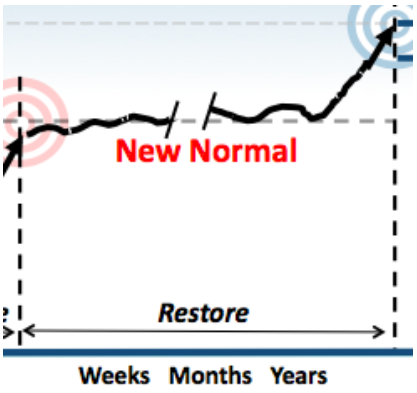



Some of the key issues that should be communicated with government authorities, especially with local and state/provincial emergency operations centers, include:

- Restoration assessment and prognosis
- Share needs and priorities
- Coordinate with other critical infrastructures
- Coordinate public announcements and schedules for voluntary and mandatory load shedding, including rotating blackouts
- Requests for protection and security

**Recommendation**: Entities should consider establishing crisis management teams that consist of broad stakeholder and technical representation and establish clear lines of communication with government. Similar to what many entities do during major weather events entities should consider co-locating at their state/provincial emergency operations centers around-the-clock for as long as necessary.

## 9.4 Coordination and Communication During Restoration




Restoration and operation through the New Normal period will require scarce resources to be continuously reprioritized and reallocated. Government is ultimately the locus for determining public health and safety priorities for resource allocation, and as such, government authorities will need information about what supplies, resources, and materials are available, as well as the prospects and progress of restoration in order to make informed decisions.

Electricity entities in Canada and the U.S. have a long history of sharing resources and work crews to aid restoration following hurricanes and severe floods. In an effort to facilitate crossing the U.S. and Canadian border during emergencies, the Canadian Electricity Association is working with the Canadian Border Security Agency and the U.S. Department of Homeland Security. A *Cross-Border Mutual Aid Assistance Agreement* has been prepared and is expected to be implemented in the near future.

Government authorities and electricity entities should have primary, alternate, and possibly tertiary contacts and means of contact, including provisions for around-the-clock contact. Hard-copy contact information lists should be maintained and reviewed at least annually.

Entities need to be familiar with government emergency management structures. For examples, entities in the U.S. should be familiar with the government's Incident Command System [ICS]/National Incident Management System [NIMS] principles[52]. Requests by entities should be referred through the appropriate channels.

**Continual Review of Legal Authority**: Legislation and supporting regulations define the role of government agencies during emergencies. Entities should be familiar with these and understand how emergency authorities may affect entity operations. During a Severe Event, government may revise these or enact new authorities. Entities will need to stay abreast of these changes, understand how they may affect the entity, and have mechanisms in place to communicate them quickly across the entity as appropriate.

**Understanding Impacts**: It is important for the government to understand the role played by BPS entities and vice versa. Requests for information should not distract or impede those who are engaged in operational roles such as restoration and crisis response. It is also important that government understand the actions that asset operators will be taking, and that actions will be underway independent of any emergency declaration by government. However, as the days add up to weeks after a Severe Event, decisions regarding changing priorities will be required.

[52] Ref. http://training.fema.gov/IS/NIMS.asp

**Recommendation**: Government authorities and electricity entities should coordinate closely so they are prepared to explain the actions they are taking or are about to take, and why. Decision-makers will need to understand the second and third order effects of making such priority selections. For example:

- The sequence of electricity service restoration to consumers in different geographical areas or regions will vary depending on circumstances such as the availability of resources and the nature of any damages to equipment.
- If the cause of the Severe Event is continuing, restoration may need to be halted, or re-started.
- If fuel is not prioritized to communications facilities, the ability to operate portions of the BPS will be severely limited.

## References


- http://disaster.ifas.ufl.edu/PDFS/CHAP03/D03-07.PDF
- http://www.nyu.edu/intercep/businesscase/index.html - New York University / International Center for Enterprise Preparedness
- http://www.fema.gov/privatesector/preparedness/
- http://www.oe.energy.gov/our_organization/iser.htm - Department of Energy
- http://www.fema.gov/pdf/about/stafford_act.pdf
- http://www.naruc.org/cipbriefs/ - NARUC briefs on critical infrastructure protection
- http://www.naseo.org/eaguidelines/ - NASEO and NARUC Energy Assurance Planning guidance

# 10.0 Taking Care of People




The electricity sector has extensive experience planning for emergencies. While these plans often focus on repairing or replacing physical assets and taking the necessary operating actions, success is highly dependent on our most important asset – knowledgeable, capable, and available personnel. Without question, a Severe Event will put great stresses on personnel throughout the New Normal period.

This section provides guidance on topics that should be included in an entity's disaster recovery plan or business continuity plan. Much of this information is based on past experience in disaster response operations and also includes lessons learned in everyday operations. While many of the suggestions might seem obvious, past experience indicates they may not be achievable if not planned in advance of an event. This guidance is provided in the context that can easily be modified for inclusion in entity plans.

This section discusses the following topics that should be considered as part of an entity's plans.

- Accommodation
- Safety considerations
- Employee and family Issues
- Respite facilities
- Counseling

## 10.1 Accommodation

Consider alternate housing arrangements that would be suitable during the Mitigation Phase as well as the longer Restoration Phase. Traditional support infrastructure such as hotels, restaurants, and grocery stores will most likely not be available or unable to support the influx of personnel and displaced residents of the affected areas.

An example of an extended restoration event is the recovery of Entergy's system after the catastrophic damage caused by Hurricane Katrina and the subsequent failure of the levy system around New Orleans. Because of its experience, Entergy modified its existing plans to include many of the recommendations provided in this section.

### Recommendations

Housing options could include rental housing, apartments, hotels, tent cities, campgrounds, employee travel trailers or campers, cruise ships or military vessels, and federal, state/ provincial shelter facilities. Identify points of contact to determine how these options would be acquired and implemented.

## 10.2 Safety Considerations

Maintaining operations through the New Normal period can be stressful and hazardous. There is never a good time for an accident or operating error, but this is especially true during a Severe Event. Paradoxically, experience has shown that safety rates can be better during major disaster response and restoration than during routine operations. This may in part be due to the initial increase in adrenalin and commitment to tasks that are of immense value to their peers and the general public. But it is not reasonable to assume that this will continue through the weeks or months of a Severe Event. The onset of fatigue and stress will contribute to increased errors. Accidents or operating errors can delay or even halt restoration efforts.

### Entergy's Experience from Hurricane Katrina

Entergy's headquarters and nearly 1,000 employee homes were initially uninhabitable. Entergy secured office space to replace its New Orleans area work locations and arranged interim housing for displaced employees for 7 months. Entergy has since implemented long-term office relocations as an integral part of its disaster recovery strategy.

For entity incident and disaster planning, safety for personnel families and personnel performing operational restoration is a primary consideration. While many of these apply to "normal" emergencies, they can become particularly important during a Severe Event.

### Recommendations

- **Advanced warning** – If the Severe Event is preceded with advance warning, provide guidance on when and where to evacuate.
- **Proper permits** – Many entities require specific certifications and permits. Procedures should be documented on what permits and certifications may be waived through a Severe Event.
- **Safety teams to oversee work conditions** – Safety teams should monitor for signs of fatigue and stress and have the authority to stop work when conditions are unsafe. This may require an increased role for the entity's internal health and safety oversight organization.
- **Transportation** – Transporting personnel safely and reliably between work and rest centers will decrease stress.
- **Stock of supplies** – For shorter-term events, experts recommend having a minimum of a seven-day supply that will need to be adjusted for a Severe Event, but the same considerations for health and nutrition are applicable. Entities should consider stocking non-perishable foods and food in pouches; proteins, fruits and vegetables; and foods that do not require extra cooking and can be eaten cold if necessary. Store water, at least one gallon per person per day. Remember to have on-hand manual can openers, cooking utensils, pots and pans. Include aluminum foil, paper towels, garbage bags and disposable cleaning wipes. Have sufficient rotated stocks of batteries for flashlights and radios. Make up a good first aid kit and stock up on cleaning supplies, especially bleach, gloves and heavy-duty garbage bags. Keep freshly stocked emergency kits with vitamins and over-the counter medications that might be needed, such as pain relievers, antacids and cold-relief medications.

- **Notification of well-being** – Entities should provide communication options to allow personnel to contact family. Personnel should be patient as communication systems are likely to be disrupted. Typically, personnel will establish a family communication plan that establishes a time frame for contacting family after the event.
- **Encourage personnel to develop an individual or family Emergency Medication Plan** – Entities could develop and provide a sample plan to its employees. This may include the following:
  - Consult an individual's healthcare provider, especially for complicated or difficult-to-administer medications, such as those requiring pumps or nebulizers.
  - All medications should be kept in one location in the home, to expedite any evacuations or ease in retrieving medications after an event. Along with your prescription identification card, individuals should keep a list of their medications and those of other family members, including drug name, strength, dosage form and frequency.
  - If there is a shortage of medications for personnel, entities may consider helping to secure medications or work to have key personnel placed on a priority list for medications.
  - Keep the names and phone numbers of your doctor and the pharmacy that filled your prescriptions in your wallet. If possible, the entity should work with a local pharmacy or its mail-order service to help personnel address any prescription needs.
- **Personal protective equipment** – Ensure that an entity has and provides to field personnel the appropriate personal protective equipment.
- **Personnel in new roles** – When redirecting personnel into new roles which require more physical effort, leaders must take into consideration any health issues a staff member may have been able to control in under normal circumstances, but may be further exacerbated after a Severe Event.
- **Plan for medical response** – Enhance first-aid packs, and prepare for on-site medical care teams.
- **Worker rest** – Manage worker rest based on conditions and tasks. Ensure appropriate rest time between and during work shifts and provide safe, comfortable, and quiet facilities.
- **Security** – Provide security in areas where potential civil unrest may erupt that includes personnel guidance on how to manage such unrest.

### 10.3 Employee and Family Issues

Every employee and his family should have a personal emergency plan that recognizes and mitigates the risks faced in a given community. An entity's business continuity or disaster recovery plan should identify the relative criticality of each job function and inform employees potentially affected. As part of this planning, the entity should clearly communicate the level of support it will provide in situations covered by business continuity plans or disaster recovery plans so that employees in non-critical job functions may also plan appropriately. Employees who do not fill critical job functions should be instructed to check-in for reassignment.

During an event, health and safety concerns are a primary consideration. During a Severe Event, this concern extends to all personnel and their families. The success of restoration for an entity could hinge on whether the families of employees are safe and able to get back to some semblance of a normal set of activities.

### Operating Iraq's Grid in an Unstable Security Environment

With Iraq's unstable security situation and a shortage of system operators, generation, transmission and distribution station staff were expected to live on site. Given the high levels of sectarian and personal violence many families of staff were moved into the stations as well. Often the station staff would provide the residents surrounding the station with scarce electricity and create a friendly buffer around the station.

**Recommendations**

Some key topics that should be considered in disaster recovery plans that may need to be in place for months following a Severe Event include the following:

- Supplies and respite
- Communications
- Transportation
- Safety
- Education
- Child/elder care
- Secure homes
- Relocating employee's family to safety as necessary
- Food & necessities
- Continuity of pay and banking services

## 10.4 Respite Facilities

Immediately following a Severe Event, basic needs need to be met to help reduce personnel and family stress. Although the following recommendations appear to address the immediate need after a Severe Event, the human factor related to respite to prevent burn-out is something that will need to be addressed throughout the New Normal period.

**Recommendations**

**Rest Area**

- Provide an area that is covered and dry.
- The area should contain heating and cooling with good ventilation.
- Provide for personnel to sit or lie down.
- Provide an area suitable for activities and discussions, and a separate quieter area for rest.

**Water**

- Ensure personnel stay well hydrated.

### Respite Facilities following the 9/11 Terrorist Attacks

During the search and rescue and the subsequent clean-up at Ground Zero after the 9/11 terrorist attacks on New York, respite centers remained in the work-zone for an extended period of time.

- Reserve potable water for the essentials of drinking and food preparation. Other treated water may be suitable for showering and hand washing.
- Ensure water is treated and managed properly; serious diseases can be transmitted by untreated water.
- Properly dispose of or recirculate gray water to protect the potable water supply.

**Food**

- Ensure adequate supplies of healthy food. Consider long shelf-life foods, stock-piled in advance.
- Maintain clean and comfortable meal facilities.
- Store perishable foods below 45 ºF and serve heated food above 140 ºF.
- Dispose of perishable foods not properly stored after 4 hours.
- Consider weather conditions and temperatures to determine whether hot or cold foods should be served.

**Hygiene**

- Provide hand washing or disinfecting facilities at all food service areas, rest rooms, and disposal areas. Disinfecting and hand washing is the single-most important measure in preventing food-borne illness and must be enforced at all times.
- Provide individual hand cleansers and liquid hand sanitizing gel to personnel.
- Provide for bathing and clothes washing at respite facilities.

**Rest Rooms and Waste Disposal**

- Ensure portable latrines are available, cleaned regularly, and located in appropriate areas.
- Ensure waste is managed appropriately and designate storage locations away from living and work areas.

## 10.5 Counseling

Everyone involved in maintaining operations during an event are dealing with increased stress and anxiety. In certain events, there is a potential of the tragic loss of life and material possessions that will affect each person involved. Personnel must seek care from a stress management team or other options provided by the entity when they feel overwhelmed or unable to cope with maintaining operations. Many times during stressful situations personnel need someone to talk to that is not involved in the situation so they are not burdening their relationships with others close to them.

### Recommendations

During normal business operations, Human Resource (HR) departments usually have the responsibility of benefits that may include various types of counseling programs. HR may want to consider expanding their business continuity plan to include counseling programs for

incidents. An entity may consider establishing a counseling center at a respite location. Because situational stress and loss of life could include personnel (internal and external) and personnel's family members, the business continuity plan should establish a process to expand the needs of its typical employee assistance program to deal with needs of those individuals outside its organization. Remember personnel performance can be affected by the problems of an employee's immediate family members. In addition to the services provided by the entity, personnel may seek guidance from local religious leaders.

| **Key Recommendation #27 \|** Taking Care of People |
| --- |
| Consider ways to support the health, safety, and well-being of personnel and their families in the face of extraordinarily demanding circumstances. |

## References

National Rural Electric Cooperative Preparedness Plans, Building Operations Plans

Communities of the National Capital Region, Be Ready Make a Plan, www.makeaplan.org

PUBLIC ASSISTANCE PROGRAM (Public Assistance, Emergency, Fire Suppression) DCA/DEM/BRM Recovery Office STANDARD OPERATING GUIDLINES the Florida Division of Emergency Management web site is: http://www.FloridaDisaster.org

Preparing Makes Sense Get Ready Now Brochure, United States Department of Homeland Security www.ready.gov/.../Ready_Brochure_Screen_EN_20040129.pdf

A Guide to Business Continuity by James C. Barnes, 2001, Wiley Press, ISBN: 0-471-53015-8.

Security Planning & Disaster Recovery by Eric Maiwald and William Sieglein, 2002, McGraw-Hill/Osborne Press, ISBN: 0-07-222463-0

Business Continuity Planning edited by Ken Doughty, 2001, Auerbach Publications, ISBN: 0-8493-0907-7

Business Resumption Planning by Edward S. Devlin, Cole H. Emerson, Leo A. Wrobel, Jr, and Mark Desman, 2001, Auerbach Publications, ISBN: 0-8493-9945-9

# 11.0 Logistics and Self Sustained Operations

This section identifies the challenges associated with the logistics of acquiring, delivering, and replacing or repairing assets damaged in a Severe Event and provides guidance on effective logistics to support operations through the New Normal period.

The key to identifying the best use of resources is dependent on the entity's ability to respond and think "outside the box" of normal planning for emergencies. Many of the items suggested are counter-intuitive to operating in a normal environment. Of necessity, many decisions will be spur of the moment decisions and may have un-intended consequences later as restoration progresses from the New Normal period to pre-event reliability. For example, suppose early in the restoration process a decision is made to cannibalize a substation for parts to rebuild other substations. As load continues to be restored over the New Normal time period, eventually the substation that was cannibalized will need to be rebuilt.

Decision-makers will need to understand the current operating situation and prioritize logistical needs in the absence of much of the information normally available. Initially, the efforts will focus on dispatching existing inventory to restore the critical loads essential to BPS restoration. Efforts will then rapidly shift to dispatching inventory to support priority loads, many of which will be on the distribution network.

Procurement processes suitable for normal operations to meet an entity's policies or government requirements may need to change to provide the flexibility and responsiveness needed during a Severe Event.

## 11.1 Specialized Equipment

Specialized equipment such as high voltage transformers, circuit breakers, turbines, phase shifters, and series capacitors often take a year or longer to procure and build. Consider the following:

- Participate in spare equipment consortiums that allow the use of other's spare inventory (e.g., NERC's Spare Equipment Database program[53]).
- Locate spare equipment at a site that is more secure than the sites where they may be needed.
- Develop agreements with other utilities to share spare or redundant equipment. If agreements already exist, discuss the implications of a Severe Event with the participating entities and consider how decisions would be made to appropriately allocate spare equipment. This is important because those owning the spare equipment will increase their operational risk by releasing spares.

[53] Ref. NERC Spare Equipment Database http://www.nerc.com/filez/sedtf.html

- Maintain a list of suppliers and service level agreements for highly specialized installation or transportation equipment such as cranes for heavy equipment and Schnabel rail cars for large high voltage transformers.
- As opportunities arise to replace transformers that are aging or have insufficient capacity, convert substations operating at non-standard voltages to more common voltages.

## 11.2 Standard Equipment

While standard equipment such as structures, hardware, insulators, distribution components, etc. may be more readily available; replacement inventory will still be constrained. Consider the following:

- Compile a list of regional and national suppliers with around-the-clock contact information, and ensure the list is readily accessible during a Severe Event.
- Review existing spare equipment and material inventories under a Severe Event scenario and identify opportunities to improve these inventories.
- Create a salvage control center which could amass materials to be re-dispersed to key restoration areas. Cannibalize spare parts from damaged equipment or from less critical plants and substations.
- Siphon fuel from inoperable equipment.
- Re-allocate tools such as compressors, chargers, lifts from in-operable equipment.
- Re-allocate redundant equipment to facilities that need them.
- Use temporary design standards that use less material (e.g., wood and steel beams in lieu of concrete foundations, increase span distances between towers without sacrificing public safety).
- Remove obstacles from beneath transmission lines to increase clearance. Increase clear-cut corridors to manage vegetation growth with fewer resources.

### Wal-Mart and Home Depot Hurricane Response

Wal-Mart and Home Depot, valuable sources of many different consumables that may be required, have emergency response plans that have proven very effective during hurricane response.

### 11.3 Fuel for Transportation and Backup Generators

Entities have contracts in place with suppliers to provide fuel for vehicles and generators. However, during a Severe Event the fuel suppliers may also be impacted and normally used delivery systems or routes may be unavailable. Entities should enhance their arrangements with suppliers in advance of a Severe Event to consider alternative delivery systems. Regardless, entities need to consider how they would prioritize their allocation of limited fuel supplies.

**Table 6: Sample Fuel Priorities for Critical Equipment**

| Critical Load | Rationale for Priority |
|---|---|
| **Backup generators at nuclear stations** | In the event of a loss of BPS power supply, enhance recovery, prevent extended unavailability, or maintain safe shutdown. |
| **Backup generators at non-nuclear generating stations** | In the event of a loss of BPS power supply, enhance recovery and prevent extended unavailability. |
| **Backup generators at transmission substations** | Supply station service auxiliaries (e.g., compressed air for breaker operation, protection systems, station monitoring devices and systems). |
| **Backup generators power plant and system control centers** | Supply critical operations at Reliability Coordinators, Transmission Operators, Generator Operators. |
| **Backup generators at telecommunications centers** | Supply communications facilities and systems needed to operate the BPS. |
| **Vehicles** | Transport personnel and resources needed for BPS restoration and supply to critical loads and priority loads. |

| **Key Recommendation #28 \|** Logistics and Self-Sustained Operations |
|---|
| Consider with fuel suppliers ways to prioritize the supply and delivery of fuel for emergency standby generators and essential work vehicles. |

## 11.4 Transportation Routes

Evaluate alternative transportation routes. It is likely that the transportation sector (e.g., airlines) would be heavily impacted. This occurred with September 11th and with recent volcano eruptions shutting down air traffic into Europe, South America, Australia, and New Zealand. Natural disasters combined with terrorist activity could easily impact the railroad or highway system to large parts of the continent.

Seasonal issues such as ice storms, blizzards, hurricanes, and flooding can compound the impact of the severe Event on transportation. Consider alternate transportation modes (e.g., rail, air, water, truck) that may not be appropriate during normal circumstances.

Establish contact with and develop relationships with state and local government transportation authorities who can help identify transportation routes and approve any transportation permits that may be required by utilities, transportation service-providers, or mutual assistance partners.

## 11.5 Personnel and Facility Resources

Whether using entity employees or external resources, a Severe Event will strain the entity's ability to respond to a Severe Event. Planning to effectively utilize human resources during a Severe Event will optimize the utility's ability to respond.

### Entity Employees

Business continuity and disaster recovery plans should identify the key personnel needed to restore and maintain critical operations, and recognize the increased intensity associated with filling these roles through the New Normal period. Plans should address scheduling additional personnel to assume these critical roles or provide operational support. Plans should address issues related individuals who are unwilling or unable to report for work. The plans should also consider how to supplement these key roles with personnel who can be shifted from lower priority work and quickly trained to fill critical roles. For every critical role, there should be at least one individual with primary responsibility and a fully trained and experienced backup. Identify, train, and explicitly recognize individuals to fill these roles.

Plans should identity the initial work shift hours and team or crew composition. For example, during the first few days of an event shift durations may be different than later in the event when circumstances may be more predictable. Consider changes that may be required to employee work arrangements (e.g., collective agreements) such as work schedules and alternate roles and responsibilities.

- **Management Personnel** – Management will need to be ready to make important decisions to support personnel operating in unusual situations, including working out of their normal scope of responsibilities or levels of authority.
  - With the necessary refresher or certification training, a manager with experience in the field and technical trades could assist as an equipment operator, control center operator, or foreman.
- **Field Personnel** – Field personnel will play front-line operational roles to identify damage and repair or replace damaged equipment.

  - With suitable training, a groundman may perform certain duties as a line hand on a de-energized line.
  - Journeymen linemen may provide support in roles such as relay technician assistants or substation assistants.
  - Warehouse staff may provide groundman support for line crews.
- **Operating Personnel** — Operating personnel are typically the first to recognize an event has occurred and are instrumental in activating their entity's plans. They will need to maintain situational awareness, make decisions and direct operations clearly and concisely at all times.
  - Back office engineering staff may support system operator functions.
- **Office Personnel** — Office personnel will not likely be directly involved in the front-line of restoration activities, yet the most important aspects of their roles will still need to be carried out and they may be re-deployed to new tasks.
  - Engineering or office staff may fill needed roles in logistical operations such as procurement or warehousing.

### Leadership and Succession Planning

During a Severe Event, it is particularly important that personnel know at all times the manager or supervisor who will provide them with direction and operational support. Circumstances will require these leaders to change roles through the New Normal period, and succession planning will be a critical element of an entity's strategic direction and operational success. It is vital that leaders at all levels continue to find, assess, develop, and monitor the personnel resources needed to manage New Normal conditions. As the New Normal period progresses, working conditions may become more stable, and entity leaders may resist losing competent personnel to other roles, and having to train their replacements. Leaders themselves may be reluctant to move into new areas of responsibility. Leaders need to understand that succession planning must continue to match rapidly evolving organizational needs with employee competencies and capabilities. Effective succession planning will form the basis for continued success through the New Normal period. The succession planning process for the organization should:

- Define the skills and competencies needed through the New Normal period.
- Identify leadership and personnel competency gaps.
- Observe and periodically assess how leaders and personnel are coping in their roles.
- Identify personnel who are demonstrating an ability to assume increased responsibilities.
- Foster a growing sense of responsibility for personnel to display leadership characteristics at all levels in the organization.

### Clearly Define the New Roles

It is important that personnel understand their new roles and who their manager or supervisor is at all times. Personnel need to know who provides them with technical direction and who they can rely on when they need to seek help or advice. Personnel roles and responsibilities should be clearly defined and documented and include:

- **Reporting structure** — present and new role, new work locations, new manager or supervisor, working hours and shifts
- **Expectations of the new role** — personal equipment provided by the individual (e.g., tools, personal protective equipment), equipment that will be provided at the work location, professional qualifications, certifications, or licenses required.

### External Resources (Contractors, Mutual-Aid providers)

Entities often rely on externally contracted resources to fill roles similar to those of entity employees, for example for major projects. Entities need to consider that these contracted resources may not be available during a Severe Event, as other entities will have similar incremental needs to respond to the Severe Event. Prior to a Severe Event, entities should consider establishing contracts with these resources that explicitly address what may or may not be provided through a Severe Event (e.g., force majeure).

Mutual aid arrangements with other entities allow entities to quickly supplement their existing workforce. Recognizing that neighboring entities may be similarly stressed, consider making arrangements with a number of geographically dispersed entities to help ensure that assistance can be obtained from areas outside the affected region. Similarly, consider how you may be able to assist other entities, particularly with personnel other than the work crews historically familiar with working in new work locations (e.g., system operators, system planners, control room support staff). The terms of these arrangements should be reviewed periodically.

| **Key Recommendation #29 \|** Logistics and Self-Sustained Operations |
| --- |
| Consider how your business continuity or disaster recovery plan would change if you are unable to rely on mutual support arrangements. |

### Alternate Work Locations

During a Severe Event, it is possible that the primary work location may be unavailable and personnel will need to work from backup or other temporary locations. Personnel should be trained on how to deploy to the alternate location and start work safely and efficiently.

Alternate work locations, which may include fields for staging work, empty warehouses, or schools should be identified and tested periodically. Plans should consider:

- Alternate backup facilities if both primary and backup operations centers are unavailable.
- A communications plan to quickly and reliably direct personnel to backup facilities.
- Van pools to safely transport employees and conserve fuel.
- If working from home is viable, ensure personnel have the tools to effectively work prior to any event.

# 12.0 Preventing and Responding to Physical Attacks

While this report provides generally applicable guidance for entities to prepare, mitigate, and respond regardless of the cause of the Severe Event, this section specifically addresses a coordinated physical attack scenario.

It is impossible to completely prevent a determined physical attack on BPS infrastructure. However, steps can and should be taken to prepare to make such an attack more difficult and/or less effective.

This section discusses the following topics:

- **Challenges** – The challenges of preventing and preparing for physical attacks.
- **Prevention** – Steps that should be considered to protect facilities in a way that will discourage attacks, make attacks more difficult to accomplish, or minimize the damage.
- **Preparation** – Steps that should be considered in advance, to prepare to respond to a physical attack.
- **Response and Recovery** – Steps that should be considered to effectively respond to a physical attack, and how security might change to support operations through the New Normal.

### Assumptions

This section assumes the following scenario:

- A simultaneous and coordinated physical attack directly impacts the BPS. Equipment at multiple generating stations and high voltage transmission substations are severely damaged.
- Subsequent attacks days or weeks later will continue to impact BPS equipment and place field personnel at risk. Law enforcement and National Guard support to protect field personnel and equipment is very limited due to the priority to protect the communities they serve.
- Voice and data communications are disrupted due to equipment damage (microwave towers, fiber cuts, etc.). Cell phone systems are jammed due to excess traffic.
- Transportation is disrupted due to widespread power outages.

## 12.1 Challenges to Protecting the BPS

In order to provide some insight into why some prevention and preparation strategies are suggested and others are not, the following provides context for subsequent sections.

### Asset Protection

BPS assets are dispersed widely across the continent, usually in remote areas, making complete protection infeasible. Protection is often limited to fencing and padlocks at facilities that are operated remotely and not staffed.

### Mixed Environments

Some BPS assets are in rural, remote locations while others are in urban, densely populated areas. This makes protection difficult and the resulting procedures complex.

### Multi-Jurisdictional

Because service territories rarely align within a single municipality, it is typical for entities to need to deal with many different local law enforcement agencies to address security issues. This multi-jurisdictional nature is not limited to the geographic location of the assets, but also involves understanding the various different government agencies and their roles.

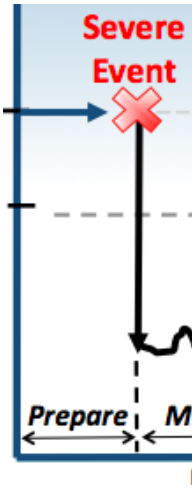
### Replacement Assets

Many BPS assets are difficult to replace or repair – some require purchasing lead-time of many months. This suggests that greater protection is needed for these assets.

### Ease of Asset Identification

Due to the size, accessibility, and visibility of high voltage power lines, identifying equipment that is part of the BPS is relatively easy.

## 12.2 Recommended Prevention Strategies




While it is impossible to completely prevent a determined physical attack on BPS infrastructure, actions should be considered to implement prevention measures that will deter or limit an attack by making it difficult to locate, enter, and damage a facility.

### Obfuscation

A facility that 'blends' into its surroundings is more difficult to identify and decreases the chance it will be targeted. This can be accomplished by:

- **Security by Environmental Design** — Where possible, establish visual barriers such as trees, mounds, and bushes.
- **Security by Architectural Design** — Where possible, use matching building material that blends the asset into the neighboring buildings.
- **Fly Zones** — Do NOT identify locations as 'no fly zones' to the Federal Aviation Administration and Transport Canada. The resulting maps available to all pilots are widely published and will clearly identify the location of the facilities.

### Hardened Facilities

Design facilities, particularly those that are critical assets, to increase the effort required to damage the facility or make it difficult to gain access. Install equipment to detect and report a security breach. This can be accomplished using:

- Basic construction techniques, such as:
  - Higher and stronger walls
  - Fewer windows and doors
  - Reinforced gates
- Install monitoring and sensing equipment, such as:
  - Cameras
  - Vibration Detection
  - Motion Detection
- Involve the local community, for example by enhancing Neighborhood Watch programs to raise awareness regarding the local BPS facilities that they rely on.

| **Key Recommendation #30 \|** Preventing and Responding to Physical Attacks |
|---|
| Consider actions that can be taken to protect BPS assets by involving local communities and law enforcement (e.g., reinforcing their awareness of BPS facilities that are critical to operations). |

| **Key Recommendation #31 \|** Preventing and Responding to Physical Attacks |
|---|
| Consider ways to improve security when designing or refurbishing existing BPS facilities. |

## 12.3 Recommended Preparation Strategies

The strategies suggested in this section pertain to preparatory actions that may be taken prior to an attack to manage likely consequences. These actions will help ensure that assets are prioritized, vulnerabilities and risks are understood, law enforcement support is coordinated, and plans and teams have been developed and exercised.

### Consequence Assessments

Consider conducting consequence assessments to evaluate and prioritize BPS assets. Consequence assessments should consider the impact on the entity, as well as impacts on society and other critical infrastructures within the entities footprint of operation. Criteria to identify critical assets for NERC Reliability Standard CIP-002-1 are provided in the *NERC Security*

*Guideline – Identifying Critical Assets*[54]. Additional information is available in Section 3 of the DHS National Infrastructure Protection Plan[55] that provides a generic methodology for consequence assessments.

**Physical Vulnerability Assessments**
Conduct physical vulnerability assessments to identify threats, vulnerabilities, loss impacts, prioritize risks, and identify cost effective controls. Assume that critical assets will be targeted.

**Strategies**
Identify strategies for emergency response, operations recovery, and system restoration.

**Site Security Plans**
Develop, exercise and maintain site security plans that provide for the protection of assets and personnel from physical attacks. Site security plans should be based on the results of consequence assessments as well as risk and vulnerability assessments. The countermeasures documented in the plans should be implemented according to the alert levels declared by the entity.

**Emergency Response Plans**
Develop, exercise, and maintain incident and emergency response plans that provide for life safety (e.g., evacuation, shelter-in-place, bomb threat) and limit initial property damage.

**Business Continuity Plans**
Develop, exercise, and maintain business continuity plans that initially recover business operations to minimally acceptable levels for the New Normal period, then later resume operations to normal business operation levels.

**Incident Management Plan**
Develop, exercise, and maintain an incident management plan that addresses command, control, communications, and coordination with entity operational response, crisis communication (e.g., media, consumers), and government.

**Training**
Train and exercise teams in the activation and execution of the above plans and other response, recovery, and restoration strategies.

**Local Law Enforcement Agency Days**
Collaborate with local law enforcement agencies to build relationships. Foster an environment of cooperation and participate in joint exercises. Coordinate planning and preparedness activities with local and state/provincial government.

[54] NERC Security Guideline – Identifying Critical Assets
http://www.nerc.com/fileUploads/File/Standards/Critcal_Asset_Identification_2009Nov19.pdf
[55] Ref. NIPP, National Infrastructure Protection Plan

| **Key Recommendation #32 \|** Preventing and Responding to Physical Attacks |
| --- |
| Consider ways to improve local coordination and cooperation with local/state/provincial law enforcement. |

### Replacement Equipment

Essential equipment that is difficult to obtain should be identified, acquired, and stored in secure locations. See the *Logistics and Self-sustained Operations* section of this report for additional information.

### Adaptability and Continuous Improvement

Periodically perform post-exercise reviews to identify and document preparedness successes, areas for improvement, and lessons-learned. Develop an action plan for improvements, develop enhancements, and implement identified improvements.

### Possible Threats

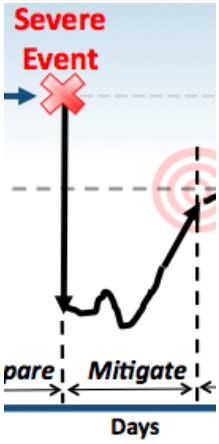
Physical attacks on the BPS may appear in several forms. Threats could come from internal (e.g., disgruntled employee, contractors) or external (e.g., disgruntled customer, terrorist) sources. The table below shows possible threats that should be considered when performing a risk assessment. The threats shown could be part of the initial attack or could be part of subsequent attacks designed to stop, slow, or divert response and recovery efforts.

### Controls Overview

Controls (countermeasures, safeguards) may come in many forms. Before an appropriate control can be identified the nature of the threat must be understood as well as the vulnerability of the asset being protected. Threat and vulnerability information is identified and documented in a risk assessment. When assessing controls it is useful to classify them into 'control types'. The table below shows possible controls separated into control types. The examples shown are not limited to a physical attack scenario.

| Table 7: Control Types and Examples | | |
|---|---|---|
| **Control Type** | **Definition** | **Control Examples** |
| **Prepare** | Controls that prepare for threat occurrence or expected losses. | Risk assessments, impact assessments, plans (response, recovery, restoration, preparedness), backup data, alternate sites, backup equipment, awareness, training, exercises, drills, control maintenance |
| **Prevent** | Controls that prevent threat occurrence or resulting losses. | Prevention procedures, site security plans, fences, access control, passwords, safety measures, fire prevention measures, hide asset, security guards |
| **Detect** | Controls that detect threat occurrence or resulting losses. | Smoke detectors, heat detectors, motion sensors, vibration sensors, cameras, security guards |
| **Minimize** | Controls that reduce or minimize losses as the threat occurs. | Activate emergency response procedures, water sprinklers, CO2, halon, fire extinguishers, exit signs, stairwells, emergency lighting, first-aid kits, flood wall, deterrence measures, security guards, backup generators |
| **Recover** | Controls that recover resources, operations, and reputation lost as a result of threat occurrence. | Activate business recovery and restoration procedures, heal/replace injured personnel, rebuild/replace damaged equipment and facilities, restore data from backups |

## 12.4 Recommendations for Response and Mitigation Strategies




The strategies suggested in this section pertain to actions taken immediately after the physical attack to notify appropriate response teams, assess the nature and magnitude of the attack, and review the status of BPS assets in order to make decisions on the physical security and incident management actions to be implemented.

### Site Security Plans

Activate appropriate site security plans according to the alert levels (e.g., Elevated, Imminent per U.S. National Terrorism Advisory System[56]) to protect critical assets and personnel from additional attacks.

### Emergency Response Plans

Activate appropriate emergency response plans (evacuation, shelter-in-place, bomb, threat, etc.) that provide for life safety and limit initial property damage.

### Business Continuity Plans

Activate appropriate business continuity plans that recover time-sensitive, high priority business operations to minimally acceptable levels for the New Normal period.

### Incident Management

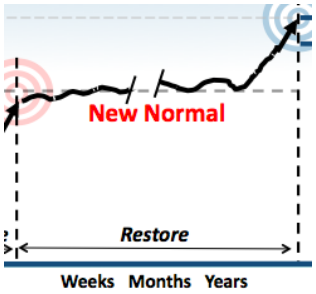
Activate an incident management system that includes the execution of crisis management plans, the activation of emergency operations centers and incident command posts, as well as the coordination of emergency response and business continuity. Also, activate crisis communication plans, and coordination with government and industry authorities.

Additional response actions are shown in the Mitigations for Physical Attack section in *Appendix 3* of this report.

[56] Ref. NTAS http://www.dhs.gov/files/publications/ntas-public-guide.shtm

## 12.5 Recommendations for Restoration Strategies

The strategies suggested in this section pertain to actions that should be taken after response actions are underway to notify appropriate recovery and restoration personnel, implement the incident management system, recover business operations according to prioritized lists of BPS assets, and implement physical security plans and procedures.




### Site Security Plans

Continue implementation of site security plans according to the alert levels (e.g., Elevated, Imminent per U.S. National Terrorism Advisory System[57]) to protect critical assets and field personnel from additional attacks.

### Business Continuity Plans

Continue implementation of business continuity plans that recover time-sensitive, high priority business operations. Activate plans to recover less time sensitive, lower priority business operations to minimally acceptable levels. Later, resume operations to normal business operation levels.

### Incident Management

Operate an incident management system where crisis management teams in emergency operations centers and incident command teams in the field provide command, control and coordination of restoration activities, communication, physical security, and coordination with government and industry authorities.

### Adaptability and Continuous Improvement

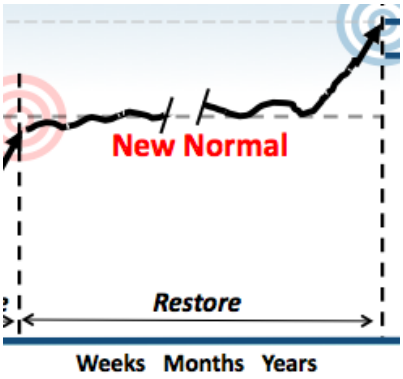
Perform after action reviews to identify and document successes, failures, and lessons-learned. Develop an action plan for improvements; follow the action plan, and implement actions to improve preparation, response, and restoration plans and procedures. Share non-proprietary after action review results with NERC, as appropriate.

Additional restoration actions are shown in the *Mitigations for Physical Attack* section in *Appendix 3* of this report.

[57] Ref. NTAS http://www.dhs.gov/files/publications/ntas-public-guide.shtm

# 13.0 Financing Emergency Operations

During a routine emergency and recovery (e.g., storm damage), entities normally have sufficient cash and related financial mechanisms in the form of reserves, lines of credit or other financial instruments to deal with immediate needs. Consumer rates approved through the tariff approval process and various forms of industrial insurance are used to finance restoration work and the return to normal operations is possible through rate recovery. A more serious event[58] can be financially devastating.




A Severe Event will certainly have financial impacts that exceed anything that North America has experienced. The recent nuclear tragedy in Japan hints at the seriousness of the potential problem. This is a look into crippling financial problems as severe as the event itself.

The requirement for cash immediately after the event and for months during recovery through the New Normal period will be significant. Conservative estimates may place this cash requirement at ten times that of normal operations. Given this cash flow requirement, the duration of liquidity is short lived. An entity's ability to acquire and properly allocate funds will largely influence the degree to which recovery is successful, or even possible. Effective cost-tracking and audit processes will still need to be in place to demonstrate that restoration actions are financially prudent under the circumstances.

Each entity will react somewhat differently to the financial reality of a Severe Event. For example, a private investor owned utility will see their stock drop to nothing and credit rating go to junk just before their cash flow slows to zero. Lines of credit will dry up within weeks. State and federal intervention will be inevitable.

The goal of this section is to provide guidance and information to all entities faced with these financial challenges under the following assumptions.

- The Severe Event is regional and affects several BPS entities.
- Existing Banking and Insurance Intuitions are still functioning, but are outside the area affected by the Severe Event.
- The entity's executive and financial functions are able to operate.

[58] Ref. Edison Electric Institute, *After the Disaster: Utility Restoration Cost Recovery* http://www.eei.org/ourissues/electricitydistribution/Documents/Utility_Restoration_Cost_Recovery.pdf

## 13.1 Getting Prepared for Emergency Financing

Some would argue there is little that can be done in advance to prepare for emergency financing that would be required through a Severe Event. Increasing consumer electricity rates through the normal tariff and regulatory approval process would be extremely difficult if not impossible. The carrying cost for large lines of credit is similarly difficult to secure and would soon become unsustainable. It is expected that the need to manage costs will place increased pressures on everything from staffing levels to warehouse inventories and reduce bench strength of needed equipment and resources.

However, much can be done to prepare to manage the financial pressures that would arise soon after a Severe Event. Entities should consider bringing together those responsible for financial matters to discuss the issue. The insurance, procurement, risk management, and financial functions share a significant part of the responsibility and may already have much of the information needed to prepare a plan. Discussions with suppliers, financial institutions, and labor unions will increase awareness of the challenges that would be faced in a Severe Event, and help identify options to address them.

| **Key Recommendation #33 \|** Emergency Financing |
|---|
| Consider how extreme financial challenges will be addressed in consultation with financial institutions, suppliers, and government agencies. |

The following links provide references that may aid these discussions.

**Public Safety Canada:** http://www.publicsafety.gc.ca/prg/em/index-eng.aspx

- Resources for Emergency Management Planning.
  - Emergency Management Planning Guide to support the Federal Policy for Emergency Management and the Emergency Management Act (2007).
  - All-Hazards Risk Assessment.
- Emergency Preparedness.
  - Canadian Emergency Management College.
  - Guides for business and first responders.
  - Joint Emergency Preparedness Program.
- Joint Emergency Preparedness Program (JEPP). http://www.publicsafety.gc.ca/prg/em/jepp/index-eng.aspx

**Canadian Centre for Emergency Preparedness:** http://www.ccep.ca/

**U.S. Federal Emergency Management Agency (FEMA):** http://www.fema.gov/privatesector/preparedness/

- References, news and information

- Robert T. Stafford Relief and Emergency Assistance Act
  http://www.fema.gov/pdf/about/stafford_act.pdf

**U.S. Department of Energy:** http://www.oe.energy.gov/our_organization/iser.htm and http://energy.gov/oe/office-electricity-delivery-and-energy-reliability

**University of Florida:** http://disaster.ifas.ufl.edu/PDFS/CHAP03/D03-07.PDF

- Outlines the role of U.S. government agencies in a disaster
  - Describes the difference between a Declaration of an Emergency and a Declaration of a Major Disaster.
  - Outlines the types of assistance that a state governor may request.
  - Describes the role of FEMA if engaged.

**New York University, International Center for Enterprise Preparedness**:
http://www.nyu.edu/intercep/businesscase/index.html

- Provides links to research papers on the financial impacts of emergency preparedness:
  - Corporate balance sheet, impact on assets and liabilities.
  - Profit and loss, impact on revenue and expenses.

**U.S. Emergency Management Assistance Compact**: http://www.emacweb.org/

- State-to-state mutual aid system

**Public Entity Risk Institute:**
https://www.riskinstitute.org/peri/index.php?option=com_bookmarks&task=detail&id=588

# Appendix 1: Task Force Scope

## Purpose

This document defines the scope, objectives, organization, deliverables, and overall approach for the SIRTF.

The purpose of the SIRTF is to provide guidance and options to enhance the resilience of the bulk power system to withstand and recover from severe-impact scenarios, specifically:

- Coordinated physical attack.
- Coordinated cyber attack.
- Geomagnetic disturbance.

## Background

The NERC and DOE *High Impact, Low Frequency Risk to the North American Bulk Power System* report described a number of severe-impact scenarios and their potential impact on the reliability of the bulk power system. Subsequent to this report, the Electricity Sub-sector Coordinating Council's (ESCC) *Critical Infrastructure Strategic Roadmap* identified a number of strategic initiatives to mitigate these impacts. Several of these initiatives (i.e. items E, F, H, L, and P) identify the need to assess the current capability of the bulk power system to withstand these severe-impact scenarios and to enhance restoration plans and procedures.

NERC staff and the leadership of the NERC technical committees (Planning, Operating, and Critical Infrastructure Protection Committees) have developed a Coordinated Action Plan to address the initiatives identified in the Strategic Roadmap. This scope document elaborates on the Coordinated Action Plan to establish and provide direction to the SIRTF.

## Scope

The SIRTF will provide guidance and options to enhance the resilience of the bulk power system to withstand and recover from three severe-impact events as described in the Coordinated Action Plan.

- Coordinated physical attack.
- Coordinated cyber attack.
- Geomagnetic disturbance.

The SIRTF will propose approaches, practices, and plans to reduce the impact of these events through effective emergency operations and timely restoration of the BPS.

The SIRTF will consider what aspects of emergency operation and restoration will be particularly challenged through these severe-impact events, and consider options to enhance the resilience of the BPS. Preferred solutions will be flexible and based on heuristic methods applicable under a wide variety of circumstances, as opposed to fixed procedures. The SIRTF will recommend solutions for broad implementation across the electricity sector, and propose drills or exercises to reinforce this capability. These solutions could be in the form of industry

guidelines that describe practices that may be used by individual entities according to local circumstances.

The SIRTF may consider establishing sub-teams to address the planning /operational and tools/systems issues that may be unique for each of the three severe-impact scenarios.

### Assumptions and Limitations

The three scenarios described in the Coordinated Action Plan are intended to describe extreme conditions that would make operation and restoration much more challenging than would normally be considered by electricity entities through their usual planning and preparedness activities. While solutions that offer material improvements are preferred, it is recognized that more modest enhancements that are readily implemented are also valued.

It is expected that any solutions proposed to enhance existing capabilities would be broadly applicable to other severe-impact scenarios, and certainly applicable to smaller scale events.

### Goals and Objectives

| Goals | Objectives |
|---|---|
| Review current situation and capabilities | 1. Recognizing that priorities will vary depending on local circumstances, consider priorities to restore critical power system loads along restoration paths (e.g. communications, nuclear units), and priority customer loads (e.g. oil refineries, military bases, hospitals, water treatment plants, public telecommunications). Consider how these priorities might differ through a range of outage durations (e.g. days, weeks, and longer).<br>2. Consider operating capabilities and voice and data communications tools and energy management systems, with a focus on identifying minimum essential functional needs for reliable operation.<br>3. Consider restoration plan elements such as black start, islanded operation, synchronization, rotational load shedding.<br>4. Assess operational staffing levels and unique safety considerations under these scenarios. |
| Perform needs assessment | 5. Identify elements of current operating and restoration capability that would be particularly challenged under these severe-impact scenarios. |
| Develop alternative solutions | 6. Propose a range of alternative solutions and options to enhance current operating and restoration capability, including estimated costs and effort to develop and maintain this capability. Identify the residual risks that may be associated with each of these solutions. |

| | |
|---|---|
| Coordinate Solutions | 7. Coordinate with NERC staff to integrate these solutions with the NERC Crisis Response Plan with special emphasis on areas where local, state, and Federal resources may be required to support such efforts. |
| Recommend solutions | 8. Recommend specific practices or programs for use by NERC or individual entities. Create scalable drill templates that registered entities could utilize to train personnel and enhance current restoration and operating protocols through existing drill and exercise programs. |

## Task Force Reporting Structure and Coordination with Other Related Initiatives

The Task Force will:

- Report to the Operating Committee. Seek Planning Committee endorsement prior to Operating Committee approvals.
- Provide periodic status reports to the Operating Committee and Electricity Sub-Sector Coordinating Council.
- Coordinate closely with the Critical Infrastructure Protection Committee that will provide expertise to address Coordinated Action Plan Item F – Protect Critical Equipment.
- Coordinate closely with the Spare Equipment Database Task Force.
- Coordinate with other NERC and industry resources that may be able to contribute, such as the, Reliability Coordinator Working Group, North American Transmission Forum.
- Leverage from other recent initiatives in this area (e.g. the National Infrastructure Advisory Council's Stress Test exercise).

## Resources Required

The Task Force requires expertise in the following areas:

- Experience with the real time operation of the bulk power system, including the communications and energy management systems and tools typically used by reliability coordinators, transmission operators, and generator operators.
- In-depth experience with bulk power system restoration plans and procedures, including designing and conducting restoration drills and exercises.
- Familiarity with developing situation assessment reports used to inform senior management or government.

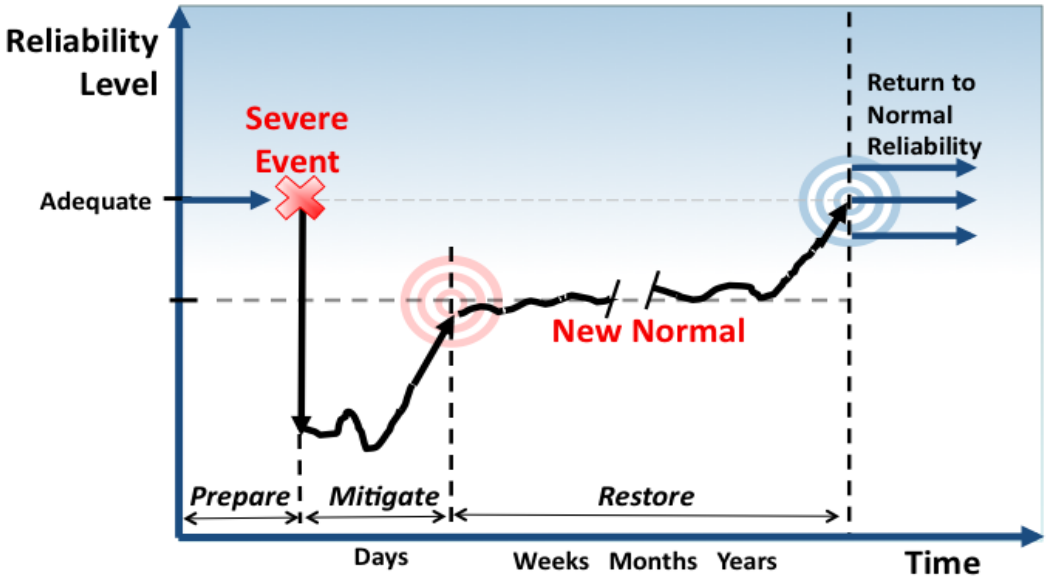
It is anticipated that two conference calls per month, and a total of four face-to-face meetings will be required, in addition to the time required to contribute to this effort. This work is expected to begin in December 2010 and end by December 2011.

## References

| Name | Link |
|---|---|
| DOE/NERC HILF "*High Impact, Low Frequency Risk to the North American Bulk Power System*" report | http://www.nerc.com/files/HILF.pdf |
| *Critical Infrastructure Strategic Roadmap* | http://www.nerc.com/docs/escc/ESCC_Critical_Infrastructure_Strategic_Roadmap.pdf |
| NERC Technical Committees' Report – *Critical Infrastructure Strategic Initiatives Coordinated Action Plan* | http://www.nerc.com/docs/ciscap/Critical_Infrastructure_Strategic_Initiatives_Coordinated_Action_Plan_BOT_Apprd_11-2010.pdf |

# Appendix 2: Mitigations for Monitoring the BPS

This Appendix builds on the recommendations in the *Monitoring the BPS* section of this report and highlights the different actions that may be taken, prior to, during, and after a severe event.




| MONITORING Resilience Considerations | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| | | **Robustness** The ability to absorb shocks and keep operating | **Resourcefulness** The ability to manage a disruption as it unfolds | **Rapid Recovery** The ability to get back to Normal as quickly as possible |
| **Generator Output** | | | | |
| 1. | **Fixed Schedules** | | Develop and Modify as required MW and MVAR output schedules of available units | As the situation becomes more stable the variability and flexibility of the schedules will be broader. |
| 2. | **Block Loading** | | Using a block loading schedule reduce the need for communications | |

| | MONITORING Resilience | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| 3. | **Operating Ranges** | Review with GOP's particular operating ranges that if a directive is outside of the GOP needs to confirm the directive with its own call | Within the response and New Normal adjust and communicate new ranges as required by the new system. | |
| | **LIMITS** | | | |
| 4. | **Hard Copies of Limits** | On a periodic basis print out BPS limits and maintain copies in primary and back-up control centers | During a cyber event routinely sample displayed limits with printed limits | |
| 5. | **Referencing Guides** | Consider developing distribution factor spreadsheets that act as quick references to better understand the effects of possible actions and contingencies | After an event and particularly in islanded operations and when PSSE tools are not available these tables may need to be recalculated. | |
| 6. | **Standing Orders and Temperature Sets** | Consider a standing order which states following an event to ease communications particular triggers will be used to go from one temperature set to another. | Based on communications capabilities may want to go to a seasonal set of ratings – making it easier to ensure all parties are always using the same set of ratings | |
| 7. | **Conservative Limits** | Define a conservative set of limits which could be implemented after a large event (could be as simple as a percent back-off) | | As the system becomes more stable and operators will need to continually reassess if these limits are too conservative for the community's needs. |

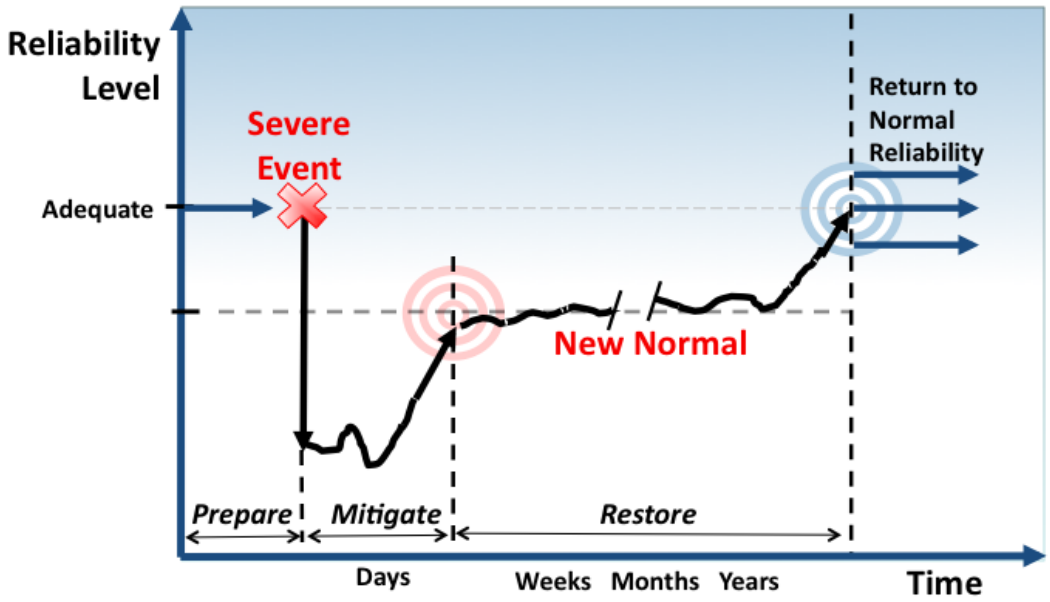
| MONITORING Resilience | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| 8. | **Revisit Design Assumptions** | | A continual re-assessment and implementation cycle of adjusting operating limits to the realities of the current topology and not the original design assumptions. As islands are interconnected these differing operating assumptions will need to be communicated to the joining entities. | |
| 9. | **Operate to the Most Conservative Limit** | Have discussions with operators and engineers when operating to the most conservative reading may not be in the best interest of reliability. | Continually work with other critical infrastructures to determine whether operating to a less conservative rating is in the greater good of keeping multiple critical infrastructures available. | |
| **MONITORED FLOWS ON BPS FACILITIES** | | | | |
| 10. | **Prepare for Large Amounts of Data Loss** | 1. Conduct studies of the minimum amount of data needed.<br>2. Assess how greater aggregation might reduce some of the reliance on this data.<br>3. Develop practices for operating without any SE/SA capability for months.<br>4. Develop a list of the most critical data points. | Based upon the list of most critical data points prioritize which stations will be staffed with the communications available at that time. | Train additional personnel to assist in the 24/7 needs to report data. |
| 11. | **Loss of Primary & Back-Up EMS** | Understand which portions of your system are independently monitored by neighbors. | Consider how off-line study packages and applications (operator training simulator) could be leveraged. | |

| MONITORING Resilience | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| 12. | **Phasors** | Continue to develop the operational capabilities of the PMUs. As these capabilities and systems are developed, consider keeping their data feeds and platforms independent of EMS capabilities. | 1. Redefine the operating parameters of the PMU applications as procedures/decision points may be based upon pre-crisis topology.<br>2. Continue to evolve operating procedures around operating experience. | |
| **Loss of Both Control Centers** | | | | |
| 13. | **Back Up Location Considerations** | Consider both sites are sufficiently distant so as not to be affected by single events which would render a control center unusable. | Backup sites should have considered the issues of personnel feeding, hygiene, security, backup power, and transportation needs. | Recovery from an event would be facilitated if a common event would not render both primary and backup control centers unusable. |
| 14. | **Agreements with Others** | Consider if other entities might be able to share control centers and telemetry. | Contracts should be in place for security, fuel delivery, sewage, and food supplies. Following an event prioritize contacting these suppliers and arrange deliveries. | Contract revisions will be necessary during the period of reconstruction. In some cases assistance from neighboring utilities may be necessary. |
| 15. | **Diversely routed telemetry** | Design and plan telecommunications paths such that both sites are not exposed to single points of failure. | Multiple telemetry routes should be available from all sources, especially the RC, as operation from the alternate could extend for a significant time. | Diversely routed telemetry would more readily enable operation for an extended duration after the event is over while the previously disabled or destroyed control centers are rebuilt. |

| MONITORING Resilience | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| 16. | **Use of EOC or OTS as possible tertiary sites** | Anticipate possible use of emergency operations centers (EOC) or operator training simulators (OTS) as backup control centers and design them with the appropriate telemetry. | Dispatcher familiarity with the EOC and OTS from drills & exercises should facilitate and help recognize the need for various facilities for long term operation. | An EOC or OTS are more likely to have the necessary facilities to operate for an extended duration during the New Normal. |

# Appendix 3: Mitigations for Physical Attacks

This Appendix builds on the recommendations in the *Preventing and Responding to Physical Attacks* section of this report and highlights the different actions that may be taken, prior to, during, and after a Severe Event.




| | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| | | **Robustness** The ability to absorb shocks and keep operating | **Resourcefulness** The ability to manage a disruption as it unfolds | **Rapid Recovery** The ability to get back to Normal as quickly as possible |
| **Communicate** | | | | |
| 1. | **ES-ISAC** | Develop and maintain procedures to report suspicious activity to ES-ISAC. | Report incidents to the ES-ISAC and monitor ES-ISAC alerts or advisories. | Continue updating ES-ISAC as appropriate. |
| 2. | **Local, State Authorities** | Develop, maintain, and exercise communication plans with local, state authorities. | Communicate with local, state authorities during response. | Continue communicating with local, state authorities during recovery. |

| | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| 3. | **NERC** | Share prevention and preparedness phase lessons-learned. | Share mitigation phase lessons-learned. | Share recovery phase lessons-learned. |
| 4. | **Alternative Communications** | Develop, maintain alternative communication methods. | Execute alternative communication methods, as required. | Continue execution of alternative communication methods, as required. |
| 5. | **Crisis Communication Plan** | Develop, maintain, and exercise Crisis Communication Plan. | Activate Crisis Communication Plan. | Continue execution of Crisis Communication Plan. |
| 6. | **Public Reporting** | Develop, maintain, and exercise communication with the media to share information with the public in order to increase observations in the field (the public reporting strange happenings/sightings). | Use communication with the media to share information with the public in order to increase observations in the field (the public reporting unusual events). | Continue using communication with the media to share information with the public in order to increase observations in the field (the public reporting unusual events). |
| 7. | **Reliability Coordinator (RC)** | Utilities develop, maintain, and exercise communication plans with relevant RC. | Execute communication plans with relevant RC. Rapidly share lessons-learned with other entities. | Continue execution of communication plans with relevant RC, as required. |
| **Monitoring & Situational Awareness** | | | | |
| 8. | **Vulnerability Assessments** | Perform risk/vulnerability assessments and review at least annually. | Implement lessons-learned from other entities into security or operations plans. | Review vulnerability assessments for ability to estimate the actual threat, vulnerabilities, and impacts experienced. |

| | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| 9. | **Controls** | Install, maintain, test, and monitor controls. For example:<br>• fences, gates, walls, berms<br>• access control systems/methods<br>• make assets less visible<br>• security guards and patrols<br>• smoke/heat detectors, motion sensors, cameras, etc. | Increase and adapt monitoring of implemented controls.<br><br>Consider random changes to security plans to reduce predictable actions. | Continue increased monitoring of implemented controls. |
| 10. | **Law Enforcement/ Military** | Develop and maintain coordination. | Increase coordination and adapt to current situation. | Continue increased coordination. |
| 11. | **SCADA Monitoring** | Review expansion of use of SCADA to monitor and report inappropriate activity. | Use SCADA to monitor and report inappropriate activity.<br><br>Work with IT to monitor SCADA for possible disruption. | Continue use of SCADA to monitor and report inappropriate activity. |
| 12. | **Situational Awareness by the Public** | Develop and implement programs to support situational awareness of facilities by the public. | Remind public of situational awareness and where to submit reports, provide for disruptions in routine communications. | Continue reminding public of situational awareness and where to submit reports.<br><br>Share intelligence and lessons-learned with communities. |
| 13. | **Monitoring Plans** | Train, exercise, maintain plans and teams to perform monitoring. | Activate appropriate monitoring plans and teams. | Continue execution of appropriate monitoring plans and teams. |
| 14. | **Intelligence** | Implement thorough intelligence gathering and reporting. (e.g., through ES-ISAC, RCs) | Increase intelligence gathering and reporting. | Continue increased intelligence gathering and reporting. |

| | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| 15. | **Security Threat Levels** | Develop, maintain, and exercise a system of Security Threat Levels which is compatible with the National Terrorism Advisory System. Have procedures to be prepared to move to a different level based on perceived threats; and report the current level to authorities as appropriate. | When credible, specific, and impending terrorist threats to electric infrastructure becomes evident, change the Security Threat Level to IMMINENT and activate appropriate response and crisis management plans. When a credible terrorist threat becomes evident, change the Security Threat Level to ELEVATED, and monitor threats as appropriate. Report the current level to authorities as appropriate. | Continue monitoring threats and the current situation. Change the Security Threat Level, as appropriate. Report the current level to authorities as appropriate. |
| **Command & Control, Operate** | | | | |
| 16. | **Incident Response Plans** | Develop, maintain, and exercise Incident Response Plans. | Activate appropriate Incident Response Plans to protect facilities and personnel. | Continue execution of appropriate Incident Response Plans to protect facilities and personnel. |
| 17. | **Crisis Management Plan** | Develop, maintain, and exercise crisis management plans and crisis communication plans. | Activate crisis management plans and crisis communication plans. | Continue execution of crisis management plans and crisis communication plans. |

| | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| 18. | **Crisis, Operations, Incident Teams** | Train, maintain, and exercise crisis management, crisis communication, emergency operations, and incident response teams.<br>Align and train teams in the National Incident Management System (NIMS) and the Incident Command System (ICS). | Activate appropriate crisis management, crisis communication, emergency operations, and incident response teams. | Continue activation of appropriate crisis management, crisis communication, emergency operations, and incident response teams. |
| 19. | **Protect Critical Infrastructure** | Develop, maintain, and exercise response plans with law enforcement to have them protect critical infrastructure when initiated by the operator owner. | Activate appropriate response plans to have law enforcement protect critical infrastructure.<br><br>Inform law enforcement as priorities regarding critical assets change. | Continue execution of response plans to have law enforcement protect critical infrastructure. |
| 20. | **Protect Field Personnel** | Develop, maintain, and exercise plans for the protection of field personnel after an attack. Protection strategies could include:<br>• Protection provided by local and state law enforcement and the National Guard<br>• Protection provided by a contractor with armed personnel<br>• Protection provided by field personnel themselves (armed?) | Activate appropriate plans for protection of field personnel after an attack. | Continue to implement and update plans for protection of field personnel during recovery and restoration. |

| | | Preparedness: Prior to Event | Mitigation: During an Event | Recovery: After an Event |
|---|---|---|---|---|
| 21. | **Mobile Control Center** | Develop, maintain, and exercise a mobile control center for use by security and crisis/incident management teams. Could be used as a security control center, emergency operations center, and/or incident command post. | Deploy and protect mobile control center where needed. | Continue deployment and protection of mobile control center where needed. |

# Appendix 4: Resilience Discussion Worksheet

## Introduction

The SIRTF report provides a framework to help entity management and subject matter experts review their plans and preparations and consider a Severe Event that is much greater in terms of impact and duration than current plans envision.

This Appendix provides a worksheet that could be used by business continuity and emergency preparedness personnel, system operators, and management to prompt creative thinking about the possible challenges they might face through a Severe Event. The worksheet builds upon the ideas and recommendations found within the SIRTF report and poses questions that may prompt new resilience ideas, mitigation responses, and other courses of action. The worksheet is not intended to require that a new and detailed response plan be developed for a severe event; instead, personnel are encouraged to challenge themselves to consider substantially worse scenarios to help ensure they and their organization will be in a better position to respond.

As such, the SIRTF recommends that entities use this worksheet to facilitate discussions involving personnel at all levels, including executive leadership, to enhance the entity's overall crisis preparedness and response capability. This worksheet is not exhaustive, and entities are encouraged to build further on the concepts and ideas offered.

## Decision Making

1. If many members of the organization's senior leadership team were unavailable because of travel restrictions, communications failures, or other post event challenges how would decision making authority be established?

| Possible Challenges Requiring Decisions | If this decision should fall to a few people – who? | If this decision should be made up of a team, who should comprise this team? |
|---|---|---|
| **Priority Load Designation** | | |
| **Changes to Operating Limits** | | |
| **Procurement Decisions** | | |
| **External Communications (Messaging)** | | |
| **Reassignment of Personnel** | | |
| | | |

2. What might be the triggers for re-evaluating certain decisions or the assumptions or both underlying these types of decisions?

| Decisions which may require periodic reevaluation: | What are the Triggers for reevaluation?<br><br>(i.e., Time Based, Changes in Operating State, External Requirements) |
|---|---|
| **Priority Load Designation** | |
| **Changes to Operating Limits** | |
| **Procurement Decisions** | |
| **External Communications (Messaging)** | |
| **Reassignment of Personnel** | |

## Business Continuity and Restoration Plans

3. How would your current **Business Continuity plans** be disrupted if your organization had little to no communications? Which of these disruptions most troubles the following personnel?

| | What is most troublesome? | What makes this concern so critical? | What are possible mitigations? |
|---|---|---|---|
| **System Operator** | | | |
| **Field Personnel** | | | |
| **Procurement Team** | | | |
| **Executive Leadership** | | | |
| | | | |

4. How would your current **Restoration plans** be disrupted if your organization had little to no communications? Which of these disruptions most troubles the following personnel?

| | What is most troublesome? | What makes this concern so critical? | What are possible mitigations? |
|---|---|---|---|
| **System Operator** | | | |
| **Field Personnel** | | | |
| **Procurement Team** | | | |
| **Executive Leadership** | | | |
| | | | |

5. Another way of examining the critical communications interdependence is to list each of your communication capabilities and prioritize the importance of these capabilities to your business continuity or restoration plans or both. Walk through how your organization would adapt its plans if you were to lose these capabilities, from the most critical to the least.

| Communications Capability | Possible Mitigations |
|---|---|
| **Phone Lines** | |
| **EMS/GMS Signals** | |
| **Cell Phones** | |
| **Satellite Phones** | |
| **Internet** | |
| **Radio** | |
| **Hand-Carried Messages** | |
| Other | |

6. What resource limitations create time constraints for portions of your business continuity or restoration plans or both?

| Possible Examples of Time Restraints | Possible Mitigations |
|---|---|
| **Nuclear Power BPS-supplied Power (six hours)** | |
| **Nuclear Power Back-up Diesels (7 days)** | |
| **Control Room Back-Up power (3 days?)** | |
| **Data Aggregation Points** | |
| **Communications Repeating Stations** | |
| **Sub-station Breakers** | |
| **Other** | |

7. For energy-related limitations how could the investment of renewable generation (e.g., wind, solar) extend these time restrictions? What would be other financial justifications beyond greater system resilience for making such an investment?

## Operations

1. If only limited data points are available, how would studies be performed?
2. If the BA and TO no longer have visibility of their systems:
   a. Who would become the new system operator and how would this be established?
   b. How would the extent (boundaries) of any resulting islands be determined?
   c. How would you implement the system restoration plan?
   d. What independent actions would equipment operators take? How are these actions known, coordinated and trained?
   e. What system information (e.g., generator characteristics, load characteristics, limits) would be shared with the new system operator and how?
   f. What communication methods and protocols would be used to keep the Reliability Coordinators, Balancing Authorities and Transmission Operators updated on local system conditions and restoration progress?
   g. How will variable generation resources be managed during restoration and New Normal timeframes?

3. How would the following system parameters be managed immediately following the Severe Event and during the New Normal?

| Challenge | Possible Mitigations to deremine MW, MVAR output and resulting frequency |
|---|---|
| **BA has No Communications with Market/Generation Operation (MOC/GOP) Centers** | |
| **BA has no communications with units but can communicate with MOC/GOP** | |
| | |
| | |

4. How would your organization consider its operating assumptions and limits? At what point is it appropriate to revisit, and possibly revise, protection settings on relay settings, UFLS and other protection schemes?
5. What rules of thumb should be provided to system operators for operating in the New Normal?
6. Assuming a total blackout with no outside assistance and no expectation to interconnect in the near term:
   a. What units are most essential to the restoration plans?
   b. How many days of fuel do these essential units typically have on hand? Are there contracts in fuel on hand. How does such a number of MWh define the load to be served, the rotating blackout schedule, and the amount of reserves carried?
   c. What concerns do you have about units that do not have station power and lighting needs served?
      - How many days before a unit might be damaged? What ways could resources be committed to protect such units?
      - What if the severe event prevents BPS supply to the nuclear units and is expected to last beyond the technical specification requirement to have seven days fuel on hand for the back-up diesels?
7. How will new load patterns be established?
8. Will Operating reserve requirements be met by load shedding or by reserving generation capacity? Why? What are factors that may change this assessment?

9. In the event that there are no market mechanisms and tools available to dispatch generation, what alternative mechanisms can be used?
   a. place (i.e. black start agreements) governing minimum fuel supply?
   b. What are the critical and priority loads that need to be served? Do these change based on different event outcomes and timeframes? If so why?
   c. What loads are not essential and do not need to supplied over the long term?
   d. Assuming no fuel resupply and half of the load in your typical operating zone calculate how many MWh of energy is available today with a typical amount of

## Logistics and Interdependencies

10. What infrastructures are your critical facilities most dependent on?

| Critical Infrastructure | What is most troublesome? | What makes this concern so critical? | What are possible mitigations? |
|---|---|---|---|
| **Communications** | | | |
| **Energy** | | | |
| **Water & Dams** | | | |
| **Information Technology** | | | |
| Other | | | |

11. Of these infrastructures, which have critical facilities (those facilities essential to bulk power system operation) within your zone (and maybe in your neighbors' zones)?

| Facility & Contact Info | Critical Infrastructure | Location | Impacts & Time to Impact |
|---|---|---|---|
| **1.** | | | |
| **2.** | | | |
| **3.** | | | |
| **4.** | | | |
| 5. | | | |

12. What are the energy needs of these critical facilities?

13. How would a total blackout restoration plan address these facilities' energy needs?

14. What hard-stop time limits can these facilities endure without power before there is damage or second or third order impacts to other infrastructures and/or the bilk power system. How are these time limits factored into your own plans?

## People

1. For each of the major functions within your organization related to the reliability of the bulk power system, which are most critical?

| Critical Organizational Function | Point or Primary Person/Department | Secondary Person/Department | Tertiary Person/Department |
|---|---|---|---|
| **1. Operations** | | | |
| **2. Communications - Hardware** | | | |
| **3. Communications - Messaging** | | | |
| **4. Emergency Liaison** | | | |
| 5. | | | |

2. Based on the assessment of critical functions, how would personnel within these functions be directed?
   a. When should they report to work following a Severe Event?
   b. Do they all report at once, and then a schedule is created, or is there a standing set of instructions?
   c. How would transportation challenges be addressed under the following scenarios?
      - State/provincial or local travel restrictions
      - Gas pumps are not working, and personnel's private vehicles have insufficient fuel to get to work.
      - Consumers wanting to know when their power will be restored routinely interrupt and delay utility personnel engaged in restoration efforts.
   d. How would you address personnel concerns about their families?
      - In the first couple of days following a Severe Event
      - Ten days after a Severe Event
      - One – six months after a Severe Event
   e. How would you house, feed, and care for these personnel?

## Financing

1. How can each corporate function best prepare and respond to a severe event?

| Critical Organizational Function | What can you do to prepare for a severe Event? What resources are available? | How will you function during the new normal? | How will your area facilitate the return to normal BPS reliability levels? |
|---|---|---|---|
| **1. Insurance** | | | |
| **2. Procurement** | | | |
| **3. Risk Management** | | | |
| **4. Finance** | | | |
| **5. Collections** | | | |
| **6. Labor Relations** | | | |
| **7.** | | | |

# Appendix 5: Severe Event Response Checklist

This Appendix provides a checklist of questions that may be used by entities through a Severe Event to periodically assess the situation and decide new courses of action as system conditions and circumstances evolve through the New Normal period.

**Date:** _____ **Time**: _____

## System Topology

What are the current island boundaries?

1. Are these being operated in an unstudied state?
2. Depending on the electrical configuration of the island(s), which operating security limits may no longer be appropriate?
    a. Why are these limits inappropriate?
    b. Conversely, why are other limits still appropriate?
    c. Of those limits which require additional study
        - Which limits should be prioritized?
        - What decision criteria are used to determine this priority?
3. Is the system configuration suitable for restoration?
    a. How do we know this?
    b. Have breakers been opened along the restoration path?
    c. Have entities initiated their independent actions?
    d. Who is working on this confirmation?
4. Will the current protection schemes/SPS/UFLS/UFLS settings impede or assist with the current system's operations?
    a. What protection changes are practical at this time?
    b. How are the decision criteria for "practical" defined?
        - If changes are merited, with the limits in the current workforce, communications, and other resources how will the priority of these changes be determined?
        - How will these changes be coordinated as connections are made with other islands?

## Generation

1. What generation is damaged and what is fully capable and available?
    a. What is keeping the unavailable units in this state?
    b. Are the fixes that are required under the organization's control, or what assistance is needed?
2. Which units in the island are blackstart capable and available?
3. What is the fuel availability for each unit within the island?
4. Do any of these units have regulatory restrictions that are limiting their capacity?
    a. How can these restrictions be addressed?
    b. Who is the decision maker?

## Transmission Lines and Substations

1. What is the status of key substations?
    a. How critical is the key substation in the current system configuration?
    b. What is the status of key elements within the substation (transformers, busses, breakers, reactive elements)?
    c. Can the substation be reconfigured to utilize good equipment and bypass bad equipment
2. What equipment can be cannibalized to restore key substations?
    a. Can redundancy (per standard requirements) be minimized/eliminated to provide a larger restoration footprint such as moving redundant transformers to key substations or creating radial configurations on breaker and a half configurations to free up additional breakers for key substations)?
    b. In what timeframe can the cannibalization occur?
    c. What is the availability of specialized equipment (railcars, cranes etc.)?
3. What is the status of key transmission lines?
    a. Breaker status, operable, etc.
    b. If line is out of service, has a line inspection been completed and any potential faults resolved?
    c. Can lines be re-configured to by-pass damaged substations?

## Key Equipment

1. What is the status of key equipment?
    a. Damaged equipment (repairable or not)
    b. Replacement equipment
    c. Cannibalization

## Load

1. What are the critical loads needed to operate the bulk power system?
   a. Within an island?
   b. Beyond the island, that may drive restoration priorities
2. What are the priority loads needed to support public health and safety?
   a. Within an island?
   b. Beyond the island that may drive restoration priorities
   c. What are the decision criteria for ranking these priority loads?
   d. Who are the decision makers for the current priorities?
      - Are we able to communicate with these decision makers?
      - If there are no communications with this decision maker, who will make the decision?
      - How do we share and coordinate these priority load decisions?

## Communications

1. Who am I able to talk to in my role as a _____?
2. Who must I talk with in my role as a _____?
3. What are the means to mitigate these communication gaps?

## People

1. Are key personnel available to perform their role?
   a. How can they best be utilized?
   b. What key personnel gaps need to be filled, and from where?
2. What extraordinary safety concerns need to be addressed?
   a. How will personnel be kept informed of any security-related risks?
   b. How will field changes be documented so field operating and system operators are kept informed?

## Monitoring

1. What is the organization's situational awareness of the current island?
2. Why can this situational awareness be trusted?
3. Are there other entities that might help provide additional situational awareness?
4. Based upon current topology – what are the most essential data points
    a. Which of these essential data points is missing?
    b. What are the possible mitigations to acquire these essential data points?
5. What other mechanisms can be used to gain some visibility of the system, no matter how limited or rudimentary?

## Financing

1. What funding is available to support continued operations in the short term? How will operations be funded in the long term?
2. What funding can be shifted away from low and medium priority projects given the new normal configuration?
3. How will employees be paid if electronic transactions are not available?
4. How will customers pay bills if electronic transactions are not available?
5. How will your revenue stream be impacted? Will customers be willing to pay given the expected decrease in reliability? Will customers be able to pay given the expected economic impacts?
6. How widespread is the event? How much state or provincial aid will be available? Is federal assistance available?

# Appendix 6: NERC SIRTF Roster

| | | | |
|---|---|---|---|
| **Chairman** | Tom Bowe<br>Executive Director of Compliance | PJM Interconnection, L.L.C.<br>955 Jefferson Avenue<br>Valley Forge Corporate Center<br>Norristown, Pennsylvania 19403-2497 | (610) 666-4776<br>(610) 666-4287 Fx<br>bowet@pjm.com |
| **Vice Chairman** | Paul B. Johnson, P.E.<br>Managing Director - Transmission Operations | American Electric Power<br>8400 Smith's Mill Road<br>New Albany, Ohio 43054 | (614) 413-2200<br>(614) 413-2652 Fx<br>pbjohnson@aep.com |
| | Sandy Bacik<br>Principal Consultant | EnerNex Corp<br>6008 Tundra Lane<br>Fuquay Varina, North Carolina 27526 | (865) 696-4470<br>sandy.bacik@enernex.com |
| | Emanuel Bernabeu<br>Engineer III | Dominion Technical Solutions, Inc.<br>2400 Grayland Avenue<br>Richmond, Virginia 23220 | (804) 432-8780<br>emanuel.e.bernabeu@dom.com |
| | Julie Couillard<br>Director | CTC Cable Corporation<br>2026 McGaw Avenue<br>Irvine, California 92614 | (949) 428-8500<br>(949) 428-8515 Fx<br>jcouillard@ctccable.com |
| | Sean Eagleton<br>Section Manager | Con Edison<br>4 Irving Place<br>New York, New York 10003 | (212) 460-2898<br>(212) 529-4828 Fx<br>eagletons@coned.com |
| | Ian S Grant<br>Senior Manager, NERC Planning Coordinator | Tennessee Valley Authority<br>1101 Market Street MR-5G-C<br>Chattanooga, Tennessee 37402-2801 | (423) 751-8721<br>isgrant@tva.gov |
| | David Grubbs<br>Director of Regulatory Affairs and Compliance | City of Garland<br>217 N. 5th St.<br>Garland, Texas 75040 | (214) 802-9045<br>(972) 205-2822 Fx<br>dgrubbs@garlandpower-light.org |
| | Jose Guzman<br>Junior Policy Analyst - Government Services Division | Schweitzer Engineering Laboratories, Inc. | (703) 647-6241<br>(703) 647-6259 Fx<br>jose_guzman@selgs.com |
| | Frederick P. Heller<br>Engineer/Analyst | U.S. Department of Defense<br>18372 Frontage Road<br>Suite 318<br>Dahlgren, Virginia 22448 | (540) 653-2929<br>(540) 284-0143 Fx<br>frederick.heller@navy.mil |
| | Bradley Hofferkamp<br>Senior Analyst | PJM Interconnection, L.L.C.<br>955 Jefferson Avenue<br>Norristown, Pennsylvania 19403 | (610) 666-4688<br>(610) 666-4287 Fx<br>hoffeb@pjm.com |

| | | |
|---|---|---|
| Nicholas Ingman<br>Manager, Operational Excellence | Independent Electricity System Operator<br>655 Bay Street<br>Suite 410<br>Toronto, Ontario M5G 2K4 | (905) 855-6108<br>(905) 855-6129 Fx<br>nicholas.ingman@ieso.ca |
| Wallace Jensen<br>Director Electrical Engineering | Emprimus<br>1660 South Highway 100<br>Minneapolis, Minnesota 55416 | (651) 341-2090<br>(952) 545-2216 Fx<br>wjensen@emprimus.com |
| Michael D. Johnson<br>Lead Engineer | Florida Power & Light Co.<br>700 Universe Boulevard<br>TLD/JB<br>Juno Beach, Florida 33408 | (561) 691-7548<br>(561) 694-4161 Fx<br>mike_johnson@fpl.com |
| Miles Keogh<br>Director of Grants and Research | National Association of Regulatory Utility Commissioners<br>1101 Vermont Avenue N.W.<br>Suite 200<br>Washington, D.C. 20005 | (202) 898-2217 |
| Matthew Light<br>Infrastructure Systems Analyst | Department of Energy<br>1000 Independence Ave., SW<br>Washington, D.C. 20585 | (202) 316-5115<br>matthew.light@hq.doe.gov |
| Toni Lineberger<br>NERc CIP Program Manager | U.S. Bureau of Reclamation<br>P.O. Box 25007 (84-45000)<br>Denver, Colorado 80225-0007 | (303) 445-2912<br>(303) 445-6573 Fx<br>tlineberger@usbr.gov |
| Matthew Luallen<br>Consultant | Sph3r3, LLC<br>19873 Oakwood Drive<br>Suite A<br>Bloomington, Illinois 61705 | (312) 375-4715<br>m@sph3r3.com |
| Michael Lynch<br>Chief Security Officer, Corporate Security and Investigations | Detroit Edison Company<br>One Energy Plaza<br>Detroit, Michigan 48335 | (313) 235-7733<br>(313) 965-3853 Fx<br>lynchm@dteenergy.com |
| Patricia E Metro<br>Manager, Transmission and Reliability Standards | National Rural Electric Cooperative Association<br>4301 Wilson Blvd.<br>Mail Code EP11-253<br>Arlington, Virginia 22203 | (703) 907-5817<br>(703) 907-5517 Fx<br>patti.metro@nreca.coop |
| Philip Mihlmester<br>Senior Vice President | ICF International<br>9300 Lee Highway<br>Fairfax, Virginia 22031 | (703) 934-3560<br>(703) 934-3968 Fx<br>pmihlmester@icfi.com |
| John G. Mosier, Jr.<br>Assistant Vice President of System Operations | Northeast Power Coordinating Council, Inc.<br>1040 Avenue of the Americas, 10th Floor<br>New York, New York 10018-3703 | (212) 840-1070<br>(212) 302-2782 Fx<br>jmosier@npcc.org |

| | | | |
|---|---|---|---|
| | Gale Nordling<br>President/CEO/Consultant | Emprimus<br>1660 S. Hwy 100, Sutie 130<br>Minneapolis, Minnesota 55416 | 952-545-2051<br>952-545-2216 Fx<br>gnordling@emprimus.com |
| | Steven Norris<br>Director Transmission Operations | APS<br>502 S. 2nd Avenue<br>M.S. 2259<br>Phoenix, Arizona 85003 | (602) 250-1644<br>(602) 250-1155 Fx<br>Steven.Norris@aps.com |
| | Thomas V. Pruitt<br>Consulting Engineer | Duke Energy Carolina<br>526 South Church Street<br>Charlotte, North Carolina 28202-1006 | (704) 382-4676<br>(704) 382-3230 Fx<br>tom.pruitt@duke-energy.com |
| | Michael L. Puscas<br>Manager Critical Infrastructure Protection | Northeast Utilities<br>107 Selden Street<br>Berlin, Connecticut 06037 | (860) 665-2615<br>(860) 665-6001 Fx<br>puscaml@nu.com |
| | Ken Shortt<br>Director, Compliance | PacifiCorp<br>70 N. 200 East<br>American Fork, Utah 84003 | (801) 756-1237<br>(801) 756-1318 Fx<br>ken.shortt@pacificorp.com |
| | Michael T. Tallent<br>Manager Cyber Security Solutions | Tennessee Valley Authority<br>1101 N. Market Street<br>Chattanooga, Tennessee 37402 | (423) 751-3413<br>mttallent@tva.gov |
| | Terry Volkmann<br>Consultant | Volkmann Consulting, Inc.<br>14240 55th Street, NE<br>St. Michael, Minnesota 55376 | (612) 419-0672<br>terrylvolkmann@gmail.com |
| | Luke Weber<br>Project Manager Operational Support | We Energies<br>W237 N1500 Busse Road<br>Waukesha, Wisconsin 53188 | (262) 544-7393<br>(262) 544-7099 Fx<br>luke.weber@we-energies.com |
| | Charles A. White<br>Vice President SCE&G Electric Transmission | South Carolina Electric & Gas Co.<br>220 Operations Way<br>Cayce, South Carolina 29033 | (803) 933-7242<br>(803) 933-7242 Fx<br>cwhite@scana.com |
| | Bruce Wollenberg<br>Professor | University of Minnesota<br>Keller Hall<br>200 Union Street S.E.<br>Minneapolis, Minnesota 55455 | (612) 625-4583<br>(612) 625-4583 Fx<br>wollenbe@umn.edu |
| | Bradley C. Young | LG&E and KU Services Company<br>TBD<br>Lexington, Kentucky 40507 | (859) 367-5703<br>(502) 217-2249 Fx<br>Brad.Young@lge-ku.com |
| **Observer** | David Batz<br>Manager, Cyber & Infrastructure Security | Edison Electric Institute<br>701 Pennsylvania Ave NW<br>Washington, D.C. 20004 | (202) 508-5064<br>(202) 508-5445 Fx<br>dbatz@eei.org |

| | | | |
|---|---|---|---|
| **Observer** | Steven Belle<br>Power Supply Reliability Specialist | South Carolina Electric & Gas Co.<br>601 Old Taylor Road<br>Cayce, South Carolina 29033 | (803) 217-1978<br>steven.belle@scana.com |
| **Observer** | Stuart J. Brindley<br>President | S. J. Brindley Consulting Inc.<br>4177 Vermont Cr.<br>Burlington, Ontario<br>Canada L7M 4A6 | (905) 464-4211<br>stuart.brindley@gmail.com |
| **Observer** | Larry Camm<br>Policy Analyst | Schweitzer Engineering Laboratories, Inc.<br>500 Montgomery Street<br>Suite 400<br>Alexandria, Virginia 22314 | (703) 647-6221<br>(703) 647-6259 Fx<br>larry_camm@selgs.com |
| **Observer** | David A. Casey<br>Security Lead | Consumers Energy<br>1935 West Parnall Road<br>Jackson, Mississippi 49201 | (517) 788-0956<br>dacasey@cmsenergy.com |
| **Observer** | Carl J. Eng<br>Manager, System Operations-Engineering | Dominion Virginia Power<br>Innsbrook Technical Center - 2 North<br>5000 Dominion Boulevard<br>Glen Allen, Virginia 23060-3308 | (804) 273-3305<br>(804) 273-2405 Fx<br>carl.eng@dom.com |
| | Thomas R. Flowers<br>President | Flowers Control Center Solutions<br>9338 Clark Road<br>Todd Mission, Texas 77363 | (936) 894-3649<br>flowersccs@att.net |
| **Observer** | Jeffrey Fuller<br>Corporate Security/CIPManager | Dayton Power & Light Co.<br>1065 Woodman Drive<br>Dayton, Ohio 45432 | (937) 259-7144<br>jeffrey.fuller@dplinc.com |
| **Observer** | John Helme<br>Technical Analyst | Utility Services, Inc.<br>25 Crossroads<br>Suite 201<br>Waterbury, Vermont 05676 | (802) 552-4022<br>(802) 214-8632 Fx<br>john.helme@utilitysvcs.com |
| **Observer** | Charles John Hookham<br>Vice President | HDR Engineering, Inc.<br>5405 Data Court<br>Ann Arbor, Michigan 48108 | (734) 332-6496<br>(734) 761-9881 Fx<br>chuck.hookham@hdrinc.com |
| **Observer** | Jennifer Hubbs<br>Infrastructure Policy Analyst | Homeland Security<br>Infrastructure and Reliability Division<br>Public Utility Commission of Texas | Jennifer.Hubbs@puc.state.tx.us |
| **Observer** | Anthony Jankowski<br>Manager, Electric System Operations | We Energies<br>W237 N1500 Busse Road<br>Waukesha, Wisconsin 53188 | (262) 544-7117<br>(262) 544-7099 Fx<br>tony.jankowski@we-energies.com |
| **Observer** | Jack Kerr<br>Consulting Engineer | Dominion Virginia Power<br>5000 Dominion Blvd.<br>IN-2N<br>Glen Allen, Virginia 23060 | (804) 273-3393<br>(804) 273-2405 Fx<br>jack.kerr@dom.com |

| | | | |
|---|---|---|---|
| **Observer** | Paul D. Kure<br>Senior Consultant, Resources | ReliabilityFirst Corporation<br>320 Springside Drive<br>Suite 300<br>Akron, Ohio 44333 | (330) 247-3057<br>(330) 456-3648 Fx<br>paul.kure@rfirst.org |
| **Observer** | Michael Mertz<br>FERC Regulatory Compliance | PNM Resources<br>Alvarado Square<br>Albuquerque , New Mexico 87158 | (505) 241-0676<br>michael.mertz@pnmresources.com |
| **Observer** | Melvin Miller<br>IASO/Wireless Analyst | Nulink Wireless, LLC<br>15483 Murray Hill<br>Detroit, Michigan 48227-1945 | (313) 350-9129<br>(313) 838-6669 Fx<br>techservices@nulinkwireless.com |
| **Observer** | Thomas Pearce<br>Senior Utility Specialist | Public Utilities Commission of Ohio<br>180 East Broad Street<br>Columbus, Ohio 43215 | (614) 466-1846<br>(614) 752-8353 Fx<br>thomas.pearce@puc.state.oh.us |
| **Observer** | Alan J Rivaldo<br>Cyber Security Analyst | Public Utility Commission of Texas<br>1701 N. Congress Ave.<br>Austin, Texas 78711-3326 | (512) 936-7162<br>(512) 936-7328 Fx<br>alan.rivaldo@puc.state.tx.us |
| **Observer** | Michael Sanders<br>Manager, Energy Management Systems Engineering | Southern Company<br>600 North 18th Street<br>7S8220<br>P.O. Box 2641<br>Brimingham, Alabama 35291 | (205) 257-3388<br>msander@southernco.com |
| **Observer** | Dan R Schoenecker<br>Vice President of Operations | Midwest Reliability Organization<br>2774 Cleveland Avenue North<br>Roseville, Minnesota 55113 | (651) 855-1753<br>(651) 632-8572 Fx<br>dr.schoenecker@midwestreliability.org |
| **Observer** | Jason Shaver<br>Reliability Standards and Performance Manager | American Transmission Company, LLC<br>W234 N2000 Ridgeway Pkwy. Ct.<br>Waukesha, Wisconsin 53187-0047 | (262) 506-6885<br>jshaver@atcllc.com |
| | Robert V. Snow, P.E.<br>Senior Electrical Engineer, Office of Electric Reliability | Federal Energy Regulatory Commission<br>888 First Street, NE<br>Room 91-13<br>Washington, D.C. 20426 | (202) 502-6716<br>robert.snow@ferc.gov |
| **Observer** | Ed Tymofichuk<br>Vice President, Transmission | Manitoba Hydro<br>820 Taylor Avenue<br>P.O. Box 7950<br>Winnipeg, Manitoba R3C 0J1 | (204) 360-4280<br>(204) 360-6149 Fx<br>tetymofichuk@hydro.mb.ca |
| **Observer** | Scott Watts<br>Senior Compliance Specialist | Duke Energy Carolina<br>526 South Church Street<br>Mail Code: EC02A<br>Charlotte, North Carolina 28202 | (704) 382-2260<br>(704) 382-6938 Fx<br>scott.watts@duke-energy.com |

| | | | |
|---|---|---|---|
| **Observer** | Bruce D. Wertz<br>Senior NERC Compliance Consultant | Public Service Electric and Gas Co.<br>P.O. Box 54865<br>Hurst, Texas 76054 | (817) 498-0310<br>(801) 383-9772 Fx<br>brucewertz@sbcglobal.net |
| **Observer** | Daniel J. Zaragoza<br>Director - Electric Distribution Operations | San Diego Gas & Electric<br>P.O. Box 129831<br>San Diego, California 92112-9831 | (619) 725-5171<br>(619) 725-5196 Fx<br>dzaragoz@semprautilities.com |
| **NERC Staff** | Brian M. Harrell<br>Manager of CIP Standards, Training, and Awareness | North American Electric Reliability Corporation<br>1120 G Street, N.W.<br>Suite 990<br>Washington, D.C. 20005-3801 | (202) 393-3998<br>(202) 393-3955 Fx<br>brian.harrell@nerc.net |
| **NERC Staff** | Jordan Erwin | North American Electric reliability Corporation<br>3353 Peachtree Rd, NE<br>Suite 600<br>Atlanta, GA | Jordan.Erwin@nerc.net |
| **NERC Staff** | Larry J Kezele<br>Manager of Operations | North American Electric Reliability Corporation<br>116-390 Village Boulevard<br>Princeton, New Jersey 08540-5721 | (609) 452-8060<br>(609) 452-9550 Fx<br>larry.kezele@nerc.net |

# Appendix 7: NERC SIRTF Report Drafting Team

2

| | | | |
|---|---|---|---|
| **Chairman** | Tom Bowe<br>Executive Director of Compliance | PJM Interconnection, L.L.C.<br>955 Jefferson Avenue<br>Valley Forge Corporate Center<br>Norristown, Pennsylvania 19403-2497 | (610) 666-4776<br>(610) 666-4287 Fx<br>bowet@pjm.com |
| **Vice Chairman** | Paul B. Johnson, P.E.<br>Managing Director - Transmission Operations | American Electric Power<br>8400 Smith's Mill Road<br>New Albany, Ohio 43054 | (614) 413-2200<br>(614) 413-2652 Fx<br>pbjohnson@ aep.com |
| | Sandy Bacik<br>Principal Consultant | EnerNex Corp<br>6008 Tundra Lane<br>Fuquay Varina, North Carolina 27526 | (865) 696-4470<br>sandy.bacik@ enernex.com |
| | Emanuel Bernabeu<br>Engineer III | Dominion Technical Solutions, Inc.<br>2400 Grayland Avenue<br>Richmond, Virginia 23220 | (804) 432-8780<br>emanuel.e.bernabeu@ dom.com |
| | Ian S Grant<br>Senior Manager, NERC Planning Coordinator | Tennessee Valley Authority<br>1101 Market Street MR-5G-C<br>Chattanooga, Tennessee 37402-2801 | (423) 751-8721<br>isgrant@tva.gov |
| | David Grubbs<br>Director of Regulatory Affairs and Compliance | City of Garland<br>217 N. 5th St.<br>Garland, Texas 75040 | (214) 802-9045<br>(972) 205-2822 Fx<br>dgrubbs@ garlandpower-light.org |
| | Bradley Hofferkamp<br>Senior Analyst | PJM Interconnection, L.L.C.<br>955 Jefferson Avenue<br>Norristown, Pennsylvania 19403 | (610) 666-4688<br>(610) 666-4287 Fx<br>hoffeb@pjm.com |
| | Nicholas Ingman<br>Manager, Operational Excellence | Independent Electricity System Operator<br>655 Bay Street<br>Suite 410<br>Toronto, Ontario M5G 2K4 | (905) 855-6108<br>(905) 855-6129 Fx<br>nicholas.ingman@ ieso.ca |
| | Miles Keogh<br>Director of Grants and Research | National Association of Regulatory Utility Commissioners<br>1101 Vermont Avenue N.W.<br>Suite 200<br>Washington, D.C. 20005 | (202) 898-2217 |

| | | |
|---|---|---|
| Michael Lynch<br>Chief Security Officer,<br>Corporate Security and<br>Investigations | Detroit Edison Company<br>One Energy Plaza<br>Detroit, Michigan 48335 | (313) 235-7733<br>(313) 965-3853 Fx<br>lynchm@dteenergy.com |
| Sean Eagleton<br>Section Manager | Con Edison<br>4Irving Place<br>New York, New York 10003 | ((212) 460-2898<br>(212) 529-4828 Fx<br>eagletons@coned.com |
| Michael D. Johnson<br>Lead Engineer | Florida Power & Light Co.<br>700 Universe Boulevard<br>TLD/JB<br>Juno Beach, Florida 33408 | (561) 691-7548<br>(561) 694-4161 Fx<br>Mike_johnson@fpl.com |
| Patricia E Metro<br>Manager, Transmission<br>and Reliability Standards | National Rural Electric Cooperative<br>Association<br>4301 Wilson Blvd.<br>Mail Code EP11-253<br>Arlington, Virginia 22203 | (703) 907-5817<br>(703) 907-5517 Fx<br>patti.metro@nreca.coop |
| Philip Mihlmester<br>Senior Vice President | ICF International<br>9300 Lee Highway<br>Fairfax, Virginia 22031 | (703) 934-3560<br>(703) 934-3968 Fx<br>pmihlmester@icfi.com |
| Steven Norris<br>Director Transmission<br>Operations | APS<br>502 S. 2nd Avenue<br>M.S. 2259<br>Phoenix, Arizona 85003 | (602) 250-1644<br>(602) 250-1155 Fx<br>Steven.Norris@aps.com |
| Thomas V. Pruitt<br>Consulting Engineer | Duke Energy Carolina<br>526 South Church Street<br>Charlotte, North Carolina 28202-1006 | (704) 382-4676<br>(704) 382-3230 Fx<br>tom.pruitt@<br>duke-energy.com |
| Michael L. Puscas<br>Manager Critical<br>Infrastructure Protection | Northeast Utilities<br>107 Selden Street<br>Berlin, Connecticut 06037 | (860) 665-2615<br>(860) 665-6001 Fx<br>puscaml@nu.com |
| Ken Shortt<br>Director, Compliance | PacifiCorp<br>70 N. 200 East<br>American Fork, Utah 84003 | (801) 756-1237<br>(801) 756-1318 Fx<br>ken.shortt@pacificorp.com |
| Luke Weber<br>Project Manager<br>Operational Support | We Energies<br>W237 N1500 Busse Road<br>Waukesha, Wisconsin 53188 | (262) 544-7393<br>(262) 544-7099 Fx<br>luke.weber@we-<br>energies.com |

| | | | |
|---|---|---|---|
| | Bradley C. Young | LG&E and KU Services Company<br>TBD<br>Lexington, Kentucky 40507 | (859) 367-5703<br>(502) 217-2249 Fx<br>Brad.Young@lge-ku.com |
| **Observer** | Stuart J. Brindley<br>President | S. J. Brindley Consulting Inc.<br>4177 Vermont Cr.<br>Burlington, Ontario<br>Canada L7M 4A6 | (905) 464-4211<br>stuart.brindley@gmail.com |
| **Observer** | Jennifer Hubbs<br>Infrastructure Policy Analyst | Homeland Security<br>Infrastructure and Reliability Division<br>Public Utility Commission of Texas | Jennifer.Hubbs@puc.state.tx.us |
| **Observer** | Jack Kerr<br>Consulting Engineer | Dominion Virginia Power<br>5000 Dominion Blvd.<br>IN-2N<br>Glen Allen, Virginia 23060 | (804) 273-3393<br>(804) 273-2405 Fx<br>jack.kerr@dom.com |
| **NERC Staff** | Jordan Erwin | North American Electric reliability Corporation<br>3353 Peachtree Rd, NE<br>Suite 600<br>Atlanta, GA | Jordan.Erwin@nerc.net |
| **NERC Staff** | Larry J Kezele<br>Manager of Operations | North American Electric Reliability Corporation<br>116-390 Village Boulevard<br>Princeton, New Jersey 08540-5721 | (609) 452-8060<br>(609) 452-9550 Fx<br>larry.kezele@nerc.net |

Agenda Item 12
Board of Trustees Meeting
May 9, 2012

# Cyber Attack Task Force Report

## Action

Review and accept the *Cyber Attack Task Force* report prepared as part of the *Coordinated Action Plan*[1] to address high-impact, low-frequency (HILF) risks.

## Background

To help the electricity industry better understand the HILF risks, NERC and the U.S. Department of Energy (DOE) issued a report titled, "*High-Impact, Low-Frequency Event Risk to the North American Bulk Power System.*"[2] In November 2010, the NERC Board of Trustees approved a Coordinated Action Plan under the leadership of the NERC Technical Committees to establish four task forces to address this work. One of these task forces, the Cyber Attack Task Force addressed a coordinated cyber attack scenario.

The *Cyber Attack Task Force* R*eport* describes what aspects of cybersecurity would be particularly challenged through a coordinated cyber attack and provides options to protect the assets, systems, and networks that are critical to the reliable operation of the bulk power system. The report provides recommendations to help entities prevent, deter, detect, and respond to a coordinated cyber attack and further enhance the resilience of the bulk power system. Chapters include:

- Adversaries, motivations and capabilities
- What a coordinated attack looks like?
- Detection capabilities
- Deterrence and defensive capabilities
- Responses to attack

While many of the recommendations are intended for entity consideration, the NERC Critical Infrastructure Protection Committee has identified several requiring further development. These activities will be coordinated with the other Technical Committees and the Electricity Sub-sector Coordinating Council.

The Cyber Attack Task Force report has been reviewed and approved by the Critical Infrastructure Protection Committee. The Operating Committee, Planning Committee, and Electricity Sub-sector Coordinating Council have also endorsed the report.

---

[1] Ref. Coordinated Action Plan
http://www.nerc.com/docs/ciscap/Critical_Infrastructure_Strategic_Initiatives_Coordinated_Action_Plan_BOT_Apprd_11-2010.pdf

[2] Ref. High Impact Low Frequency report http://www.nerc.com/files/HILF.pdf

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda Item 12
Attachment 1
Board of Trustees Meeting
May 9, 2012

# Cyber Attack Task Force

## Final Report

## March 2012

RELIABILITY | ACCOUNTABILITY



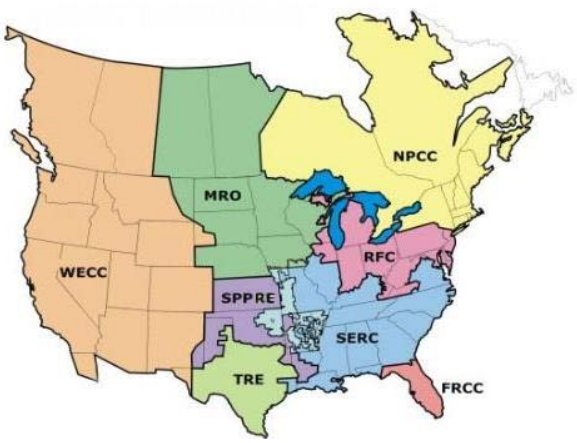



3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# NERC's Mission

The North American Electric Reliability Corporation (NERC) is an international regulatory authority established to enhance the reliability of the bulk power system (BPS) in North America. NERC develops and enforces Reliability Standards; assesses adequacy annually via a ten-year forecast and winter and summer forecasts; monitors the BPS; and educates, trains, and certifies industry personnel. NERC is the electric reliability organization (ERO) for North America, subject to oversight by the U.S. Federal Energy Regulatory Commission (FERC) and governmental authorities in Canada.[1]

NERC assesses and reports on the reliability and adequacy of the North American BPS, which is divided into eight Regional areas, as shown on the map and table below. The users, owners, and operators of the BPS within these areas account for virtually all the electricity supplied in the U.S., Canada, and a portion of Baja California Norte, México.




| Table A: NERC Regional Entities | |
|---|---|
| **FRCC**<br>Florida Reliability Coordinating Council | **SERC**<br>SERC Reliability Corporation |
| **MRO**<br>Midwest Reliability Organization | **SPP**<br>Southwest Power Pool, Incorporated |
| **NPCC**<br>Northeast Power Coordinating Council | **TRE**<br>Texas Reliability Entity |
| **RFC**<br>Reliability*First* Corporation | **WECC**<br>Western Electricity Coordinating Council |

**Note:** *The highlighted area between SPP and SERC denotes overlapping regional area boundaries: For example, some load serving entities participate in one region and their associated transmission owner/operators in another.*

[1] As of June 18, 2007, the U.S. Federal Energy Regulatory Commission (FERC) granted NERC the legal authority to enforce Reliability Standards with all U.S. users, owners, and operators of the bulk power system, and made compliance with those standards mandatory and enforceable. In Canada, NERC presently has memorandums of understanding in place with provincial authorities in Ontario, New Brunswick, Nova Scotia, Québec, and Saskatchewan, and with the Canadian National Energy Board. NERC standards are mandatory and enforceable in Ontario and New Brunswick as a matter of provincial law. NERC has an agreement with Manitoba Hydro making reliability standards mandatory for that entity, and Manitoba has recently adopted legislation setting out a framework for standards to become mandatory for users, owners, and operators in the province. In addition, NERC has been designated as the "electric reliability organization" under Alberta's Transportation Regulation, and certain reliability standards have been approved in that jurisdiction; others are pending. NERC and NPCC have been recognized as standards-setting bodies by the Régie de l'énergie of Québec, and Québec has the framework in place for reliability standards to become mandatory. NERC's reliability standards are also mandatory in Nova Scotia and British Columbia. NERC is working with the other governmental authorities in Canada to achieve equivalent recognition.

# Table of Contents


Table of Contents ..... iii

Executive Summary ..... 1

Defining a Coordinated Cyber Attack ..... 2

Enhancing Resilience ..... 2

Key Recommendations ..... 4

Introduction ..... 1

Approach ..... 1

Adversaries, Motivations, and Capabilities ..... 3

Insiders ..... 9

What a Coordinated Attack Looks Like ..... 10

Prerequisites of an Attack ..... 11

Coordinated Cyber Attack Scenario and Assumptions: ..... 12

Detection Capabilities ..... 14

Global Monitoring of Internet Activity ..... 15

Federal Initiatives ..... 15

Peer Groups ..... 15

Alerts ..... 16

Precursors and Local Indicators ..... 16

Deterrence / Defensive Capabilities ..... 18

Education / Training ..... 20

Incident Response Plans ..... 20

Information Sharing ..... 23

Post-event analysis (Lessons Learned) ..... 25
Procurement Language ..... 26
Independent Testing of Systems and Equipment ..... 26
Responses to Attack ..... 27
Background ..... 27
Isolation and Survivability ..... 28
Restoration ..... 29
Forensics ..... 29
Recommendations ..... 33
Outreach ..... 38
References ..... 40
Appendix A: Introduction to Attack Trees ..... 42
Appendix B: Resources ..... 44
Appendix C: Cyber Event Scenarios for System Operators ..... 46
Overview ..... 46
Social Engineering – false request or information to operator ..... 47
Description ..... 47
Implementation ..... 47
Recognition ..... 47
Response ..... 47
Denial of Service – EMS network ..... 48
Description ..... 48
Implementation ..... 48
Recognition ..... 48
Response ..... 48

Denial of Service – EMS applications halted ..... 49
Description ..... 49
Implementation ..... 49
Recognition ..... 49
Response ..... 49
Spurious Device Operations ..... 50
Description ..... 50
Implementation ..... 50
Recognition ..... 50
Response ..... 50
Realistic Data Injection ..... 51
Description ..... 51
Implementation ..... 51
Recognition ..... 51
Response ..... 51
Appendix D: Acronyms ..... 53
Appendix E: Potential Responses to an Attack ..... 55
Appendix F: Precursors and Local Indicators of an Unusual Event ..... 59
Appendix G: Isolation and Survivability Tactics ..... 61
Appendix H: Defensive Capabilities ..... 63
Appendix I: CRPA Observations and Recommendations ..... 65
Appendix J: Case Studies ..... 69
Appendix K: Task Force Goals and Objectives ..... 73

# Executive Summary

The North American bulk power system (BPS) is one of the most critical of infrastructures and is vital to society in many ways. The electric power industry has well-established planning and operating procedures in place to address the "normal" emergency events (e.g., hurricanes, tornadoes, and ice storms) that occur from time to time and disrupt electricity reliability[2]. However, the electricity industry has much less experience with planning for and responding to high-impact events that have a low probability of occurring or have not yet occurred.

To help the electricity industry better understand these low probability risks, in June 2010, NERC and the U.S. Department of Energy issued a report titled, "*High-Impact, Low-Frequency Event Risk to the North American BPS*"[3]. Subsequently, the NERC board approved a *Coordinated Action Plan*[4] under the leadership of the NERC Technical Committees to establish four Task Forces needed to address this work. This report provides the conclusions of one of them – the Cyber Attack Task Force (CATF).

This effort has challenged the CATF in a number of ways.

- The industry already recognizes cybersecurity risks, in part by addressing the requirements of the NERC Critical Infrastructure Protection standards CIP-002 – CIP009. As a result, some entities may feel they are already prepared.
- While entities are challenged on a daily basis by new cybersecurity vulnerabilities and attempted intrusions, a successful coordinated cyber attack affecting the North American bulk power system has not yet occurred. Therefore, it is difficult to confidently determine the potential impact on the reliability of the bulk power system and what additional actions may need to be taken.
- Through the course of its work, the CATF shared sensitive information related to threats, vulnerabilities, and impacts. While this information was essential to develop the recommendations found in this report, the CATF could not include these details in this public report.

The CATF has recognized these challenges and through this report offers electricity industry owners and operators (entities) a number of suggestions and recommendations. The report highlights 8 key recommendations that will help entities prevent, deter, detect, and respond to a coordinated cyber attack and further enhance the resilience of the bulk power system.

[2] Ref. NERC Adequate Level of Reliability http://www.nerc.com/docs/standards/Adequate_Level_of_Reliability_Defintion_05052008.pdf
[3] Ref. High Impact Low Frequency report http://www.nerc.com/files/HILF.pdf
[4] Ref. Coordinated Action Plan http://www.nerc.com/docs/ciscap/Critical_Infrastructure_Strategic_Initiatives_Coordinated_Action_Plan_BOT_Apprd_11-2010.pdf

## Defining a Coordinated Cyber Attack

The CATF adopted an approach that assumed a coordinated cyber attack has occurred. It did not attempt to determine the likelihood of such an attack either today or at some time in the future. The CATF also did not attempt to determine which functional entities[5] might be more susceptible or vulnerable to attack. The CATF determined that it was more important to assume that an attack has occurred, and consider what actions need to be taken to prevent, deter, detect, and respond.

The CATF adopted the following scenario to guide their work:

An organized cyber disruption disables or impairs the integrity of multiple control systems, or intruders take operating control of portions of the bulk power system such that generation or transmission system are damaged or operated improperly.

1. Transmission Operators report unexplained and persistent breaker operation that occurs across a wide geographic area (i.e., within state/province and neighboring state/province).
2. Communications are disrupted, disabling Transmission Operator voice and data with half their neighbors, their Reliability Coordinator, and Balancing Authority.
3. Loss of load and generation causes widespread bulk power system instability, and system collapse within state/province and neighboring state(s)/province(s). Portions of the bulk power system remain operational.
4. Blackouts in several regions disrupt electricity supply to several million people.

## Enhancing Resilience

"Resilience" is generally defined as the ability to recover or adjust to misfortune or change. More specifically, the ASIS SPC.1-2009 standard on Organizational Resilience[6] defines, "Resilience is the ability of an organization to resist being affected by an event or the ability to return to an acceptable level of performance in an acceptable period of time after being affected by an event." In recent years, in the context of strategies needed to enhance the reliable operation of critical infrastructures, resilience has come to be valued as much as protection. But what exactly is meant by resilient critical infrastructures? How is resilience measured and how much is needed?

**Infrastructure Resilience**

Infrastructure resilience is the ability to reduce the magnitude and/or duration of disruptive events. The effectiveness of a resilient infrastructure or enterprise depends upon its ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event.

[5] E.g., Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator

[6] ASIS SPC.1-2009, http://www.asisonline.org/guidelines/ASIS_SPC.1-2009_Item_No._1842.pdf

In October 2010, a study group[7] of the National Infrastructure Advisory Council issued its report "A Framework for Establishing Critical Infrastructure Resilience Goals[8]". The report provides a broader construct for resilience originally conceived by resilience expert Stephen Flynn. The construct is based on four features organized in a sequence of events prior to, during, and after a severe emergency event.

NERC's Severe Impact Resilience Task Force[9] has proposed a number of recommendations and considerations from the perspective of the reliable operation of the bulk power system, regardless of the cause of the emergency event. The CATF has focused its efforts on the measures that can be taken to prevent, deter, detect, and respond to a coordinated cyber attack from the perspective of the assets, systems, and networks used to monitor, operate and control the bulk power system such as Supervisory Control and Data Acquisition (SCADA), energy management systems (EMS), and generation management systems (GMS).

| Prevent Deter | Detect | Respond |
|---|---|---|
| ✔ | ✔ | ✔ |

[7] The NIAC Study Group included a number of representatives from the electricity industry, including several members of the Electricity Sub-sector Coordinating Council.

[8] Ref. http://www.dhs.gov/xlibrary/assets/niac/niac-a-framework-for-establishing-critical-infrastructure-resilience-goals-2010-10-19.pdf

[9] Ref. report *Severe Impact Resilience: Considerations and Recommendations* http://www.nerc.com/filez/sirtf.html

## Key Recommendations

The CATF has considered what aspects of cybersecurity would be particularly challenged through a coordinated cyber attack and considered options to protect the assets, systems, and networks that are critical to the reliable operation of the bulk power system. The following summarizes the key recommendations of this report that are described in the body of the report in further detail. While some of the recommendations identify areas that require further study coordinated through NERC's Technical Committees, others recommend that entities take certain actions to enhance their ability to prevent, deter, detect, and respond to a coordinated cyber attack.

1. **Continue Work on Attack Trees** – A separate working group under NERC's Critical Infrastructure Protection Committee (CIPC) should be established to further develop attack trees with the goal of populating the nodes, performing detailed analysis, and providing recommendations to industry from this analysis.

| Prevent Deter | Detect | Respond |
|---|---|---|
| ✔ | | |

2. **Continue to Develop Security and Operations Staff Skills to Address Increasingly Sophisticated Cyber Threats** – Entities should develop strategies to attract cybersecurity talent and further develop the knowledge, skills, and abilities of existing staff to address increasingly sophisticated cyber threats and technology challenges that accompany grid modernization efforts.

| Prevent Deter | Detect | Respond |
|---|---|---|
| ✔ | ✔ | |

3. **Augment Operator Training with Cyber Attack Scenarios** – Several cyber attack scenario templates are included in Appendix C of this report. Entities should consider enhancing training to incorporate cyber attacks that raise operator awareness for a coordinated cyber attack.

| Prevent Deter | Detect | Respond |
|---|---|---|
| | ✔ | ✔ |

4. **Conservative Operations** – The *Severe Impact Resilience: Considerations and Recommendations* report prepared by the Severe Impact Resilience Task Force offers a number of recommendations regarding conservative operations. Entities should review this report and consider the practices that would apply to a coordinated cyber attack scenario.

| Prevent Deter | Detect | Respond |
|---|---|---|
| | | ✔ |

5. **Conduct Transmission Planning Exercise** – Working with Department of Energy's national labs and a pilot group of electricity utilities, a transmission planning exercise should be coordinated by NERC to simulate a coordinated cyber attack that creates a cascading event and blackout. The event should attempt to

| Prevent Deter | Detect | Respond |
|---|---|---|
| ✔ | | ✔ |

identify the point at which current transmission planning criteria is exceeded and allow for dynamic resilience and mitigation exercise.

6. **Continue to Endorse Existing NERC Initiatives That Help Entities Prepare for and Respond to a Cyber Attack –** Entities should consider greater participation and support of NERC's initiatives that can help the industry with cyber attack identification, defense, and response. Three examples are**:**

| Prevent Deter | Detect | Respond |
|---|---|---|
| ✔ | | ✔ |

   - Cyber Readiness Preparedness Assessments (CRPA)
   - NERC Grid Security Exercise
   - ES-ISAC portal and collaboration

7. **Increase Awareness for Department of Energy Initiatives –** The Energy Sector Control Systems Working Group recently released the *Roadmap to Achieve Energy Delivery System Cybersecurity*. NERC's Critical Infrastructure Protection Committee should review these initiatives and support further development and implementation of these initiatives to help ensure protection of critical systems supporting bulk power system.

| Prevent Deter | Detect | Respond |
|---|---|---|
| ✔ | | |

8. **Continue to Extend Public / Private Partnership –** Entities should review their cyber incident response plans to ensure an appropriate mix of operational, security, technical, and managerial staff are aware of how they need to evaluate, respond, and make timely decisions to slow or stop a coordinated cyber attack. This could include participating in ES-ISAC and government sponsored programs to share security-sensitive or classified information regarding cyber threats and vulnerabilities. In the event standard information sharing protocols are unavailable (e.g. between utilities, ES-ISAC, etc), alternative methods need to be defined.

| Prevent Deter | Detect | Respond |
|---|---|---|
| | | ✔ |

## Introduction

A highly coordinated and structured cyber, physical, or blended attack on the bulk power system, could result in long-term, difficult to repair damage to key system components in multiple simultaneous or near-simultaneous strikes. Unlike "traditional," probabilistic threats (i.e. severe weather, human error, and equipment failure), a coordinated attack would involve an intelligent adversary with the capability to bring the system outside the protection provided by current planning and operating practices. An outage could result with the potential to affect a wide geographic area and cause large population centers to lose power for extended periods.

Security practitioners have always found it difficult to provide convincing demonstrations that the countermeasures they deploy are effective in preventing an attack. It is fundamentally difficult to provide conclusive proof of why an event did not happen.

Though no such attack has been successfully executed to date on the North American grid, the bulk power system remains an attractive target for acts of both physical and cyber terrorism. Goals of these adversaries are wide-ranging and could involve extortion, societal damage, and, in the case of state-sponsored attacks, acts of war.[10]

The purpose of the Cyber Attack Task Force (CATF) is to consider the impact of a coordinated cyber attack on the reliable operation of the bulk power system, and identify opportunities to enhance existing protection, resilience, and recovery capabilities.[11]

## Approach

The scenario itself allows for a consequence driven approach. The premise is that the outcome of the attack has unacceptable consequences. It is impossible to consider and evaluate every type of risk to the bulk power system. As a result, we focus on the risks that matter as defined by consequences.

To address the objectives and goals the task force utilized a combination of industry expertise (both IT and operational), discussions with federal agencies and law enforcement, and incorporated lessons learned from current and past initiatives.

In addition, the task force attempted to capture and catalog different attack paths that could be utilized to create specific results from the given scenario. In other words, leverage intelligence from the community of interest to define what a coordinated attack would look like. We started to capture the many steps associated with different attack paths in what is called an Attack Tree.

Security practitioners have always found it difficult to provide convincing demonstrations that the countermeasures they deploy are effective in preventing an attack. It is fundamentally

[10] High-Impact Low-Frequency Event Risk to the North America Bulk Power System (June 2010)

[11] NERC Scope – Cyber Attack Task Force

difficult to provide conclusive proof of why an event did not happen. This is one of the reasons that the task force did not focus on the adequacy of the NERC CIP standards to prevent a coordinated cyber attack. Instead the task force included references to the CIP standards, both approved and under development, along with other tools, processes and recognized standards and guidelines from ISA and NIST as part of the industry's defensive capabilities to combat a coordinated attack. This problem is exacerbated further when dealing with unprecedented or infrequent events. Yet the threat environment going forward is likely to demand and feature a capability to prevent attacks or mitigate their impacts through coordinated response and effective information sharing.

Attack Trees are constructed from the point of view of the adversary. Creating good Attack Trees requires "*we think like an attacker".* The task force did not focus on how to defend a utility's systems when the model was originally started. Instead the task force thought about what an attacker wants to achieve and ways to accomplish it. In this case, the attacker wants to achieve blackouts in several regions disrupting distribution supply to several million people[12]. This approach was useful as those engaged for the project have a very good understanding of the mechanics associated with the elements required to severely impact the bulk power system.

One of the constraints encountered by the task force is the sensitivity of the information being gathered and determining a way to translate from sensitive to public so the larger industry can benefit from subject matter expert recommendations. This situation manifested itself on numerous occasions from discussions with law enforcement and the intelligence community on threat actor capabilities to detailed steps captured in the Attack Trees.

[12] Ingoldsby, Terrance R., 2010 Amenza Technologies Limited: Attack Tree-based Threat Risk Analysis, page 2

# Adversaries, Motivations, and Capabilities

In the cyber realm, the ability to climb the line of consequences versus likelihood is very different than physical risks. The resources and requirements to execute an attack that can cause a catastrophic effect are much more available, and is really a matter of how an adversary chooses to manifest attack type or target selection. Attacker sophistication should be measured less in technical "craft" skills and more in terms of intent fitted to environment. Disrupting or hijacking system resources is one thing….destroying trust and confidence by poisoning data or compromising privacy information is another. [13]

The defense against a cyber attack scenario will include physical as well as cyber-based elements, some procedural and others involving strategic investments in physical infrastructure, capabilities, spares, and training.

There are a variety of interventions or attacks that adversaries might contemplate and each carries unique defensive planning and resource requirements. A holistic, tailored defensive posture prioritizes and balances these to achieve the optimal cost/benefit value delivery for the defender. The defense against a cyber attack scenario will include physical as well as cyber-based elements, some procedural and others involving strategic investments in physical infrastructure, capabilities, spares, and training.

There does not appear to be a universally accepted classification or grouping of advisories. Work done by the FBI, DHS, NERC, and security consulting groups with many years of experience do not all agree what the threat actor categories should be. In this report you will see references to Groups 1-3; High, Medium and Low Threat Actors; Criminals, Hackers, Hacktivists, Nation States, Organized Crime, Structured Criminals, Terrorists, and Foreign States. As you read about these groups from the different sources, the focus should be on intent and capabilities to conduct a coordinated cyber attack on the bulk power system. But also recognize that intent and capabilities can change very quickly.

Training offered as part of the Department of Homeland Security's Control System Security Program (CSSP) discusses three categories of threat actors: Group 1 Main Stream Threats, Group 2 Organized Threats, and Group 3 Terrorist and Nation State Threats

Group 1 is the largest threat group although they are typically not organized. These types of threats often compete for notoriety, fame, or personal research and members of this group can be anyone. There is some element of minor organization in this group, but historically the members of this group are lone actors. Often, as they become better known, and there is an increase in the demand for their services, both legal and illegal, their activity increases. It needs to be understood that there are capabilities within this group that can be used in the activities performed by group 2 and group 3 threat actors. Just because group 1 actors are not organized

[13] Likelihood and Consequences Chart – Mike Assante 2011

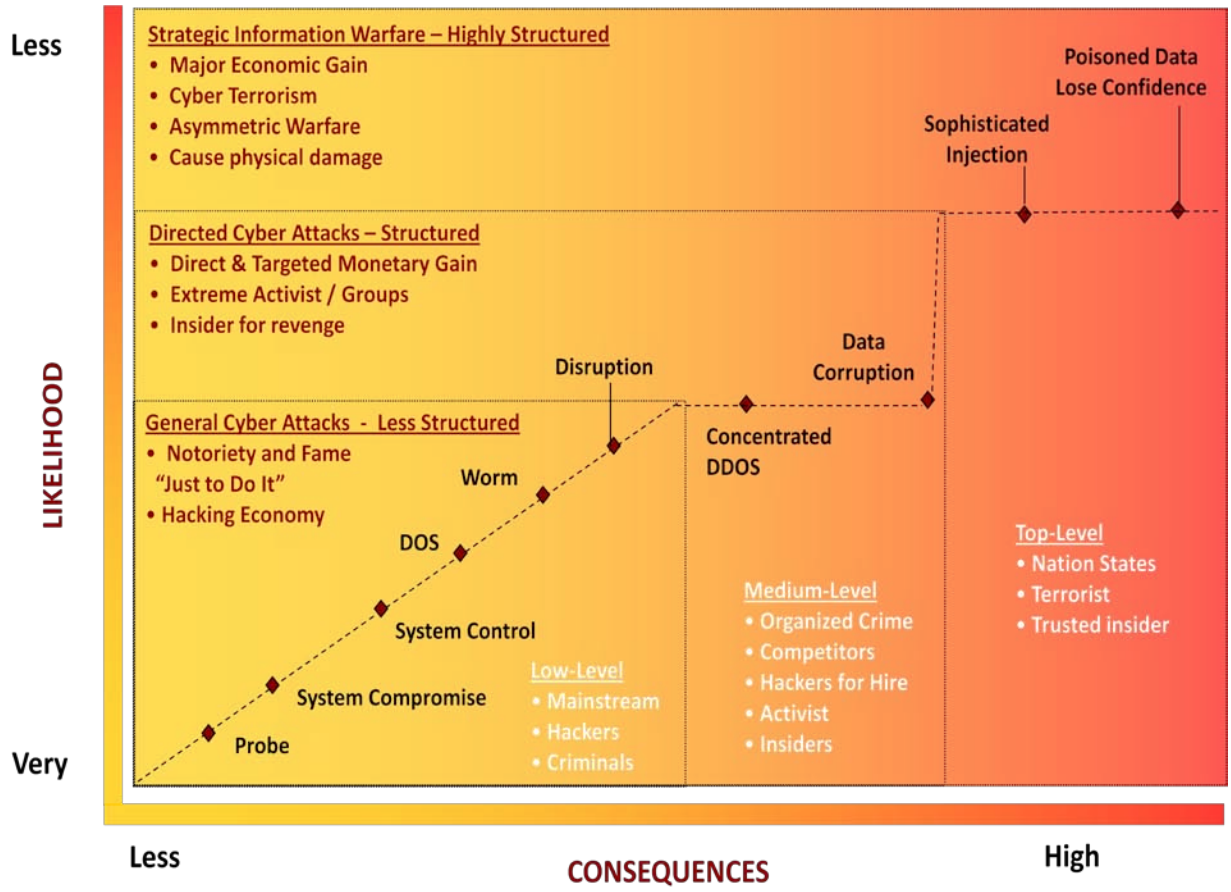
in numbers, and may not have a specific modus operandi or methodology, there is a good chance that unique capabilities exist that could be very useful in group 2 and group 3 activities.

Group 2 are more organized, and it is the organizational aspect that is cause for concern. By having a structure, this group can have membership elements that are diversified across a very large area, and may have access to disparate information systems that would normally be only accessible by a single actor. Often, collective intelligence is pooled together by group 2 members to help shape more effective and efficient attack strategies. Group 2 threats are most likely to develop specific target folders and use the information in those folders to plan, test, and perform targeted attacks.

The motivation for these attacks can be quite diversified, but it is generally observed that these attacks involve group level efforts supporting a common cause. Group 2 typically target a particular group or groups, and their motivation may be financial, revenge, theft of trade secrets or drawing attention to a cause (hacktivists). The capabilities in group 2 would be found useful in group 3 type activities, as group 2 factors often aggregate tools and methods to be more powerful. The end state of this aggregation may be attractive to group 3 actors (depending, of course, on what the goals are). Their attacks are more structured and sophisticated than group 1 attacks, but group 2 attacks often incorporate methods used by group 1. This would be expected considering that the attack lifecycle of target acquisition, system penetration, privilege escalation, and covert action is fairly ubiquitous across all group activities.

Group 3, asymmetric threats (often associated with terrorist or nation state), occurs when two forces of disproportionate size and capability are engaged in conflict. The goal of these types of attacks is to disrupt, terrorize or eliminate major aspects of society. Targets include financial institutions, political establishments, military organizations, and media outlets. Organizations involved in national security activities are also concerned about critical infrastructure, and how such threats could launch debilitating cyber attacks that include an impact on restoration and reconstitution activities. In addition to asymmetric threats, nation states that may have well-funded cyber warfare programs are also a concern.

Both asymmetric and nation state threats have significantly more resources than group 1 and 2 threats and as a result they can launch very sophisticated attacks. However, it should be understood that it is not unlikely for a group 3 actor to utilize tools, techniques, and procedures used by either group 1 or group 2. This reasoning could be extended to suggest that, when possible, group 3 actors will recruit the services of group 1 and 2 thread elements and capabilities. The impact or consequences of group 3’s attack could be catastrophic.




The risk equation that is often most appropriate for critical infrastructure is one that involves threat, vulnerabilities, and consequence. Using what are commonly known as 'threat curves', we can plot different types of threats and their associated elements against the likelihood of such activities happening. In its simplest form, we can plot consequence against likelihood and then plot the activities of the three types of groups discussed earlier.

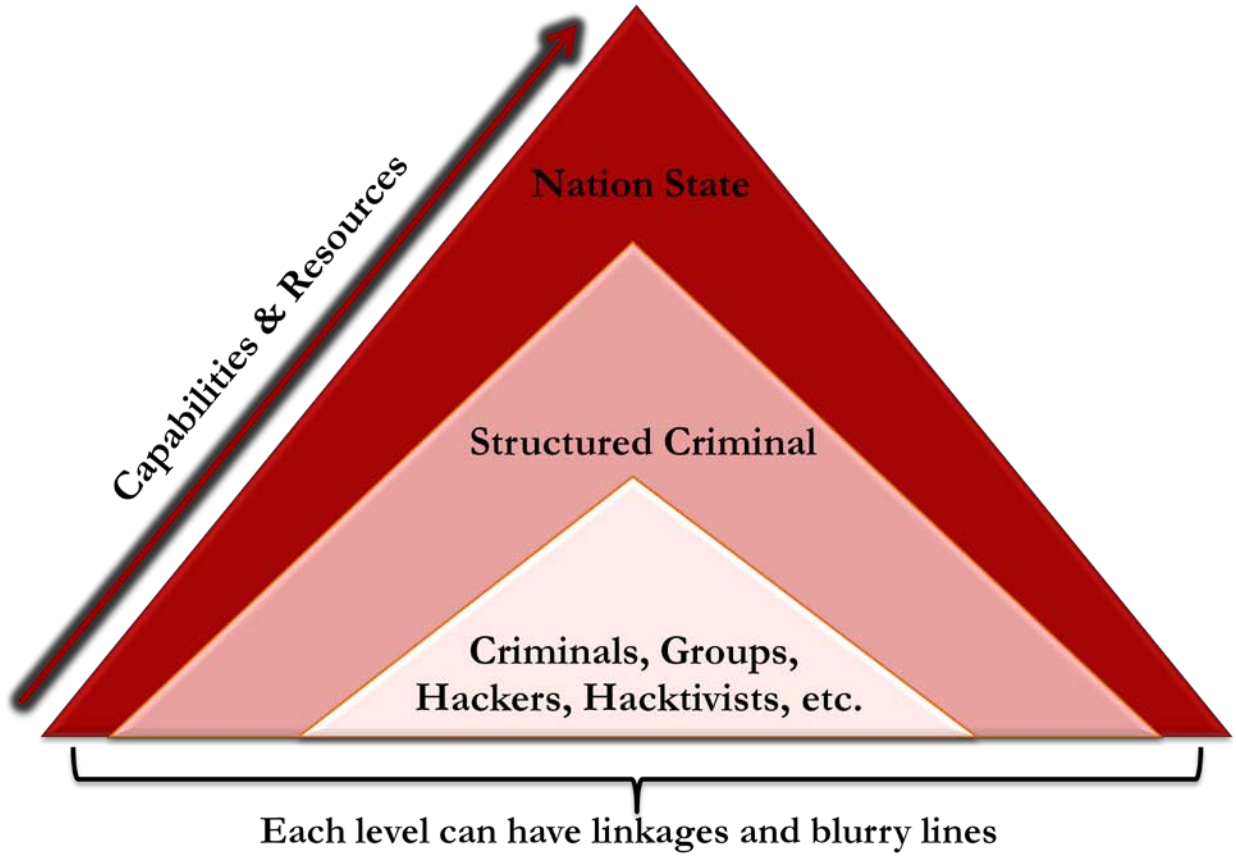
We notice from the graphic that the more benign activities would occur in the bottom left-hand corner of the graph with the most critical actions or consequences in the upper right. As the plot moves towards the top, the top right-hand element of the curve is referred to as the 'high impact low frequency' domain. This is the area of the graph containing the most severe consequences.

But looking at the way the curve starts in the bottom left-hand corner, we can see how the strategies of the group 1 actor curve up into the right. This is because we anticipate that the activities being performed in an attempt to generate greater consequence become more difficult to accomplish. Taking into consideration that group 1 type actors are usually lone actors, and if they do exist in small groups there is limited organization, the level of effort increases noticeably as they try to increase their attack complexity. This is not necessarily true if the lone actor is an insider. See the reference to insiders later in this document.

The curve flattens when it gets to the group 2 domain, the primary reason being that the characteristics of group 2 suggest that the organization and the cultural make up of the group

will have an ability to increase consequences without necessarily having any less likelihood of success. The reasons for this are many, but can include the fact that the group 2 structure facilitates for advanced reconnaissance and the development of target folders which would be used specifically to ensure there is enough intelligence to ensure successful attack. Group 2 may use elements and perhaps membership from group 1, but the motivations of group 2 combined with an advanced and collaborative technical capability results in an increase in consequence with no deterioration likelihood for success.

Lastly, group 3 is assumed to have very specific goals and intentions with regards to consequence. As these consequences are desired to be extreme, such as widespread economic impact and the degradation of recovery capabilities, the level of effort is significant. The interesting thing about group 3 activities in the high impact low frequency domain is that we could expect well-planned and well-funded cyber attacks to have cascading effects across critical infrastructure elements. Currently, there is an abundance of available information suggesting that national critical infrastructures have significant interdependencies and interconnectedness. The 2003 Blackout illustrated the interdependencies of critical infrastructure, and showcased how a catastrophic failure in one specific sector has extremely far-reaching results in others.




**Low Level Threat**

**Criminals, Hackers, Hacktivists**

- Can be less experienced
- Limited financial resources
- Opportunistic in nature
- Target known vulnerabilities
- Use packaged attack tools
- Can be motivated by bragging rights, theft, activism, and exploration
- Market provided defenses are usually effective

© Scipio Group, LLC 2011

**Medium Level Threat**

**Structured Criminal**

- Can be experienced and skilled
- Access to financial resources
- Targeted in their attacks
- Posses objectives
- Use a range of attack tools
- Can be detected
- Exploit known vulnerabilities very quickly

**High Level Threat**

**Nation State**

- Draw upon skilled people
- Demonstrate sophisticated tactics
- Deep financial resources
- Rely on recon and planning
- Target specific technologies & data
- Develop customized attacked tools
- Can exploit unknown vulnerabilities
- Well defined goals & objectives Difficult to detect & remove
- Can use insider access
- Access to supply chains

Attacker capabilities vary greatly based on skill level and resources. High Level Threat Actors have the capability to employ or exploit all of the following:

| |
|---|
| Network traffic capture and analysis |
| Intercept and modify data inputs and outputs |
| Inject values or data into bidirectional traffic (Man-In-The-Middle attacks) |
| Physical layer (tampering, inputs, and add-ons) |
| Data & datalink layer (MAC address spoofing, root bridge, enable unauthorized DHCP server, VLAN trunking, etc.) |
| Network layer (injecting blackhole, rerouting, route manipulation, inject packets and malformed packets, source route IP packets, etc.) |
| Application layer (DNS cache poisoning, web browser attacks, digital certificate impersonation, TCP session hijacks, injects) |
| System layer (Operating System attacks, privilege escalation, remote control, computer resource management, etc.) |
| Behavioral (people) layer (man-to-machine interface and process) |
| Compromising and owning a connected device with administrative privileges |
| Denial of service attacks (Complete, Selective, etc.) |
| Weak authentication/authorization |
| Buffer Overflows |
| Integer Over/Underruns |
| Format String Flaws |
| Use of fuzzers and other logic flaws |
| Operating System and application flaws (evaluate common code weaknesses/programming errors and IT vulnerabilities) |
| Connected devices, servers, and databases (injection attacks) |
| Access to computer resource management (the actual board) |
| Consider the process for updates (supply chain, vendor patches)[14] |

Recent work by the FBI has classified threat groups into six major categories with references to methods of reaching their goal. Cyber Network Exploitation (CNE) is considered non-destructive while Cyber Network Attack (CNA) is destructive. CNE activity could be part of a long term effort to amass CNA capabilities with kinetic impacts, or generate new novel techniques, tactics, and procedures.

CNE may include expansion of threat actor understanding. CNE may also increase future CNA capability. For example, CNE in the form of exfiltration may be non-destructive in the present, but crucial to future destructive CNA capabilities or power projection.

CNA could be conducted as a means to an end in isolation, or as part of a larger, more complex effort to achieve broader goals beyond the effects of its own specific kinetic impacts. For example, CNA goals could extend to creating policy movement or fear among governments or populations.

[14] Scipio Group, LLC 2011

| Cyber Threat Group | Primary Motivation | What They Want | How They Get It |
|---|---|---|---|
| Foreign State | National Interest<br>Warfare | Information<br>Control | CNE<br>CNA |
| Terrorists | Ideology | Attention | CNA |
| Criminal | Money | Personally Identifiable Information<br>Ransom | CNE<br>CNA |
| Hacker | Personal Interest | Methods | CNE |
| Hacktivist | Cause | Support | CNA |
| Insider | Anger<br>Personal Enrichment | Revenge<br>Information | CNA<br>CNE[15] |

## Insiders

Insiders pose the greatest threat, especially if they are working with a Foreign State or other High Level Threat Actors, because of their detailed knowledge of system operations and security practices. In addition, they have legitimate physical and electronic access to key systems and the controls designed to protect them. Insider individuals can provide qualitative, technical or physical assistance to the team requirements of sophisticated adversaries or pose a unique unilateral threat detection challenge, if acting alone.

Individuals with the highest level of access pose the greatest threat. Furthermore, an individual with access to grid infrastructure could unwittingly or inadvertently introduce malware into a system through portable media or by falling victim to social engineering e-mails or other forms of communication.[16]

[15] FBI Presentation, NERC CIPC meeting, September 14, 2011, "US Electricity Sector Faces High Cyber Exploitation Threat, Low Cyber Attack Threat

[16] Department of Homeland Security Office of Intelligence and Analysis Note – Insider Threat to Utilities

# What a Coordinated Attack Looks Like

Depending on the capability and intent of an attacker, it can be very difficult to determine in advance that a coordinated cyber attack is occurring. A sophisticated attack, such as the Stuxnet worm, could have some or all of the following characteristics:

- First seen (new type of attack) or very rare
- Requires resources & skill to develop (thousands of hours of planning, development, and testing
- Usually highly structured threat actors
- Can be specific & directed
  - Technology (hardware) targeted
  - Application (software) targeted
  - Objective-based (e.g. impact BPS reliability)
- Can contain counters or responses to neutralize anticipated protective measures
- Difficult to attribute
- High reliability (usually tested before use)[17]

Cyber attack paths and methods (i.e. attack vectors) can also vary significantly based on the capability of the attacker, resource constraints, the intended target, and consequence. Attack vectors include:

- Via communication link between data and decision layers (e.g. Historian or real-time database server)
- Via connected WAN (e.g. Transmission SCADA Network, Corporate Network, etc.)
- Via connected device (e.g. Travel upstream from a data concentrator or application server)
- Via telecommunication network (e.g. POTS into dial-up accessible equipment)
- Via Wireless network (e.g. Blue tooth, 802.11x, etc.)
- Via remote connection (e.g. VPN for maintenance)
- Via portable media (e.g. USB stick)
- Physical access to the system[18]

A coordinated cyber attack may be timed to coincide with routine or abnormal bulk power system wide operational vulnerability periods in the daily or seasonal Demand-Response cycle. Cyber attacks may be combined with physical attacks which might be used to soften the system for a cyber knockout punch or to gain access to key facilities.

[17] Scipio Group, LLC 2011
[18] Ibid

## Prerequisites of an Attack

Three conditions must be present in order for an attacker (also known as a *threat agent*) to carry out an attack against a utility's system.

1. The defender must have **vulnerabilities** or weaknesses in their system.
2. The attacker must have sufficient **resources** available to exploit the defender's vulnerabilities. This is known as **capability.**
3. The attacker must believe they will **benefit** by performing the attack. The expectation of benefit drives **motivation**.

Condition one is completely dependent on the utility. Whether condition two is satisfied depends on both the utility and the attacker. The utility has some influence over which vulnerabilities exist and what level of resources will be required to exploit them. Different attackers have different capabilities.[19]

Condition three is associated with intent. Does the attacker have intent to disrupt or destroy the target or to exploit the target without disruptions?

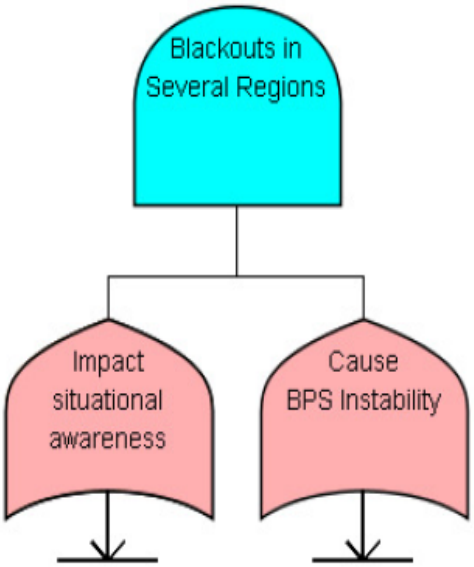
The task force chose to use an attack tree methodology to begin to build a picture of what a coordinated cyber attack could look like based on the attacker's intent to disrupt.

Attack Trees allow you to incorporate the capabilities of the attacker using specific profiles. The task force created attacker profiles that corresponded to low, medium, and high threat levels. In addition, resources (i.e. technical capability, noticeability, cost of attack, and attributability) associated with each leaf on the tree can be pruned or eliminated based on the profile of the attacker. In other words, an attacker with only medium technical ability would not be able to successfully navigate certain attack paths because steps (leaf nodes) required strong technical capabilities.

See Appendix A for an overview of attack trees.

[19] Ibid, page 3

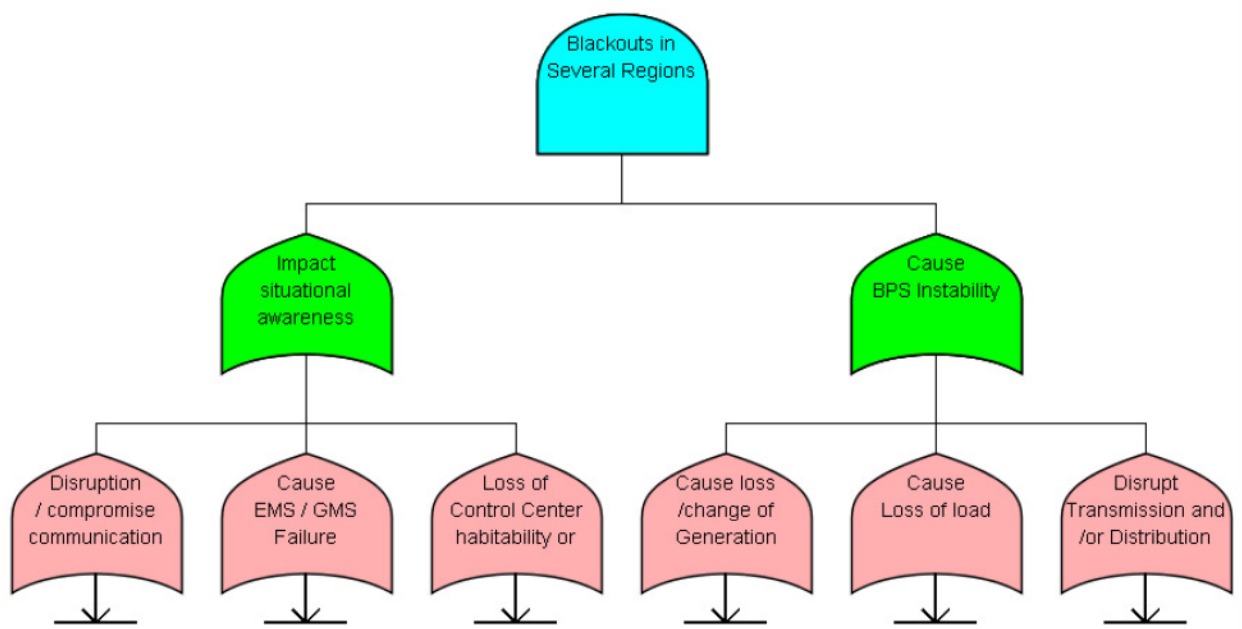
## Coordinated Cyber Attack Scenario and Assumptions:




1. BPS Instability - Transmission Operators report unexplained and persistent breaker operation that occurs across a wide geographic area (i.e. within state/province and neighboring state(s)/province(s).)
2. Impact Situational Awareness - Communications are disrupted, disabling Transmission Operator voice and data with half their neighbors, their Reliability Coordinator, and Balancing Authority.
3. BPS Instability - Loss of load and generation causes widespread BPS instability, and system collapse within state/province and neighboring state(s)/province(s). Portions of the grid remain operational.
4. Attack Result - Blackouts in several regions disrupt distribution supply to several million people.

The foundation assumption for a successful attack that results in a blackout in several regions is that two events need to occur: 1) situational awareness needs to have been compromised and 2) there must be a bulk power system event or instability.

Operational events regularly occur on the bulk power system without any noticeable impact to consumers. Operators are trained to take actions to mitigate the impact of such events. However, if the operator is unaware of wide area operating conditions, he/she can't implement mitigation actions and the result can be significant.




Expanding each of the two events:

Situational Awareness is impacted IF

- There is a Disruption / Compromise in Communications OR
- There is a failure of the Energy Management System or Generation Management System OR
- The Control Center is inaccessible or uninhabitable

The BPS Instability can occur IF

- There is a Loss/Change in Generation OR
- A Loss of Load OR
- A Disruption to Transmission or Distribution

Beyond the second layer of the Attack Tree are multiple layers that expand into literally millions of steps and paths (nodes) to accomplish the attacker's intent – blackouts in several regions. Work continues in the development of comprehensive attack trees and is the subject of a task force recommendation.

# Detection Capabilities

The ability to respond to an attack is contingent on the utility knowing that the attack could occur, is occurring or has occurred. The earlier the alert or warning, the better the chances that the operator, security teams and response tools can implement mitigation measures to minimize the impact of the attack on the bulk power system. However, operators can only go to the fight with the tools, awareness and training they have, so the effectiveness of mitigation depends critically on strategic preparations and investments necessarily taken over a long period of time at significant expense.

Operators must also be cognizant that the attacker may adapt to the implementation of defensive measures. But detection allows system defenders to manage the situation and make decisions to limit consequences or increase the effort required by the attacker throughout the process.

Operators must also be cognizant that the attacker may adapt to the implementation of defensive measures. But detection allows system defenders to manage the situation and make decisions to limit consequences or increase the effort required by the attacker throughout the process.

Coordinated attacks require a significant amount of planning. Consequently, indicators of an attack could be identified far outside the operator's normal field of vision. Indicators could occur at a neighboring utility, within a balancing authority, in another region or interconnect or even in another country. Indicators may arise in areas totally outside the electricity sector, such as in the finance, IT or communications sectors.

Monitoring information sources for indicators of an attack is essential to maintaining situational awareness. Effective sector information sharing is key to obtaining useful indicators and warnings of a cyber attack and bulk power system risk.

An important nexus for collaborative information sharing on threats, vulnerabilities, prevention, and mitigation is the Electricity Sector Information Sharing and Analysis Center (ES-ISAC). Operated by NERC, ES-ISAC is a center for sector-wide cybersecurity coordination, trust, and engagement. This vision is achieved through rapid sharing and analysis of information with the sector and its partners, providing sector-wide visibility and situational awareness. ES-ISAC staff are integrated with activities of the National Cybersecurity and Communications Center (NCCIC), a major government fusion cell operated by Department of Homeland Security (DHS).

In the event an attack, disables the ES-ISAC's ability to communicate with the electricity sector, a backup plan for distribution of critical information would need to be established. This is part of NERC's Crisis Plan, which is still under development. This is also true for inter-utility communication.

## Global Monitoring of Internet Activity

A number of security firms and IT service providers have sensors on sections of the Internet and for a fee will provide analysis of a company's network traffic offering alerts and indicators of potential attacks or reconnaissance.

In addition, some utilities have established partnerships with IT service providers to share advanced threat information. Some of these service providers also work with Department of Defense information, and can take advantage of other information sharing sources such as the DoD Cyber Crime Center's DIBNet. For example, Lockheed Martin announced a program called Palisade intended to provide utility and energy industry IT analysts with advanced threat detection and forensic tools, actionable intelligence to effectively identify and mitigate cyber security threats.[20]

## Federal Initiatives

Several federal agencies have initiatives in progress that are designed to assist the electricity sector in identifying indicators of a coordinated attack

- Department of Energy's Electricity Sector Network Monitoring (ESNM) program coordinated with Pacific Northwest National Laboratory (PNNL).
- The Department of Defense's program with Defense Industrial Base companies and their Internet Service Providers. DoD is providing attack signatures to help identify potential attackers. This program is expected to expand into the electricity sector.
- Department of Homeland Security - The Einstein system is intended to provide the government with early warnings about cyber attacks against federal networks, near real-time identification of malicious attacks, and automated disruptions of those strikes. The first version of Einstein dates back to 2003 and the second phase rolled out in 2008. It is now deployed at 15 out of 19 departments and agencies and in 2010, Einstein 2 sensors picked up 4.5 million "hits" or alerts based on pre-determined intrusion detection signatures. The Department of Homeland Security is currently working on Einstein 3, "which will provide DHS with the ability to automatically detect and disrupt malicious activity before harm is done to critical networks and systems."

While these types of programs for monitoring and identification of attacks have a solid foundation, there are limitations. Attacks can be crafted and implemented where there are no observable signatures in place.

## Peer Groups

NESCO, working with the National Electric Sector Cybersecurity Organization Resource (NESCOR), serves as a focal point bringing together utilities, federal agencies, regulators, researchers, and academics. This group, along with domestic and international experts, developers, and users help to focus cybersecurity research and development priorities, to identify and disseminate effective common practices, organize the collection, analysis and

[20] http://s1.securityweek.com/lockheed-martin-launches-cyber-security-solution-utility-and-energy-industry

dissemination of infrastructure vulnerabilities, and threats. NESCO works to identify and support efforts to enhance cybersecurity of the electric infrastructure. This project is being partially funded by the Department of Energy.

NESCO has established interest groups associated with intrusion detection, security architecture, threat assessment, and forensics.

The Electric Power Research Institute (EPRI) is coordinating several complimentary initiatives associated with industry and federal agencies. These efforts include 1) assessing combined cyber-physical attacks where the deliverables involve attack scenarios to feed into risk assessment models; 2) creating a scalable Advanced Metering Infrastructure (AMI) Incident response. The intent is a logical architecture for a scalable AMI intrusion detection system, a set of alarms and alerts to be standardized across vendors and guidelines for responding to AMI alarms.

A number of utilities have informal information sharing arrangements so sensitive information can be communicated to trusted sources.

## Alerts

There are multiple sources of alert information that the electric industry can reference to better identify early signs of a coordinated cyber attack. NERC's ES-ISAC and DHS's Industrial Control System – Computer Emergency Response Team (ICS-CERT) are import providers of relevant threat and vulnerability information related to Industrial Control Systems.

Many software and hardware manufacturers have e-mail or other alert distribution methods to notify customers of vulnerabilities and associated mitigation measures.

In addition to software and hardware vendors, utilities can look to activity in other countries as a potential precursor to a coordinated attack in North America.

Specialized Industrial Control Systems software along with off-the-shelf software is utilized in other critical infrastructure sectors that have close ties to the electricity sector. For example, PLCs are used in oil and nature gas and water facilities as well as power stations. Monitoring for malicious activity in other sectors can be an early indicator of a coordinated attack in the electricity sector.

See Appendix B for a list of sources and associated links.

## Precursors and Local Indicators

Experienced operators and support staff usually develop a 6th sense in regards to their job. Many times it is this "feeling" that something isn't right that heads off larger problems. While using this 6th sense is certainly valuable, establishing a baseline of expected values and then comparing those against real-time data points is an excellent method of comparison to determine if an unexpected situation exists. Following anomaly detection, trained staff can then follow-up with detailed analysis.

Appendix F contains a list that can be used as a starting point for indications of an unusual event. By developing real-time monitoring for these key metrics and comparing them to the base line, potential cyber attacks could be identified. However, these indicators do not take into consideration loss of data integrity where values are still within tolerances established by the entity. The industry eventually needs security state monitoring tools that trigger autonomic (i.e., quick device response) and/or dynamic (i.e., can evolve) corrective actions within the control system, while allowing operators to override them, if necessary[21] One potential proxy for this type of capability is the North American Synchro Phasor Initiative.

Synchrophasors are precise grid measurements now available from monitors called phasor measurement units (PMUs). PMU measurements are taken at high speed (typically 30 observations per second – compared to one every four seconds using conventional technology). Each measurement is time-stamped according to a common time reference. Time stamping allows synchrophasors from different utilities to be time-aligned (or "synchronized") and combined together providing a precise and comprehensive view of the entire interconnection. Synchrophasors enable a better indication of grid stress, and can be used to trigger corrective actions to maintain reliability (i.e. improving situational awareness)[22].

This type of technology provides indication of electrical network issues and could be used as an early warning indicator on a large scale. However, due to the speed of cascading events whether man-made or natural and their PMU indication, response to this type of detection may need to be automatic using predefined programmatic actions.

[21] Roadmap to Achieve Energy Delivery Systems Cybersecurity – September 2011, page 29

[22] North American Synchro Phasor Initiative - https://www.naspi.org/

# Deterrence / Defensive Capabilities

In broad terms, we can envision protecting the electricity sector with three separable, but complementary, layers of capability. The first layer is deterrence—capabilities and policies designed to convince an adversary not to launch a cyber attack. This is the job of the U.S., Canadian and Mexican governments. The second layer is defense—capabilities designed to reduce the effectiveness of the adversary's cyber attack. This layer is a primarily the responsibility of the electricity sector asset owners but does include governmental assistance. The third layer is reconstitution and robustness—capabilities designed to enable the bulk power system to continue functioning once it has suffered cyber damage and to enable the electricity sector to restore and rebuild its infrastructure after being damaged. Again, this is primarily the responsibility of the asset owners.

These layers achieve their objectives in different ways. Deterrence influences the adversary's intentions, convincing an adversary not to attack; defense works against the adversary's capabilities, defeating attacks that the adversary launches; reconstitution and robustness reduce the implications of successful attacks by the adversary. The layers complement each other by making up for limitations in other layers. If deterrence were known to be perfect, defense and reconstitution would be unnecessary; similarly, if defense were perfect, deterrence and reconstitution would be unnecessary. But, when none of the layers is perfect, each contributes to the sector's overall ability to protect itself.

Deterrence is frequently divided into two types—deterrence by punishment and deterrence by denial. When relying on a strategy of deterrence by punishment, the U.S., Canadian, and Mexican governments threaten to inflict costs (i.e. punishment) in retaliation for the bulk power system being attacked. The effectiveness of deterrence by punishment depends on both the size of the costs being threatened and the credibility of the threat. Credibility depends on both the ability to retaliate and the will to retaliate.

Deterrence by denial works by a different logic: in this approach, the electricity sector deploys capabilities to convince its adversary that the probability of its attack succeeding are low; this reduces the expected benefits of the attack and can therefore result in successful deterrence.[23]

The scope of this document will focus on the electricity sector's defensive and reconstitution/ robustness (i.e. survivability) capabilities.

A defense in depth security architecture has been, and continues to be, the foundation entities rely on to defend against cyber attacks. However, the engineering design of the electrical system also provides redundancy and resiliency that can help in minimizing or slowing down the impact or progress of an attack.

The NERC Critical Infrastructure Protection standards, CIP002 – CIP009 version 3, provide a minimum level of control and protection for what an entity believes are their critical assets and

[23] Deterrence of Cyber Attacks and the U.S. National Security, Charles L. Glaser

associated critical cyber assets. Specific electronic and physical controls and processes are mandated for all critical cyber assets and any cyber assets within the defined electronic and physical security perimeters.

CIP-002 – CIP-009 Version 4, which has not been approved by FERC, and CIP-002 – CIP-011 Version 5, which is still under development seek to clarify the breadth of assets that should be protected to provide adequate resiliency to the BPS in response to cyber and physical attack.

Other well known standards and documents that serve to help entities protect their key assets include;

**ANSI/ISA-99** is a complete security life-cycle program, with best practices for developing and deploying policy and technology solutions to address security issues in control systems. One aspect of the standard involves containing communication in control sub-systems to avoid having security issues in one area migrate to another area. ISA-99 introduces the concepts of "zones" and "conduits" as a way to segment and isolate the various sub-systems in a control system. A zone is defined as a grouping of logical or physical assets that share common security requirements based on factors such as criticality and consequence. Equipment in a zone has a security level capability. If that capability level is not equal to or higher than the requirement level, then extra security measures, such as implementing additional technology or policies, must be taken.

- **NIST SP800-53**, "Recommended Security Controls for Federal Information Systems," was developed primarily for Information Technology systems, but has been updated to address industrial control systems as well. It contains information for securing electronic systems from cyber intrusion. The standard is organized in sections or families of security categories.

- **NIST SP800-82**, "Guide to Industrial Control Systems (ICS) Security," is a guideline for securing industrial control systems. It is organized much the same as NIST SP800-53, but focuses on industrial control systems.

- **SANS 20 Critical Security Controls** - These Top 20 controls were agreed upon by a powerful consortium brought together by John Gilligan (previously CIO of the US Department of Energy and the U.S. Air Force) under the auspices of the Center for Strategic and International Studies. Members of the Consortium include NSA, US Cert, DoD JTF-GNO, the Department of Energy Nuclear Laboratories, Department of State, DoD Cyber Crime Center plus the top commercial forensics experts and pen testers that serve the banking and critical infrastructure communities.

In addition to the CIP standards, NERC alerts (e.g. Aurora, Stuxnet, and other vulnerabilities) provide guidance on additional controls to protect vulnerable or at risk equipment from attack.

Appendix H contains a list of some common defensive capabilities that have been or could be employed by electric utilities as part of their overall defense in-depth security architecture.

## Education / Training

As a coordinated attack has not been experienced to date, an operator faced with such an attack would have no real-life experience to draw on when responding to it. Further, little training presently exists to drill responses to these events, though certain organizations have recently begun to incorporate this material into their training programs.[24]

Training needs to include not only operators but field technicians as well. Focus should be on establishing a baseline to judge if "something looks or acts differently.".Then, the training needs to exercise the entities incident response plan which includes reporting.

Appendix C contains sample cyber attack scenarios that could be used to augment operational training.

More formal attacker/defender exercises such as those offered by Idaho National Laboratory (INL) are extremely beneficial in making entities aware of how attackers can respond.

NERC's Cyber Risk Preparedness Assessment (CRPA) is complementary to the program offered by INL. Using cyber threat and attack scenarios, this NERC-sponsored project conducts a qualitative, expert-based assessment of the preparedness of BPS entities to detect, respond to, and limit the potential damage caused by plausible cyber incidents.

These assessments focus on BPS entities' abilities to protect their cyber assets and improve preparedness regarding their cybersecurity posture. This is done by examining an entity's ability to defend its information systems, deter/deny attacks against those systems, detect attacks against its own or its peer systems, and respond to cyber attacks in a timely and efficient manner. The exercise also assesses the ability of BPS entities to isolate and limit attacks so that a system is able to withstand subsequent equipment losses and quickly be restored.

The objective is to leverage technically grounded cyber threat scenarios as the basis for assessing how BPS entities might detect, respond to, mitigate, and report cyber incidents, and to identify any capability gaps in their cybersecurity postures. In turn, this assessment will be used to identify steps required to improve overall BPS preparedness. [25]

## Incident Response Plans

Many entities have existing emergency plans that can complement or provide a foundation for cyber incident response planning. CIP008 requires the establishment and testing of a cyber incident response plan on an annual basis. Some of these plans address NERC or Regional Transmission Operator (RTO) requirements to ensure operational continuity, so backup or redundant assets could be leveraged to provide on-going capabilities from an incident.

[24] High Impact, Low-Frequency Event Risk to the North American Bulk Power System, June 2010

[25] NERC Cyber Risk Preparedness Assessment – Tabletop Exercise Report April 2010

For example:

- NERC Reliability Standard EOP-005 requires a restoration plan to recover from a partial or total shutdown of the bulk power system. This plan would identify assets that would be utilized for such a recovery. The incident response plan could be enhanced to include processes for addressing cyber incidents affecting restoration plan assets.

- NERC Reliability Standard EOP-008 establishes requirements to ensure continued reliable operation of the BPS in the event of the loss of a primary control center. A cyber incident response plan could be enhanced to assess this loss from a cyber perspective and provide information to complement the loss of control center plan.

The Severe Impact Resilience: Considerations and Recommendations report created by the Severe Impact Resiliency Task Force contains recommendations to address the loss of both primary and backup control centers.

NERC Reliability Standard COM-001 establishes requirements for adequate and reliable telecommunications and operating information. Entities would establish levels of redundancy or resiliency (or both) and provide an operational plan to recover from a loss.

Incident response plans could define crucial planning materials to allow for smooth response activities. This includes defining accurate and precise roles and responsibilities between IT, operations, and other support teams. Listing potential options for containing an incident, suggested measures for removing a threat such as malware or compromised accounts, suggested forensic methods, escalation methods, third party notification procedures, including vendors and law enforcement.

Defining roles and responsibilities will assist in the escalation and mobilization of response activities. Clear delineations between teams should be defined. Additionally, particular individuals should have clear authority to make decisions surrounding investigation and response activities as well as recovery activities.

At the industry level, NERC is in the process of finalizing their Crisis Response Plan. At the national level is the National Response Framework (NRF). The National Response Framework presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies – from the smallest incident to the largest catastrophe. This important document establishes a comprehensive, national, all-hazards approach to domestic incident response.

The framework defines the key principles, roles, and structures that organize the way we respond as a nation. It describes how communities, tribes, states, the federal government, private-sector, and nongovernmental partners apply these principles for a coordinated, effective national response. It also identifies special circumstances where the federal government exercises a larger role, including incidents where federal interests are involved and catastrophic incidents where a state would require significant support. The framework enables

first responders, decision-makers, and supporting entities to provide a unified national response.

Complimentary to the NRF is the DHS National Cyber Incident Response Plan (NCIRF). The National Cyber Incident Response Plan (NCIRP) was developed according to the principles outlined in the National Response Framework (NRF) and describes how the nation responds to significant cyber incidents.

ES-ISAC has developed a policy protected communications corridor which delineates special protections and handling for security discussions to encourage participation from the entities and insulate against excessive compliance concerns which might otherwise impede vital security dialogue. Policies like this set the stage for enhanced security by establishing venues for effective information sharing crucial to BPS risk management and response.

Rules of engagement for detecting, containing, and eradicating various incident scenarios will help guide personnel who are familiar with the incident response plan. This may include checklists for containment methods, procedures for forensic capture and evidence handling, and guidelines for disabling compromised accounts or reimaging server equipment.

One of the most important roles of any incident response plan involves communication. Communication could involve coordination:

- Between Reliability Coordinators
- Between Balancing Authorities
- Between Transmission Operators – minimize activities (i.e. maintenance outages) that would constrain an interface
- Between utilities
- With law enforcement
- With National Security Staff
- With regulators
- With ES-ISAC
- Between other sectors (oil and natural gas, nuclear, and dams)
- With and among technology vendor community participants

Creating an incident response plan is only one step towards being prepared for a security incident. It is invaluable to hold multi-team exercises or drills which develop familiarity with the incident response plans and defined roles and responsibilities during such events. Additionally, scenario-based drills which offer a plausible situation are a powerful tool to prepare staff on the potential confusion and hesitation which is inherent in an ongoing security incident. As part of any drill and in the case of an actual coordinated attack, it is imperative to communicate significant operational actions taken including their success or failure in mitigating or stopping the attack. This information is vital to partners so their responses are complimentary and not disruptive.

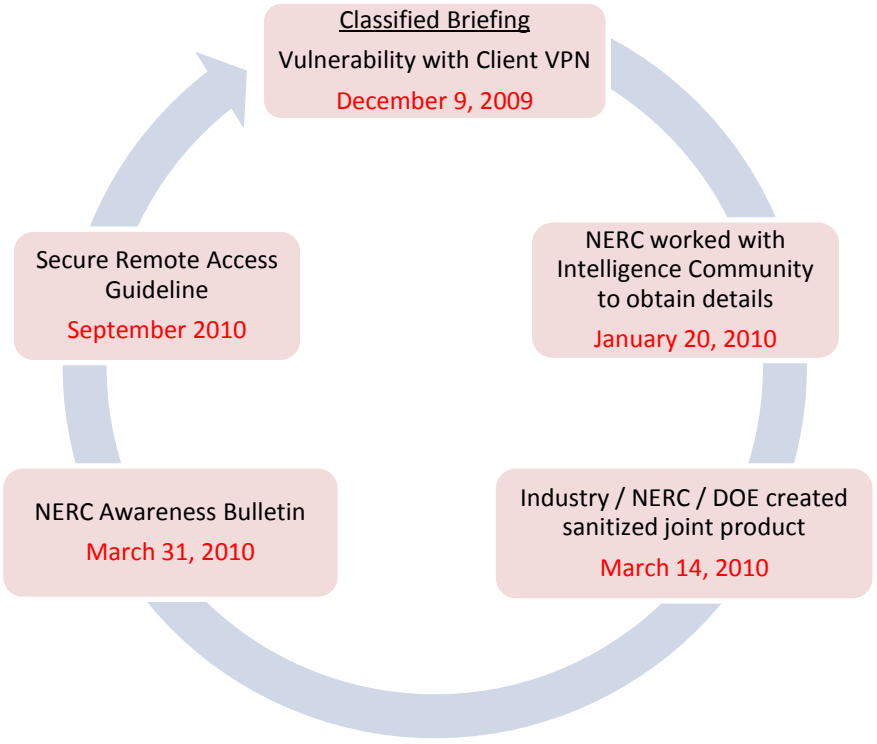
Auxiliary preparedness materials such as customer communication templates, emergency contact lists and preplanned secure/alternative communications methods (e.g. phone conference bridges; Government Emergency Telecommunications System (GETS) & Wireless Priority System (WPS) for priority access to telecommunications; satellite phone communications for the occurrence where landline and cellular facilities are not available) will enable a more rapid response operation. Creating customer communication templates may help customer support line representatives address calls from customers while other prepared documents may act as a template for communications staff to engage the local news media or government officials during or shortly after any impact from a security related incident. Emergency contact lists may list mobile contact information for management escalation and support staff such as operations staff, IT or cyber security team members. Additionally, it may list outside parties such as ES-ISAC, local, state or federal law enforcement, managed security service providers and system vendor technical support lines.

## Information Sharing

Information sharing is a critical component of any preparation as well as part of the actual response plan. Besides the formal, regulatory requirements for reporting unusual events outlined in the NERC CIP standards and the Department of Energy's OE-417, there exists an informal communication network between utilities and non-regulatory entities such as the North American Transmission Forum and the North American Generation Forum.

There have been successes between the industry, regulatory agencies and the intelligence community with taking classified intelligence, having industry experts assess sensitive information in a classified setting, remove or translate sensitive data and create an alert that can be distributed to a wider audience in the electricity industry.

A case study of success:




This exercise of having industry experts work with NERC and the Intelligence Community demonstrates the process can work. Future team efforts should strive to reduce the amount of time from briefing to awareness/alert.

Existing formal and informal sources of information include: NERC ES-ISAC, RCIS / CIPIS, North American Transmission Forum, North American Generation Forum; US-CERT, ICS-CERT, RRO and RTO "communities" – mail distribution groups, newsletters, etc. and Vendor "User Communities" such as EMS users' groups.

Energy Security Public-Private Partnership (ES3P) Joint Working Group has been formed under the Electricity Sub-Sector Coordinating Council (ESCC) and the Energy Sector Government Coordinating Council (ES-GCC). With co-Chairs from Department of Energy and NERC, as well as representation from Departments of Defense and Homeland Security, industry trade groups and interdependent sectors (such as Oil and Natural Gas, Water, Nuclear), ES3P offers a protected venue for sensitive critical infrastructure and mission assurance discussion.

Gaining awareness of a cyber attack before it occurs and stopping its effects is the best case scenario for information sharing. Sharing of information during the attack's reconnaissance phase or early delivery phase will help achieve this end.

Sharing of concise indicators of compromise (IOC) or attempted compromise will allow for quicker analysis of information and development of mitigations to prevent future incidents. These indicators of compromise may take the form of file MD5 hashes, IP addresses, targeted

phishing email header information, captured network traffic, or other detailed activity. Such IOCs will be detected by the industry and must be shared with its various partners such as the ES-ISAC to 'connect the dots'. The correlation of related indicators of compromise reported from independent industry members will create an industry view of attacks and will lead to informed preventative and detective measures which reduce overall risk to the BPS.

## Post-Event Analysis (Lessons Learned)

In order to properly prepare for the next security incident it is critical to capture lessons learned from prior incidents such as Stuxnet, Aurora, Night Dragon, Shady Rat and even events such as major hurricanes or tornados that resulted in disruptions. The lessons learned process should strive to identify how to prevent future attacks, prevent or limit disruption if they do occur, and create early visibility of such attacks through enhanced awareness and security monitoring.

Additionally, analysis of publicly disclosed attacks may provide a level of learning which may be incorporated into incident response plans, protective measures, resilience activity and preparedness. The FBI is working with the Pacific Northwest National Laboratory to evaluate and trend cases related to the electricity sector. The results of this analysis will be an important reference.

The NERC enterprise-wide event analysis program is based on the recognition that bulk power system events that occur, or have the potential to occur, have varying levels of significance. The manner in which registered entities, regional entities, and NERC evaluate and process these events is intended to reflect the significance of the event and/or specific system conditions germane to the reliability of the bulk power system and the circumstances involved.

The key ingredients of an effective post-event analysis program are to:

- Identify what transpired – sequence of events;
- Understand the causes of events;
- Understand the vulnerabilities that were exploited;
- Identify and ensure timely implementation of corrective actions;
- Develop and disseminate recommendations and valuable lessons learned to the industry to enhance operational performance and avoid repeat events;
- Develop the capability for integrating risk analysis into the event analysis process; and
- Feed forward key results to facilitate enhancements in and support of the various NERC programs and initiatives (e.g., performance metrics, standards, compliance monitoring and enforcement, training and education, etc.)[26]

While the full or partial loss of a single EMS or SCADA system may not result in the blackout depicted in the task force scenario, analysis of the causes of such a loss could be helpful in correcting conditions on the utility's EMS or SCADA system and possibly lead to the identification of useful lessons learned for the industry. However, in the case of a coordinated

[26] NERC Event Analysis Program

attack, impacting potentially multiple EMS and SCADA systems, it is imperative to capture the relevant actions and responses across each utility to create an accurate timeline similar to the 2003 Blackout.

Details of intrusions or compromises should also be incorporated into attack trees to continue to build on the catalogue of attack vectors and vulnerabilities.

## Procurement Language

A significant amount of work has been done by DOE, DHS, the national labs and electricity industry to create contractual language that entities can use when acquiring systems and equipment from vendors. EMS, SCADA and field devices often have a much longer operational lifetime then traditional IT business systems. By obligating vendors to provide documentation and evidence of security features, entities are better equipped to do adequate acceptance testing as well as properly design defensive measures when built-in security features need to be augmented.

See reference section for a link to the Cyber Security Procurement Language for Control Systems.

## Independent Testing of Systems and Equipment

Identifying and alerting the electricity sector of vulnerabilities so mitigation steps can be implemented is an important way to limit the number of successful attack vectors. Establishing partnerships between independent testing groups, hardware and software vendors and ICS-CERT and ES-ISAC encourages vulnerabilities to be identified and industry alerts issued in concert.

Unfortunately, the independent testing community is not always in synch with the hardware and software community when it comes to prioritizing the threats or even agreeing that there is a vulnerability. Recent examples involve the S4 Project Basecamp initiative where six ICS devices were evaluated, vulnerabilities identified, and exploit code made publically available. This partnership needs further development so the time between discovery of the vulnerability, disclosure of exploit code and release of patches or alerts is minimized as much as possible.

# Responses to Attack

## Background

Since the 2003 Blackout Report, the electricity sector has stressed the importance for system operators to maintain situational awareness of their respective systems. In the case of Reliability Coordinators (RC) there is also the need for these RC's to maintain situational awareness over a wide area (an area the extends beyond the operating zone of the RC). To achieve situational awareness the electricity sector has over the past decades developed increasingly sophisticated network applications, meters, and telemetry to paint the view of the system in ever more accurate terms. Often times these systems refresh for the operators every few minutes and in some case every few seconds.

Cyber Security experts often stress the importance of being able to protect the confidentiality and integrity of data and information, and the availability of systems/applications. While the confidentiality of our customers and member's data is very important a breach of this pillar of security does not necessarily jeopardize system reliability.

In spite of these applications having availability rates in the 99% range, these systems do occasionally fail. As such, every operating entity has back-up, call-out, and response plans to rapidly diagnose and address the rare application crashes.

Just as important as the system operations applications is the data and communication paths that feed these applications. These applications typically pull in thousands of data points from transmission sub-stations, lines, and generators every few seconds. In addition, entities are dependent on understanding and reacting to systems conditions with their neighbor's assets as well.

Cyber Security experts often stress the importance of being able to protect the confidentiality and integrity of data and information, and the availability of systems/applications. While the confidentiality of our customers and member's data is very important a breach of this pillar of security does not necessarily jeopardize system reliability.

In contrast the impacts associated with attacks on integrity (are outputs trusted?) and availability (are outputs meaningful and timely?) can have profound impacts on reliability.

The ideal response for these systems when under attack is to gracefully degrade in terms of capability without a material effect on operational reliability. This might mean, for example, that non-essential tools and functionality are shed, but control and communication with generating plants is maintained. If not already in place, this would require clear separation between core system reliability functionalities and business and market systems, external networks, and non-essential inputs. Networks should be designed such that these services can be quickly and easily disconnected from critical reliability functions at a moment's notice

without affecting operational reliability. This will essentially allow system operators to "fly with fewer controls."[27]

Identification of those core systems and functions that are essential to maintaining operational reliability would include:

- EMS (energy management system) – a control system with a suite of applications that provides decision support capability to monitoring and controlling the transmission system.
    - "Model" the heart of the EMS which replicates the portion of the grid the entity is responsible for operating,
    - State Estimation (SE) the way in which the model/EMS can estimate points not physically monitored (i.e. calculate the readings in the middle of a line with data from the readings on both ends of the line) and,
    - Security Analysis (SA) the more advanced applications of the EMS that conduct the "What If" contingency analysis so that operators can always position the system in a conservative/reliable state.
- GMS (generation management system) – the suite of applications that enable an entity to keep generation and other resources in balance with load.
- Ability to maintain communications control centers and field equipment (i.e. RTUs) to provide input to EMS/GMS.
- Core skilled workforce availability.

## Isolation and Survivability

Survivability involves focusing on protecting those systems and functions that are essential to maintaining reliable operations. Reliable operations will degrade, over time, resulting in the gradual reduction in services and functions until essential operations are no longer possible. The key is trying to maintain reliable operations in a reduced state for as long as possible. This resilience characteristic is known as graceful degradation of service.

A number of survivability and isolation tactics are outlined in Appendix G.

There are difficulties associated with isolation. Monitoring and situational awareness suffers as automated processes designed to inform operational staff are systemically severed. This includes both internal monitoring as well as connectivity with neighboring utilities. Bulk Power System control centers can pose risks to other BPS control systems via essential communication links. Internal data corruption, man in the middle scenarios, malicious code injections are all possible scenarios that must be considered when evaluating the operational impact that one control system may have on other externally connected control systems. Physically deploying

[27] High-Impact Low-Frequency Event Risk to the North American Bulk Power System page 37

staff to locations to determine status and relay information to operators in control centers would be challenging for an extended period of time.

Once integrity has been verified on end devices and communication paths, connectivity can be re-established. However, monitoring should be continued to ensure a re-occurrence of the disruption does not happen nor develop without operator recognition.

## Restoration

Restoration from a coordinated cyber attack could introduce conditions that are not normally encountered during restoration from hurricanes or other types of probabilistic events.

Restoration from a coordinated cyber attack could introduce conditions that are not normally encountered during restoration from hurricanes or other types of probabilistic events

During a cyber attack and the following aftermath, responders may be lulled into the false sense of security that there is only one wave of assault. As with a storm, once the storm passes, everyone pitches in to begin the restoration process with a clear and understood recovery plan. If the attack vector(s) and techniques/tools for the attack are not fully understood and mitigated, the attacker could launch subsequent attacks to disrupt recovery efforts or respond to mitigation efforts. These later attack waves may hold devastating impact potential if not understood and expected.

To ensure the attack vector(s) and methods have curtailed and can't be restarted, entities may need to restore application files and operating systems to a safe or trusted release. This can introduce problems or delay recovery due to any entity installed modifications. In addition, certain types of attacks can render hardware or other equipment inoperable. Consequently, new equipment may have to be acquired and installed. Manufacturer assistance may need to be obtained.

Restoration of situational awareness may have to be manually implemented with staff physically stationed at key locations until communication with monitoring equipment and associated telemetry is restored. Restoration may also involve repair or replacement of parts suffering physical damage from a cyber event. Some of these may require long lead times for replacement due to supply chain or skilled installation workforce availability issues.

Safety plays an even more important role during recovery than before. Because systems and equipment may behave unpredictably during restoration, extra caution should be communicated to staff to make them aware of this issue.

## Forensics

Determining the actual cause of an attack is difficult at best even with logs and other monitoring and intrusion detection capabilities found on business system networks. On the operational side of the Bulk Power System, equipment and software are not always capable of capturing information necessary to do a proper forensic analysis. Nonstandard protocols,

legacy architectures that can be several decades old, and irregular or extinct proprietary technologies can all combine to make the creation and operation of a cyber forensics program challenging.[28]

To aid asset owners and operators in this preparation, ICS–CERT has identified key elements for developing incident response capabilities necessary to collect data and perform follow-on actions to restore systems to normal operation.

One of the key elements is preserving forensic data. This includes methods for collecting, analyzing, and reporting these data, all of which are important components of any plan to avoid loss of essential information, provide for rapid operational restoration, and improve both near and long-term mitigation and security strategies. The following activities are recommended for preserving these important data in the event of a suspected incident.

- Keep detailed notes of what is observed, including dates/times, mitigation steps taken/ not taken, strange or unusual operational behavior, device logging enabled/disabled, and machine names for suspected compromised equipment. More information is generally better than less information.
- When possible, capture live system data (i.e., current network connections and open processes) prior to disconnecting a machine suspected of being compromised from the network.
- Capture forensic images of the system memory and hard drive prior to powering down the system.
- Avoid running any antivirus software "after the fact" as the antivirus scan changes critical file dates, which impedes discovery and analysis of suspected malicious files and timelines.
- Avoid making any changes to the operating system or hardware, including updates and patches, because they will overwrite important information about the suspected malware.[29]

The ICS-CERT provides onsite incident response, free of charge, to organizations that require immediate investigation and resolve in responding to a cyber attack. Upon notification of a cyber incident, ICS-CERT will perform a preliminary diagnosis to determine the extent of the compromise. At the customer's request, ICS-CERT can deploy a fly-away team to meet with the affected organization to review network topology, identify infected systems, image drives for analysis, and collect other data as needed to perform thorough follow-on analysis. ICS-CERT is able to provide mitigation strategies and assist asset owners/operators in restoring service and provide recommendations for improving overall network and control systems security.[30] ICS-CERT cannot, however, conduct criminal investigations.

[28] Recommended Practice: Creating Cyber Forensics Plans for Control Systems

[29] ICS-CERT Monthly Monitor July/August 2011

[30] DHS – Industrial Control System Computer Emergency Response Team (http://www.us-cert.gov/control_systems/ics-cert/more_information.html)

Entities that utilize outside services to assist with forensics or possible criminal prosecution should make sure the service provider or law enforcement agency is aware of all operational requirements and obligations. This could preclude on inhibit the collection of certain evidence (i.e. hardware and software) as part of the investigation.

See reference section for links to documents related to establishing a forensics program for control systems.

If prevention eventually fails, preparedness to detect the compromise before impact is realized is the next goal. The same data sources that lead to a sound post-incident forensics analysis will also provide the mechanisms to proactively detect and deter successful compromises.

These data sources include standard IT infrastructure logging such as firewall and intrusion detection systems. Secondary data sources that have proven to be invaluable during detection and forensics include Netflow data, Domain Name Resolution (DNS) logging, proxy logging, Email (SMTP) Logging, Remote Access (VPN) logging and full packet captures. It is recommended to extend the retention of these logs as long as feasible to maintain the historical forensics capability.

Once the above data sources are logged, they may be correlated together to give context of the source of the intrusion and the methods the adversary may be using. This correlation of key artifacts may be distilled into what is known as Indicators of Compromise (IOCs) which can allow for detection for follow-on attempts or sharing with the industry through trusted partners such as the ES-ISAC or ICS-CERT.

# Recommendations

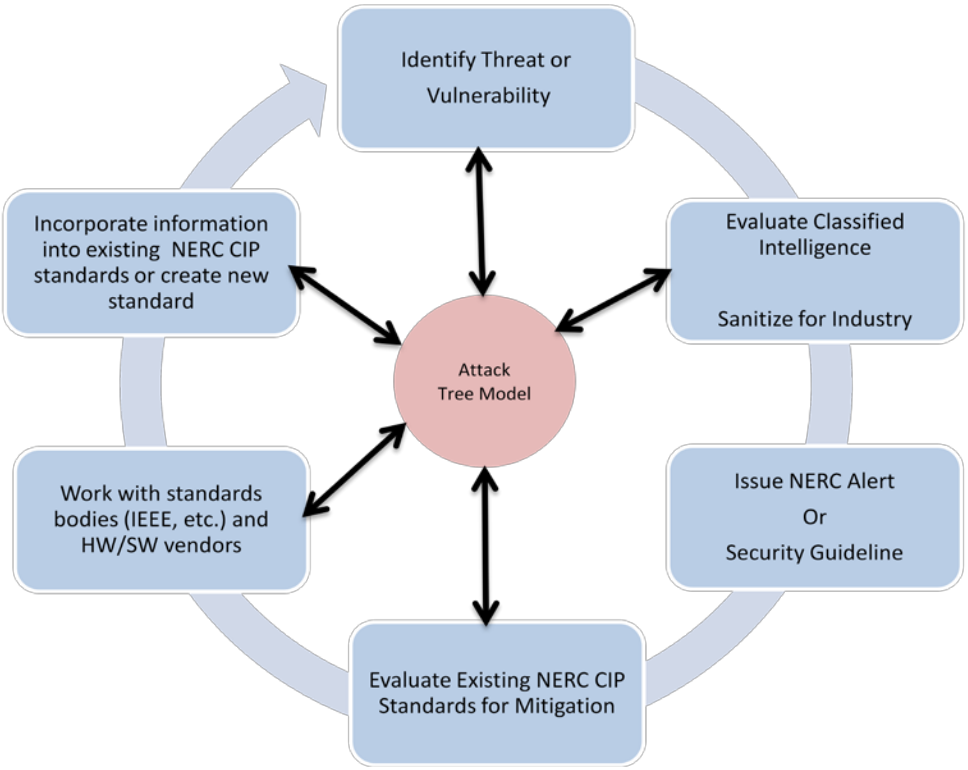
Following are the recommendations from the task force:

- **Continue to build on the Attack Trees -** A significant amount of work has gone into creating the attack tree framework, however recommendations from detailed analysis have not been completed. The top level root node of the attack tree is very specific to the task force scope, but lower level branches are applicable to many other scenarios such as attacks on generation, transmission/distribution or disrupting situational awareness.

  A separate working group under NERC's Critical Infrastructure Protection Committee (CIPC) should be established to further develop attack trees with the goal of populating the nodes, performing detailed analysis and providing recommendations to industry from this analysis.

  While these trees will never be finished, they do provide a solid structure to build on. For example, for each revision to the CIP standards the new requirements could be incorporated into the attack trees and analysis rerun to determine any positive or negative consequences of the propose changes. Prior to release of a NERC Alert, compare mitigation measure actions against the attack trees to determine if the recommendations provide the greatest likelihood of reducing the potential for compromise. At least annually evaluate the attack trees to incorporate new information.

  Because of the sensitive information captured and developed, the attack trees should be stored and managed as part of the NERC ES-ISAC documentation library, or in some cases, on classified systems.



- **Continue to develop security and operations staff skills to address increasingly sophisticated cyber threats -** Utilities should seek or develop methods to rapidly build the cybersecurity skills needed to enhance the security and reliability of the nation's electricity delivery system. Training programs should create development plans based on job roles and identified competencies to ensure that content and delivery addresses both knowledge and skill building. Hands-on development trainers are needed to provide practice opportunities and customize training. Aptitude assessments should be used to help tailor development efforts to meet the needs of individuals and teams and assess development effort effectiveness.

  Development efforts should include challenging cyber attack scenarios that are customized to the utility's technology environments and business operations. Development efforts should recognize gaps in the knowledge, skills, and abilities of cybersecurity personnel in detecting and responding to these threats.

  Entities should maintain an understanding of the current cyber threat as it applies to the electric sector; develop the skills to maintain situational awareness of that threat; strengthen the capability to match the external threat environment to the internal environment; and develop staff capability to use threat intelligence to best protect their organizations.

  Development programs should identify the skill components most in need by both security and operations job roles, and use assessment tools that will ensure that the programs produce the right skills and knowledge. These efforts should be applied beyond traditional information security environments and include the SCADA emergency management system, automated generation control, plant-level control systems, protection/safety systems, and field equipment.

- **Augment Operator Training with Cyber Attack Scenarios** – Several cyber attack scenario templates are included in Appendix C of this report. Existing Operator Training Simulators (OTS) or Dispatcher Training Simulators (DTS) should be leveraged to include cyber attacks. If these scenarios can be realistically captured and simulated, operators and technical staff could train under realistic conditions to recognize, react, respond, and defend against cyber-attacks before they ever encounter one in a production setting. The training should include collaboration and teamwork with physical and cyber security experts.

- **Conservative Operations -** Conservative Operations is an operational state resulting from the intentional actions taken in response to unknown, insecure, or potentially risky system conditions in order to move to a known, secure, and low-risk operating posture.

  A significant amount of work in preparing for conservative operations is documented in the Severe Impact Resilience: Considerations and Recommendations report created by the Sever Impact Resiliency Task Force. Entities should review this document for applicable best practices.

- **Continue to endorse existing NERC initiatives that help entities prepare for and respond to a cyber attack –** NERC has a number of initiatives that can help the industry with cyber attack identification, defense and response. Three examples are:
    - Cyber Readiness Preparedness Assessments (CRPA)
    - NERC Grid Security Exercise
    - ES-ISAC portal and collaboration

  The 2010 CRPA report identified eight observations and associated recommendations that came from 10 utility assessments. Each company should review the recommendations outlined in Appendix I for applicability to their program.

  Over 70 entities participated in the first NERC Grid Security Exercise. This provided an opportunity to test both internal and industry responses and communication capabilities.

  The CIPC should encourage entities to participate in all three efforts to fine tune their response plans. NERC should continue to fund and provide the necessary resources to expand the number entities that can participate in these programs.

- **Conduct exercise with Transmission Planners –** The bulk power system is inherently highly resilient to threats. Probabilistic planning criteria consider a wide range of potential contingencies and consider probabilistic failure (i.e. equipment failure, human error, and weather events) yet do not consider a structured, coordinated, and intelligent attacker. Additionally, the definition of a "single asset" under this criterion is often based on the probabilistic failure of a given system component (i.e. a single bus or circuit breaker or a single unit at a generating plant) and may not cover the loss of every component at multiple given physical locations (i.e. several entire substations or generating plants), as could be effected by a physical attack. Cyber attacks take this one step further by creating the possibility that an asset could be misused to affect assets connected to it. Consider the example of a large substation with multiple generating units connected to it. Though this capability has not been successfully demonstrated to date, an experienced cyber attacker could use relays and breakers within that substation to affect the operation of each of those plants.

  In order to accurately evaluate the system's resilience to structured attacks, the sector should work to incorporate these new perspectives and take a broader view of the system than is generally provided by traditional system planning and operating criteria. Entities within the sector have conducted such analyses with results that indicate the system would retain its integrity in the event of certain targeted attacks, however this practice should be considered more widely as planning methods evolve. Priority should be given to designing for survivability, such that the system could withstand and recover from a structured multi-

node attack. At a minimum, system planners and operators should be able to model the effects of such an attack and drill restoration measures.[31]

Working with Department of Energy national labs and a pilot group of electricity utilities, a transmission planning exercise should be coordinated by NERC to simulate a coordinated cyber attack that creates a cascading event and blackout. The event should attempt to identify the point at which current transmission planning criteria is exceeded and how to deal with dynamic mitigation. The results could provide insight into additional facilities/locations that might need protection beyond what is called for with the CIP and Transmission Planning (TPL) standards.

The exercise scenarios should be selected from a comprehensive hazard analysis method, such as using the attack tree work completed by the CATF or selecting another rigorous approach to identify and bound the attack scenarios.

- **Increase Awareness for Department of Energy Initiatives -** The Energy Sector Control Systems Working Group recently released the latest Roadmap to Achieve Energy Delivery System Cybersecurity. There are numerous initiatives that will help ensure protection of critical systems supporting the Bulk Power System going forward. In addition, the document serves as an excellent reference document that all entities can benefit from reading. Two initiatives that can have an immediate benefit are:

    - **Digital Bond / DOE – Bandolier initiative:** Digital Bond's Bandolier project helps asset owners and vendors identify and audit optimal security configuration for industrial control system (ICS) servers and workstations. Digital Bond partners with leading ICS vendors to identify the optimal security configuration that still allows the vendor's product to operate properly. This requires access to the vendor's security experts, lead engineers and a test lab. Digital Bond then creates Bandolier Security Audit Files that work with the compliance plugin in the Nessus vulnerability scanner. Bandolier Security Audit Files are available for over twenty control system components, with more on the way.

      http://www.digitalbond.com/tools/bandolier/

    - **Digital Bond / DOE – Portaledge Project:** Portaledge is a Digital Bond research project that **aggregates** security events from a variety of data sources on the control system network and then correlates the security events to identify cyber attacks. Portaledge leverages the aggregation and correlation capability of OSIsoft's PI server, and its large installed base in the energy sector to provide this cyber detection capability in a system many industrial control system (ICS) owner / operators already have deployed.

      http://www.digitalbond.com/tools/portaledge/

[31] High-Impact Low Frequency Event Risk to the North American Bulk Power System page 36

- **Continue to Extend Public / Private Partnership** – More and more US and Canadian electricity sector staff have been granted clearances to see classified information. As the US and Canadian Intelligence Communities working with NERC discovers new vulnerabilities and threats, this information should be disseminated to the electricity sector as quickly as possible. The electricity industry must ensure an appropriate mix of operational, security, technical and managerial staff is cleared and available to evaluate, respond and make timely decisions to slow or stop an attack.

  Effective information sharing can be enabled in multiple ways including having clearances passed to local FBI offices and Fusion Centers so expedited secure communications can be accomplished with a wider portion of the industry. It is important to ensure the inclusion of the appropriate representation from the law enforcement community, as the traditional separation of tactical field operations and national security operations do not necessarily facilitate the proper sharing of information. In Canada, jurisdiction for Canadian electricity utilities varies from province to province. The provincial law enforcement agencies have a reporting relationship with the Royal Canadian Mounted Police (RCMP).

  In addition, NERC and federal agencies should continue to involve sector experts to help translate classified information (e.g. preparing useful tear-line material) into alerts that can be issued to the industry. This re-enforces the life cycle approach to addressing vulnerabilities.

  The ES-ISAC offers an increasingly robust portal environment to organize electronic collaboration and this development effort should be strongly supported. ES-ISAC is establishing protective procedures to provide insulation from compliance concerns which might otherwise limit the willingness to share vital security information before, during or after a contingency. In the event standard information sharing protocols are unavailable during an attack (e.g. between utilities, ES-ISAC, etc), alternative methods need to be defined.

  In parallel, the electricity sector needs to improve its sharing of information with federal agencies. Historically, there has been and continues to be a reluctance to do this because of the uncertainty about where the information could end up or that the disclosure could result in a perceived compliance violation.

# Outreach

Outreach is an important part of asserting deliberate intent of the sector to cause transformative change. If the goal is to fortify sector security against a coordinated cyber attack, outreach activity will raise awareness of the issue and equip sector participants with the motivation and knowledge to enhance capabilities.

| SUCCESS ELEMENTS | WHAT IT MEANS… | ACTIONS |
|---|---|---|
| Skilled Workforce | Long-term workforce development providing scale and capacity of vital skill sets and qualifications in security related professions and trades. | • Work in conjunction with National Board of Information Security Examiners (NBISE) initiatives to enhance workforce development in both IT and OT security<br>• Encourage continued participation in Advanced Industrial Control System Red/Blue Team Training offered by Idaho National Labs. |
| Leadership Engagement | Leaders driven by passionate focus on security viewed as a strategic competitive advantage at entity, sector, national and international levels. | • Provide periodic updates to the NERC CIPC, ESCC on status of Cyber Attack Task Force and any follow-up working group activities. |
| Vertical Communications | Effective two-way communications between authoritative information sources and entities. | • Report events to the ES-ISAC, the FBI and applicable Canadian law enforcement agencies to better identify trends<br>• Engage FBI, DHS and DOE resources to provide input to attack trees<br>• Coordinate with DOE, the national labs and DHS on other cyber attack programs, both at the classified and unclassified level.<br>• Communicate with FERC and Congressional staff (through NERC and Industry Trade Associations) to educate regulators about the work being done by the electricity sector. |
| Horizontal Communications | Communications between proactively engaged entities sharing issues, opportunities, perceived gaps and best practices. | • Encourage entity sharing of information with ES-ISAC related to systems events.<br>• Participate in initiatives such as those offered by NESCO |

| | | |
|---|---|---|
| Communications Content | Comprehensive with holistic integration of threat, vulnerability, planning, operational, mitigation, and process issues. Standard lexicon, formats and redundant, interoperable, classification controlled pathways are employed. | • CIPC members and other Subject Matter Experts should continue to work closely with the NERC ES-ISAC on timely and relevant alerts |
| Advanced Technology Application | Provision and use of cost effective, sustainable technologies and services. Vendors and supply chain participants are energized and innovative --committed to trusted secure supply chains and optimal new product development, informed by sector expertise, emerging threats and real vulnerability gaps. | • Work with the Energy Sector Control Systems Working Group on enhancements and updates to the Roadmap to Achieve Energy Delivery Systems Cybersecurity |

# References

| Name | Link |
|---|---|
| DOE/NERC HILF "*High Impact, Low Frequency Risk to the North American Bulk Power System*" report | http://www.nerc.com/files/HILF.pdf |
| Critical Infrastructure Strategic Roadmap | http://www.nerc.com/docs/escc/ESCC_Strat_Roadmap_V5_20_Oct2010_clean.pdf |
| NERC Technical Committees' Report – *Critical Infrastructure Strategic Initiatives Coordinated Action Plan* | http://www.nerc.com/docs/ciscap/Critical_Infrastructure_Strategic_Initiatives_Coordinated_Action_Plan_102510.pdf |
| NERC Scope: Cyber Attack Task Force | http://www.nerc.com/filez/catf.html |
| Roadmap to Achieve Energy Delivery Systems Cybersecurity – September 2011 | http://www.controlsystemsroadmap.net/pdfs/roadmap.pdf |
| NERC CIP Standards | http://www.nerc.com/page.php?cid=2\|20 |
| Insider Threats to Utilities | DHS Office of Intelligence and Analysis – July 19, 2011 Note |
| US Electricity Sector Faces High Cyber Exploitation Threat, Low Cyber Attack Threat | FBI presentation, http://www.nerc.com/docs/cip/CIPC%20Presentations%20September%202011.zip |
| NERC Cyber Risk Preparedness Assessment – Tabletop Exercise Report April 2010 | http://www.esisac.com/Public%20Library/Reports/CRPA%202010%20Report.pdf |
| DHS Report – Preventing and Defending Against Cyber Attacks – June 2011 | http://www.dhs.gov/xlibrary/assets/preventing-and-defending-against-cyber-attacks.pdf |
| DHS Recommended Practice: Creating Cyber Forensics Plans for Control Systems | http://www.us-cert.gov/control_systems/pdf/Forensics_RP.pdf |
| DHS Cyber Threat Source Descriptions | http://www.us-cert.gov/control_systems/csthreats.html |
| Recommended Practice: Creating Cyber Forensics Plans for Control Systems | http://www.inl.gov/technicalpublications/Documents/4113665.pdf |
| DHS - | http://www.us-cert.gov/control_systems/pdf/Incident_Handling_Brochure_Nov_2010.pdf |

| | |
|---|---|
| The Use of Attack Trees in Assessing Vulnerabilities in SCADA Systems | http://www.tofinosecurity.com/professional/use-attack-trees-assessing-vulnerabilities-scada-system |
| Developing an Industrial Control Systems Cybersecurity Incident Response Capability, 2009 | http://www.usert.gov/control_systems/practices/documents/final-RP_ics_cybersecurity_incident_response_100609.pdf. |
| NIST SP800-86 Guide to Integrating Forensic Techniques into Incident Response | http://csrc.nist.gov/publications/nistpubs/800-86/SP800-86.pdf |
| NIST 800-61, "Computer Security Incident Handling Guide | http://csrc.nist.gov/publications/nistpubs/800-61-rev1/SP800-61rev1.pdf |
| National Electric Sector Cyber Security Organization | http://www.energysec.org/nesco |
| Improving Industrial Control Systems Cybersecurity with Defense-in-Depth Strategies | http://www.us-cert.gov/controlsystems/practices/RecommendedPractices.html |
| ERO Event Analysis Process | http://www.nerc.com/filez/eawg.html |
| NSA Manageable Network Plan | http://www.nsa.gov/ia/_files/vtechrep/ManageableNetworkPlan.pdf |
| DHS Procurement Language for Control Systems | http://www.us-cert.gov/control_systems/pdf/FINAL-Procurement_Language_Rev4_100809.pdf |
| National Response Framework | http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf |
| SANS 20 Critical Security Controls | http://www.sans.org/critical-security-controls/ |

# Appendix A: Introduction to Attack Trees

Threat trees are the first component of an attack tree. Threat (or fault) trees are used to determine whether the conditions necessary for a threat to be realized exist and are un-mitigated. A threat tree consists of threat outcomes

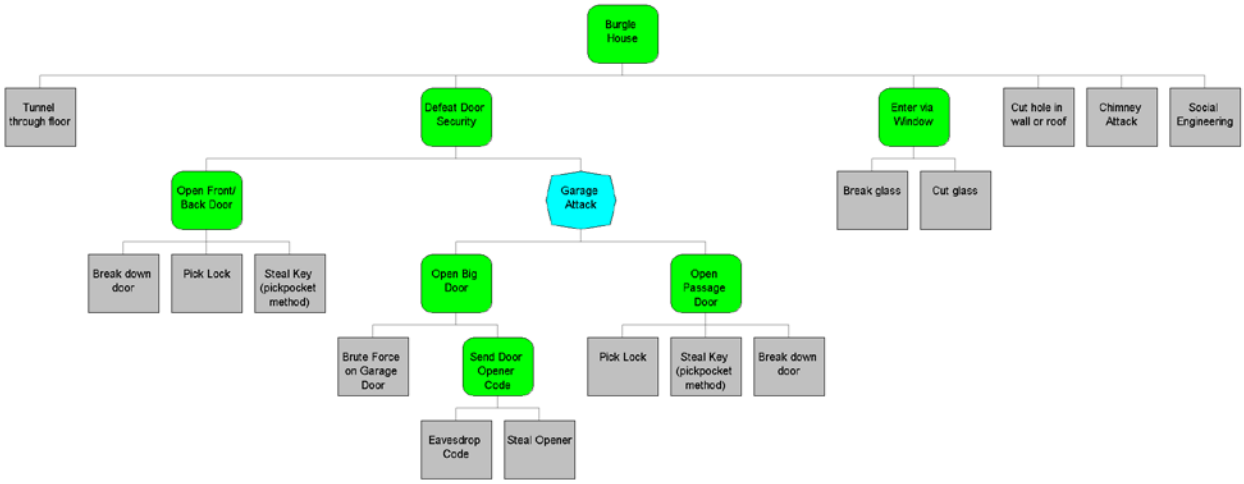
(e.g., long-term service disruption to a large area), in which preexisting conditions that must be true for an adversary to realize the threat (e.g., a circuit breaker is accessible through Internet connectivity). Any condition can, in turn, have one or more preconditions. Two or more conditions at the same level and sharing the same parent node can be combined, resulting in an "and" relationship; otherwise, an implicit "or" condition exists. Determining whether one or more vulnerabilities are associated with a threat is simply a matter of starting at a leaf condition (a node in the threat tree with no child nodes) and following it up to the root threat. If a path is unbroken by a mitigated node or a broken "and" condition exist, a vulnerability exists.

This information combined with intelligence about adversaries can be used to create an attack tree. Certain vulnerabilities are more likely to be exploited based on the attacker's capabilities (resources, geographic location, and industry experience.), while others will be virtually impossible to exploit.

The impact of a threat can be calculated quickly from the attack tree, which can, in turn, be used to justify or inform expenditures or resource allocation planning on mitigation strategies. Impact can be calculated by adding the financial and operational impact of the root of the tree to any impact created as attackers work their way up the tree. Some of the intermediate nodes in the tree may have an adverse impact, even if the attacker doesn't have the capabilities to extend further up the tree.

Once an impact is calculated, it is possible to calculate the value of investing in mitigation strategies. Based on the impact and the likelihood of occurrence, it is possible to determine whether countermeasures should be used for that vulnerability – or whether the vulnerability is so difficult to exploit (or has so little impact) that countermeasures are unnecessary.[32]

[32] American Electric and Power Attack Tree Methodology


Burgle House
Tunnel through floor
Defeat Door Security
Enter via Window
Cut hole in wall or roof
Chimney Attack
Social Engineering
Open Front/ Back Door
Garage Attack
Break glass
Cut glass
Break down door
Pick Lock
Steal Key (pickpocket method)
Open Big Door
Open Passage Door
Brute Force on Garage Door
Send Door Opener Code
Pick Lock
Steal Key (pickpocket method)
Break down door
Eavesdrop Code
Steal Opener

# Appendix B: Resources

**United States**

- NERC Electricity Sector – Information Sharing and Analysis Center (ES-ISAC)
  http://www.esisac.net/SitePages/Home.aspx
- Department of Homeland Security
  - United States Computer Emergency Response Team (US-CERT)
    http://www.uscert.gov/
  - Industrial Control System – Computer Emergency Response Team (ICS-CERT)
    http://www.uscert.gov/control_systems/ics-cert/
  - Control Systems Security Program
    http://www.us-cert.gov/control_systems/cstraining.html#workshop
- International Computer Emergency Response Teams
  http://www.internationalcybercenter.org/certicc/certworld
- National Council of Information Sharing and Analysis Centers (ISACs)
  http://www.isaccouncil.org/index.php?option=com_content&view=article&id=87&Itemid=194
- Federal Bureau of Investigation
  http://www.fbi.gov
  http://www.infragard.net/
- Domestic Security Alliance Council

  http://www.dsac.gov/Pages/index.aspx

**United Kingdom**

- CPNI – Center for the Protection of National Infrastructure

http://www.cpni.gov.uk/

- SOCA – Serious Organized Crime Agency

http://www.soca.gov.uk/

**Canada**

- RCMP – Royal Canadian Mounted Police

http://www.rcmp-grc.gc.ca/index-eng.htm

- CCIRC – Canadian Cyber Incident Response Center

http://www.publicsafety.gc.ca/prg/em/ccirc/index-eng.aspx

**New Zealand**

- CCIP – Center for Critical Infrastructure Protection

http://www.ncsc.govt.nz/

**Australia**

- AFP – Australian Federal Police

http://www.afp.gov.au/

- CERT Australia – Computer Emergency Response Team

http://www.auscert.org.au/

**Vendor Alerts**

- ABB – www.abb.com
- Alstom Grid – www.alstom.com/grid/products-and-services/electrical-network-systems/
- Open Systems International – www.osii.com
- Schweitzer Engineering Laboratories – www.selinc.com
- Siemens – www.seimens.com

# Appendix C: Cyber Event Scenarios for System Operators

## Overview

The following scenarios are presented in order from more plausible to less plausible. Plausibility is based on the perceived ease with which a malicious individual could accomplish the task. The scenarios are centered on operator trainee actions as opposed to support personnel actions.

We identified at least four major categories of events, and chose scenarios from among these:

- Social engineering
- Denial of service
- Spurious device operation
- Realistic data injection

Almost all of the symptoms described in these scenarios could, and in overwhelming likelihood would arise from any number of problems *other* than a cyber attack. These other likelihoods should be considered before a cyber attack is assumed.

## Social Engineering – false request or information to operator

### Description

In this scenario, a malicious individual contacts an operator and makes a request for action or information, or supplies false information. This individual could be a disgruntled current or former employee. They could represent themselves as field personnel, and RTO employee, or any number of legitimate individuals.

### Implementation

During a training exercise a phone call could be made to the trainee, with the individual asking for an action or supplying false information.

Example: "Hello, this is John Doe at Metropolis substation. We've got a big problem here and need you to open the 1A breaker ASAP."

### Recognition

Awareness and a questioning attitude are probably the best tools for recognizing this scenario.

- Is this an unusual request?
- Is this a familiar identifiable person?
- Does this person possess particular knowledge about the situation when asked?
- Is this one of many unusual or suspicious requests?

### Response

If a suspicious request is received, obviously the trainee would not act on it. They should:

- Try to gain more information from the caller if possible
- Consider the appropriateness of the request
- Attempt to identify the individual
- Verify the request with another entity (cross check)
- If the situation remains suspicious, report the incident to their appropriate supervision and support personnel

## Denial of Service – EMS network

Description

EMS computer network becomes fully or partially unavailable, or network performance declines. Scenario proposes that malicious activity has adversely affected EMS network.

Implementation

This is most easily staged in a training simulator environment, or even on a separate training network. Any number of methods could produce the appearance of network loss or overload.

- Disconnect operator workstations from network at a location unseen by the trainees
- Remotely alter workstation or training network settings such that slow network response is observed
- Administratively terminating workstation sessions may give the appearance of network loss

Recognition

- EMS system may seem completely unresponsive
- User interface may spuriously disconnect then reconnect
- May experience timeouts when performing actions
- May experience multiple telemetry failures
- Other evidence of unauthorized system access exists or was suspected

Response

- Consider the extent of symptoms – one or two workstations, entire system, other corporate non-EMS systems
- Contact I.T. support staff
- Consider a move to offsite disaster facility while support staff secures primary EMS facility

## Denial of Service – EMS applications halted

Description

Certain applications on the EMS have been maliciously halted. Therefore, the EMS system is not providing proper updates. Could be coupled with control compromise or physical sabotage in the field – the trainee of course would not be aware of it.

Implementation

Most likely requires a training simulator environment. In that environment, key applications such as the alarm system or data scanning applications are quietly halted. This might be accompanied by simulated manipulation of the actual power system while these programs are unavailable.

If the situation should go unnoticed, a simulated call from field personnel asking about a particular situation might call attention to the lack of updates.

Recognition

- EMS system does not appear to be updating
- May be lack of EMS alarms for an extended period
- Phone call from other personnel reporting changes not reflected in EMS
- When EMS system is restored, a large number of changes might be indicated
- Other evidence of unauthorized system access exists or was suspected

Response

- Cross check indicated data with other personnel or systems
- Notify support staff

## Spurious Device Operations

Description

Multiple, un-commanded, unexpected device operations indicated in EMS system. Scenario could be based on:

- Indication-only compromise (devices aren't actually changing)
- Control compromise (devices are actually being manipulated)

Implementation

Most likely requires a training simulator environment. In that environment, event scenarios could be devised to:

- Simulate compromised telemetry, such that false indications and alarms are present
- Alter the power system simulation, such that power system devices actually operate (simulate a control compromise)

Recognition

- Unexpected state changes
- Could be multiple changes at unrelated locations
- May be conflicting indications (e.g. breakers open but flow present)
- Other evidence of unauthorized system access exists or was suspected
- State estimator may indicate that data is conflicting

Response

- If possible verify indications (cross-check)
- Verify with field personnel
- Call support staff

## Realistic Data Injection

Description

Convincing injection of false data into EMS or associated systems, for the purpose of changing operator behavior. This is much more subtle than strict denial of service and requires much greater knowledge of the system. Examples of changed operator behavior:

- Convince them to shed load
- Convince them to allow equipment overload/damage
- Cause then to ignore changes taking place on the power system

Implementation

Most likely requires a training simulator environment. In that environment, event scenarios could be devised to bias operator indications so that they do not match the true power system simulation. The power system simulation may be trending toward an adverse state, and this would be unknown to the trainee.

Recognition

The fact that this attack is very difficult to accomplish completely can help in recognition. It is possible the offender would make mistakes such that some indications would not look normal.

- Lack of correlation between measurements
- Indications defy known system conditions
- Some indications appear abnormal (offender failed to accomplish convincing injection)
- State estimator may flag anomalies where they didn't previously exist
- Other evidence of unauthorized system access exists or was suspected

Response

- If possible verify indications (cross-check)
- Verify with field personnel
- Call support staff

# Appendix D: Acronyms

| | |
|---|---|
| AGC | Automatic Generator Control |
| BA | Balancing Authority |
| CA | Critical Asset |
| CCA | Critical Cyber Asset |
| CIPAC | Critical Infrastructure Partnership Advisory Council |
| CIPIS | Critical Infrastructure Protection Information System |
| CIPC | Critical Infrastructure Protection Committee |
| DCS | Distributed Control System |
| DHCP | Dynamic Host Configuration Protocol |
| DNS | Domain Name Services |
| DOS | Denial of Service |
| DDOS | Distributed Denial of Service |
| EGSEC | Energy Grid Security Executive Council |
| EMS | Energy Management System |
| ES3P | Electricity Sector Public Private Partnership |
| ES-ISAC | Electricity Sector Information Sharing and Analysis Center |
| ESP | Electronic Security Perimeter |
| ESCC | Electricty Sub-sector Coordinating Council |
| ICCP | Inter- Control Center Communication Protocol |

| | |
|---|---|
| ICS | Industrial Control System |
| IDS | Intrusion Detection System |
| IP | Internet Protocol (see TCP/IP) |
| IPS | Intrusion Prevention System |
| MAC | Media Access Control |
| MD5 | Message Digest 5 |
| OS | Operating System |
| PLC | Programmable Logic Controller |
| POTS | Plain Old Telephone Service |
| RC | Reliability Coordinator |
| RCIS | Reliability Coordinator Information System |
| RRO | Regional Reliability Organization (SERC, NPCC, WECC, etc.) |
| RTO | Regional Transmission Operator |
| RTU | Remote Terminal Unit |
| SCADA | Supervisory Control and Data Acquisition |
| TCP/IP | Transmission Control Protocol / Internet Protocol |
| TPL | Transmission Planning |
| USB | Universal Serial Bus |
| VLAN | Virtual Local Area Network |
| VPN | Virtual Private Network |

# Appendix E: Potential Responses to an Attack

Because attacks can come in different forms and attackers have different capabilities and motivations, it is impossible to prepare for them all. Each utility should create and execute a triage plan that will protect the most critical systems associated with real-time operations and situational awareness.

Listed below are a list of actions to consider based on the characteristics of the attack. These actions are broken up into the following categories:

- Voice and Data Communications
- Network Defenses (Internal and External)
- Operations (EMS/SCADA, Transmission, Generation)
- Information Sharing
- Forensics
- Personnel

**Response Actions to Consider**

- **Voice and Data Communications**
  - Determine impact to landline, VOIP and cellular communications as it relates to the Bulk Power System
  - Determine impact to ICCP, VOIP and other messaging data communications as it relates to Bulk Power System
  - Initiate satellite communication systems
    - Intra-communication to key power plants, etc.
    - Extra-communication to neighboring utilities, RC, RTOs, etc.

- **Network Defenses (Internal and External)**
  - Review password settings on key operational equipment and systems and knowledge of that information, and determine if possible modifications should be considered.
  - Check integrity of facility support systems (HVAC, water supply, physical access controls)
  - Review IDS/IPS and firewall settings to verify allowed access is still valid and required for current operating conditions.
  - Consider disconnecting external connections to business partners (e.g. VPNs or other point to point connections)
  - Remove all non-essential in-bound network access to control systems and related ESPs (remove support staff remote access)

- Remove all dial-up and remote command and control access links
- Implement IDS, IPS systems or FW rules that shun or block access attempts from source (if source info is provided)
- Review external network activity logs (especially for ESPs)
- Validate that only authorized access attempts are indicated in log files
- Tighten down host-based controls
- Temporarily change logging thresholds on key systems to capture more data for analysis

- **Operations (EMS/SCADA, Transmission, Generation)**
  - Review password settings on key operational equipment and systems and knowledge of that information, and determine if possible modifications should be considered.
  - Initiate emergency operations plans dealing w/ loss of communications and loss of control center functionality
  - Change control systems passwords for all systems deemed CCAs. Include non-CCAs as appropriate.
  - Remove contractor access to control systems and require escort access for all non-employees
  - Terminate control systems (EMS/SCADA) communication to the point that compromise is contained or rendered ineffective
  - Ensure EMS and State Estimation functions are operating properly. Validate and much as possible critical assumptions and values in database(s)
  - On a pre-determined schedule - Coordinate with Neighboring TOP/RCs on data validation points. Validation points are points where both entities have either independent monitoring or state estimated points from their own respective models. Both entities should be able to confer that based upon a predetermined set of validation points their respective state estimation and security analysis applications are both arriving at similar (not necessarily equal) values.
  - Disable EMS/SCADA control in a manner that preserves system stability while maximizing situational awareness for operators. (e.g. disable operator-initiated controls, followed by AGC if absolutely needed)
  - If disabling control fails to isolate the conditions, fully diable EMS/SCADA and operate power grid in manual mode by disabling all RTU communications. Disabling EMS/SCADA will hopefully preserve the state of the system forensic analysis.
  - Recover offsite backup tapes or “gold” copies of operating systems, configuration file, or applications for recovery purposes.

- Failover to backup control system(s)
- Contact your key hardware and application (including EMS/SCADA/Relays) vendors.
- Establish trigger points of distrust – i.e., if values diverge from one scan to the next by X% - attempt to validate value from other associated readings (i.e. are signals of large generation losses confirmed by changes in tie values). With such triggers, Operators should only take actions that can be validated at multiple ends via telecommunications.
- Work with vendor to develop/implement a solution (i.e. update firmware/software, replace compromised equipment with updated firmware, passwords, etc.)
- If attack corrupts primary and backup control center (BUCC) systems run off-line analysis from BUCC EMS packages and/or PSSE study files to validate outputs of control systems.
- Determine whether EMS Test environments can be leveraged in any way.
- Validate that only authorized access attempts are indicated in log file

- **Information Sharing**
  - Forward information (logs, backups, etc) to the ES-ISAC and/or ICS-CERT for further review and analysis. This includes any un-authorized access (electronic or physical) attempts.
  - Inform ISO/RTO/RC and neighboring utilities of incident
  - Contact local law enforcement for assistance with physical security
  - Actions could result in activation of NERC Crisis Plan and/or issuance of a NERC Essential Action Alert
  - Forward any evidence of related activity to ES-ISAC and *regional utilities* for further analysis and communication
  - System Operations and ESP Monitoring personnel should have frequent conference calls to correlate monitored ESP activity and system operations abnormal readings.
  - Utilize system "All-Call" and the RCIS to notify related operating entities of this activity and the need to consider validating readings and conducting conference calls to coordinate major system activities (i.e., opening lines, ramping down generation in a morning pick-up)

- **Personnel**
  - If unmanned, have a second shift man backup control centers.
  - If unmanned, deploy personnel to key substations, blackstart facilities and generation facilities

- All non-essential personnel shall be removed critical facilities (e.g. control centers, substations, generation plants)
- All affected facilities vital to the operation of the BPS should be staffed as needed by security trained and background checked individuals during the notice
- Co-locate Security Monitoring – or Cyber Incident Response team personnel with System Operations – so that the team can quickly assess suspect data/outputs and correlate it to ESP monitoring.
- Perform walk-downs of all critical facilities looking for abnormalities or unusual situations (tags on equipment maintenance ports are properly installed)
- Check seals on physical ports (i.e. maintenance ports) of programmable devices such as smart relays to determine if physical tampering has occurred.
- If “assigned” or “trackable” seals are used to manage access, validate seal information (i.e. serial number, scan code, etc.) to ensure that the proper seal is intact.

- **Forensics**
  - Preserve evidence to the extent possible (keep the system(s) in question in a state that allows for further forensic analysis).
  - All control system logs shall be maintained for 3 years for facilities that have CCAs (this includes non-impacted sites)

# Appendix F: Precursors and Local Indicators of an Unusual Event

Some activities can be a precursor to the start of an actual event. While local indicators can happen routinely, having multiple occur could be a sign of an out the ordinary situation.

**Precursors to Anomalies**

- Reconnaissance activity on public facing web sites, with a focus on harvesting of email addresses or other contact information
- Correlated targeted malware delivery attempts (such as spear phishing) across the industry
- Correlated malware samples contained within the industry
- Observed anomalies along perimeter, guest, remote access or wireless networks
- Anomalies of outbound or egress traffic from highly controlled environments
- Public threats by activist or hacktivist groups
- Geo-political crisis

**Anomalies in EMS/SCADA system application**

- Displays not updating or erratic display update times
- Alarm “heart beat” fails
- Flurry of alarms determined by the system operator to be erroneous
- Flurry of alarms by State Estimator indicating a mismatch between field values and SE.
- Generator units not responding to AGC
- Not able to recover from a Control Performance Standard 1 and 2 excursion
- Large number of RTUs not available for scanning
- AGC or electronic dispatches not matching schedules
- ICCP in-operative
- Sporadic malfunctions of equipment or process

**Anomalies in EMS/SCADA system hardware behavior**

- High disk I/O rate
- Quickly diminishing free disk space
- High CPU utilization
- Undocumented service(s) running
- Slow network response
- Operator consoles loosing connection
- Change in network topology
- Unexpected network traffic
- Unexpected server(s) and firewall(s) restarts

- Unexpected loss of network connectivity, both internal and external
- Change in sound or pitch of equipment

**Anomalies within Substations**

- Alarms associated with relays, communications processors, SCADA
- Indications of physical access to equipment (tamper-proof tape on maintenance ports)
- Changes to relay configurations or settings
- Changes to ports/services on PCs or other equipment in substations (i.e. different from baseline)
- Changes to breaker settings or configurations
- Changes to RTU configurations or settings
- Passwords changed or checked out outside normal change cycle
- Alarms associated with devices unplugged or unauthorized devices connected to secured network (MAC addresses, switch ports normally turned down)
- Loss of RTU / DCS communication to the master EMS
- Change in sound or pitch of equipment

**Anomalies in Situational Awareness**

- Decrease in expected activity
- Similar activity as in previous hour, 24 hours or day that does not appear to match field readings
- Telemetry readings not matching schedules

**Communication from (RTO and/or neighboring utilities, customers)**

- Confirmed cyber security event at another entity
- Alarms associated with RTUs at interconnect points (multiple RTUs)
- Unconfirmed cyber security event
- Customer calls describing outages that do not correspond with normal alarms

**Personnel**

- Multiple personnel absent due to illness
- Erratic or nervous behavior
- Personnel missing or present during unusual times of during the day or shift

# Appendix G: Isolation and Survivability Tactics

None of the suggested actions should be taken without first understanding the operational or situational awareness impact

**Network Isolation**

- Disable non-essential corporate connections to Internet, including e-mail
- Disable backup (dial-up or emergency) connections to Internet
- Disable connections with business partners (point-to-point connections and site-to-site VPNs)
- Disable remote access (dial-up, and client VPN) connectivity connections to internet
- Remove inbound connectivity to critical networks from corporate or business networks
- Remove outbound connectivity from critical networks to corporate or business networks to prevent further propagation

**Operational Isolation**

- Disable AGC and operate using local generator control
- Disable SCADA and Communications networks from Substations and Generation facilities
- Disable communications from Communications Processors in Substations from Intelligent Electronic Devices (IEDs) such as relays.
- Disconnect relays from breakers
- Islanding
- Under Frequency Load Shedding

# Appendix H: Defensive Capabilities

**Voice and Data Communications**

- Telecom Companies (Cellular, POTS, etc.)– loss of RTUs, percentage thresholds
- Company owned copper – loss of RTUs, percentage thresholds
    - Have multiple path technology in place that could use several connection types / ISP's with the communications path using all that are available automatically.
- Multiple facilities/cell areas
- Cell phones / Smart phones – Social engineering, unsolicited inquiries
- Internet Service Providers detecting and dropping or rerouting malicious network traffic.
- Entity Owned Communication Networks (800 MHz, Microwave, Fiber, etc.)
- ICCP or Inter-Company Communications (Voice and Data)– loss of 2 or more simultaneously
- Satellite Communications
- Internal telecommunications facilities (e.g. ICCP.- microwave - local physical attacks (i.e. antennae structure damage)
- Dedicated facilities such as automatic ring downs (ARD) and Hotlines
- Social media – Twitter feeds, Skype, Facebook

Network perimeter defenses (border) – cyber intrusion into control center premise or critical asset premise

- Firewalls
- Intrusion Detection and Prevention systems
- Router Access Control Lists
- Data Diodes (or other methods of isolation – combination of routable and non-routable protocols)
- Vulnerability scanning and configuration management control (scans for changes in settings or configurations)
- Non-routable communications between servers
- Out of band communication to critical equipment (accessible over LAN/WAN and dial-up)
- Real-time logging of events on network and host devices.
- Alarms setup based on defined thresholds for abnormal events such as login fails, privileged account usage, or device probes that result in "access denied messages".
- Ability to query the log database for specific items that may not be in the current alarm pattern

- Security Information Event Management (SIEM) systems that consolidate logs and provide correlation of seemingly unrelated events,

**Physical Defenses or Deterrence**

- Motion detection – motion detector alarms, cameras, floodlights, control house intrusion alarms, loss of oil or over-temp transformer alarms
- Key card access
- Use of biometric controls
- Mantraps or other physical barriers that prevent tailgating
- Use of special locks for gates, equipment
- Increased patrols by law enforcement / contracted security
- Logging of physical access
- Increase access restrictions:
    - Advance notification for visitors
    - Limit access by outsiders to business need
- Increase use of security cameras, video surveillance.
- Staffing levels of key facilities
- Background checks
- Continuous behavioral monitoring
- Random drug testing

**Generation Defenses**

- Use of “Constant Frequency Operations” – previously defined for the Y2k transition.
- Use of “Conservative Operations” to maintain extra capacity
- Day-Ahead Planning – conservative mode unit commitment to maintain extra capacity and responsiveness
- Operation near unity power factor to maintain reactive capability (VAR reserves)
- Blackstart

# Appendix I: CRPA Observations and Recommendations

| Observations and Recommendations |
| --- |
| **Observation 1** - Most of the exercises and mini-programs included aspects of concurrent physical and cyber incidents, a tactic used to bring familiarity to the traditional domain of perimeter compromise to the assessment space. This use of mixed incidents was most prevalent when the participating entity migrated to Internet Protocol-based substation and SCADA operations. The goal was to determine general levels of readiness as they pertained to mapping physical asset break-ins to plausibly impact the cyber infrastructure. All entities had formal process and checklists to manage response to physical break-ins and theft of copper, equipment, and other valuable items. However, none had a process to consider if any technology had been *added* to the environment, such as rogue access points, radios, or other devices that could provide access to the EMS operational domain. |
| **Recommendation 1** - Entities should update standard procedures for facility break-ins to include examination of systems for unauthorized changes to cyber assets. Additionally, entities should conduct system "sweeps" to identify any new equipment that may have been introduce to facilitate unauthorized access to the energy management command and control network. |
| |
| **Observation 2** - Most entities involved in the program had some form of cyber incident response plan in place or in development. In each case, the plans identified and assigned personnel and roles to respond to a cyber incident, but the plans lacked contingency planning in the event key personnel were not available. During the exercises and outreach campaigns, several participants noted that they were unfamiliar with the entire set of incident response activities, such as escalation, points of contact, impact analysis, etc. This observation suggests that, although a first-line of response had been established (and roles assigned), there was no capability to back-fill or cross-pollinate roles during a cyber incident. This issue can increase risk if, during an incident, trained personnel are not available and activities cannot be performed. |
| **Recommendation 2** - The entire response team should be assigned primary and secondary roles, guaranteeing overlap in capabilities should the situation require it. Also, entities should include more group members from each response group in incident response training. This redundancy will provide some depth to the entity's "bench strength" and offer more resiliency. An entity should select a minimum number of people per department who should have incident response training, and ensure that those people receive the necessary training. Cross-train at least two additional staff members as incident response leaders who can take command of incident response activities. |
| |

| |
|---|
| **Observation 3** - Having a corporate capability to interact with local and federal law enforcement during or after a cyber incident is something all entities deemed mandatory. While most organizations had at least one person in place that had some contacts in the law enforcement community, very little of their experience and knowledge had been internalized by the organization in the form of policies and procedures. After action reporting from exercise activity, combined with outreach and entity interviews, suggested that incorporating a law-enforcement communication function in the incident response plan would be useful, and that any experience and relationships entity personnel may have should be leveraged. |
| **Recommendation 3** - Entities should work with local law enforcement to create a pre-populated list of law enforcement activities that could be performed during a cyber event. Establishing a pre-determined communication protocol with law enforcement entities would also be beneficial in helping to understand what law enforcement will do if called to support investigations. Feedback from participating entities suggested including law enforcement in exercise training activities, and proactively working with law enforcement to understand what is required should an actual incident occur. Entities should initiate a cooperative partnership with local Federal Bureau of Investigation or Royal Canadian Mounted Police offices, and include them in the response planning activities. NERC may wish to review any framework development that empowers BPS entities to create a law enforcement communication plan based on known investigative procedures, or suggest the augmentation of NERC CIP language to define the parameters that support law enforcement communications. |
| |
| **Observation 4** - During the exercises, interviews, and after-action discussions, the majority of participants appeared unsure about the necessary involvement of the RC in a cyber incident and are unsure how or when to engage them. |
| **Recommendation 4** - Entities may wish to explore this issue further, as present protocols in place for interaction with RCs may not always include strategies as it pertains to a cyber incident where (a) reliability of BPS operation may be jeopardized, and (b) the communications path to the RC may be an attack vector. Entities are encouraged to work with their RC to establish a set of pre-defined incident response procedures which will determine when to include them in the communication chain during an incident. Moreover, NERC should investigate the protocol regarding entity-RC communications and reporting during cyber duress. |
| |

| |
|---|
| **Observation 5** - The CRPA covers many aspects of entity operations and looks specifically at security operations for critical cyber assets; also included in the project activities were Primary Control Centers (PCC)/Main Control Centers and Back Up Control Centers (BUCC). A review of the findings indicates that, in many cases, the entity maintains BPS operations across a flat network and, to support redundancy, mirrors activities to a BUCC on that network. As the BUCC receives updates in real time from the systems in the PCC, a potential attack vector to the BUCC is established. Observations show that this architecture could create a situation where a cyber incident can impact mission critical backup data and critical cyber assets in the BUCC. The recovery protocol deployed suggests that should operators need to close the PCC and move to the BUCC, the operational environment at the BUCC would be useless as it has been compromised by association or archived (recovery) data is corrupted. |
| **Recommendation 5** - Entities should consider expanding cyber protection measures to the communications infrastructure that support primary and backup facility operations. As it is assumed that all critical contingency communication resides behind and within the ESP, entities should consider monitoring the connection between the BCC and PCC for anomalous communications and other potential security-related events. |
| |
| **Observation 6** - The exercises showed that, while the technical teams were often quick to respond to the cyber incident (and begin their incident response activities), there were situations where no clear incident "leader" emerged to manage the incident on behalf of the whole organization. Key elements that were not coordinated included media relations, customer support, law enforcement, regulatory authorities and reporting agencies, and communications. |
| **Recommendation 6** - Entities should continue to create and run incident response training exercises which include, and even focus on, management teams. |
| |
| **Observation 7** - The CRPA exercises, interviews, and after-action reporting demonstrated that the security architecture of vital transmission and distribution assets was constructed with significant security controls. Observers noted that assets are often managed by an internal team with a high level of skill and knowledge pertaining to BPS resiliency and EMS recovery. However, in many cases, the management of an entity's generation element(s) has been outsourced to third parties, resulting in increased response times, reduced control systems knowledge, and an impaired ability to manage energy assets in accordance with the entity's response protocols. These issues created extreme difficulty in managing fast-paced cyber incidents that include generation assets. |
| **Recommendation 7** - Although these situations can be rare, the risk associated with insufficient security knowledge and response experience in the generation asset domain could prove to be significant during a cyber incident. Entities should consider moving management of all assets within the main EMS/SCADA and IT Engineering groups, resulting in an improvement to the overall management of generation assets. |

| |
|---|
| **Observation 8** - Despite the number of public displays of system compromise in recent years, combined with well-known cyber incidents impacting the energy sector, some individual participants remain skeptical about the possibility of a successful cyber attack on their own critical cyber assets, and as an extension, of the BPS cyber infrastructure itself. Participants did concede, however, that participating in scenario-driven exercises that used non-fictitious elements (cyber attack) to force them to test traditional response activities was very useful. |
| **Recommendation 8** - As the threat and risk landscape can change quickly, entities are encouraged to incorporate specific intelligence about their operations into their planning and training agenda. In addition, as part of the risk assessment process, entities could extend their activities to determine actual and plausible threats against their cyber infrastructure and use that data to populate their exercise and training curricula. Training activities for SCADA/EMS operators should be expanded to include general cybersecurity training to all EMS/SCADA IT, Electric System Operations, Corporate IT, and IRT training regimens. |

# Appendix J: Case Studies

***Breaking Air Gap Myths About Control System Inaccessibility - Stuxnet***

Just because there is an "air gap" doesn't mean a control system is inaccessible to adversaries. Stuxnet is a great example. A USB thumb drive can be transported from an infected host machine and inserted into the target network that is air-gapped. Then stuxnet can propogate on the local target network via multiple exploits. That propagation results in forming a hostile Peer to Peer (P2P) network which operates on the probability of finding resident hosts with indirect or direct internet accessibility. It then utilizes these hosts to establish an indirect Command and Control (C2) bridge for hostile control. In sum, USB served as not only the delivery mechanism but also to establish a network of hostile P2P relationships within the target network.

***Another Example, Breaking Air Gap Myths About Control System Inaccessibility – Buckshot Yankee***

SIPRNET is Department of Defense's (DoD) Secret-level network. This network is commonly perceived as completely air-gapped, yet in 2010 Deputy Defense Secretary William Lynn publicly disclosed a 2008 worm infestation on the network. The DoD response to this infestation was called Buckshot Yankee. Also in 2010, well-known former counter terrorism official Richard Clarke released a book entitled "Cyber War." Clarke gave a more detailed account of Buckshot Yankee. The delivery mechanism was USB insertion, much like stuxnet, but its C2 method was novel. Instead of P2P C2, Buckshot Yankee relied on sneaker-net C2. The infected thumb drive payload carried not only the malware worm but also a data file. This data contained requests and responses which serve as a C2 channel to the next internet connected devices the USB is inserted into. The result: USB creation of an effective hostile sneaker-net C2 channel across the perceived air gap which "secures" the target network. The bottom line: USB established a delivery mechanism within an air-gapped network and then sneaker-net connectivity enabled by repeated usage of USB devices between both air-gapped and non-air-gapped networks.

***TAKE AWAY, what these examples say about Cyber Attack awareness…***

Techniques such as utilizing USB devices as delivery mechanisms to enable hostile penetration of targeted "secure" control networks is widely known. Approaches of establishing hostile C2 channels across the gap using techniques such as P2P or sneaker-nets are less well known.

Techniques like these mean that defensive measures limited to reliance on air gaps need to be evaluated skeptically. Other advanced and novel means of hostile penetration, and the means to offer effective layered defense against them, must be considered to achieve true control network and device security and true risk management. These observations point towards integrated consideration of policies, procedures, system design, operational approaches, intrusion detection, anomaly, monitoring and awareness technologies which deliver a capability

to understand own network health, vulnerabilities and mitigation options. Take a proactive and more informed view towards the challenges and opportunities to enhance your security by keeping apprised of hostile techniques, tactics and procedures (TTP) like the two illustrative examples above.

***Disruption through swarming***

Creating an open call for volunteers in an ad-hoc, extemporaneous way to do something is popularly known as crowd sourcing. It's leaderless or structure-less network of people coming together for a common purpose and then disbanding. Adversaries use this tactic. The Anonymous (a loose knit global hacktivist group) hive is the personification of this but there are others.

In 2008, at the onset of war between Russia and Georgia, a distributed denial of service attack (DDoS) began against government websites. As hostilities began, this was extended to Georgian media websites covering the hostilities. These various DDoS attacks lasted for hours and had a peak of over 800Mbps. A few months later an analysis under the moniker of "Project Grey Goose" was released. This report outlined the coordination ground for these DDoS to a website called stopgeorgia.ru. This was a password-protected forum launched within 24 hours of hostilities. These DoS attacks were interspersed with website defacements posting pro-Russian propaganda.

These DoS activities and defacements were seemingly self-organized or crowd sourced on sites such as stopgeorgia.ru. Many believe the Russian government was in the background of these pro-Russian hackvists. At the very least, the Russian government appeared to condone the activities as evidenced by their clear restraint in not launch any investigation of the attacks.

Anonymous uses surprisingly similar tools to organize (online forums) - and similar tools to launch attack activity (denial of service attacks). Their tool of choice is called Low Orbit Ion Cannon (LOIC). LOIC is an application designed to launch DDoS attacks. LOIC by itself is uninteresting. It's the forums that are interesting. You'll see a long list of independently organized "operations" or "ops". Each of those operations are public and open to the community to comment on. There are dozens of ops at any given time, most of them become background noise. Others take off and develop a life of their own. The HBGary Saga is a good example of a successful op. But for each successful op there are countless that don't see the light of day. Combine this with the LOIC tool: when you give it to the hands of 10,000 who point it at the same target then you have a distributed denial of service. This is what was used in Operation Payback when Anonymous attacked PayPal and others after they refused to provide services to wikileaks.

This is a noteworthy tactic as indications are that it is employed by a wide range of adversaries. Pro Russian groups used it as a propaganda and disruption tool, and Anonymous continues that tradition.

***TAKE AWAY is that swarming is a practice that has been observed, Crowd sourcing and social media techniques are easily available to motivated groups that may seek to use them for distributed denial of service disruption.***

***Off the shelf tools***

There exists an ecosystem of tools available to the adversaries. Some of these are dual use for offensive and defensive purposes. Some of these tools are merely used at research levels, others for active attacks. Fuzzing tools and Security debugging tools such as olly or ida pro - which are development environments. These can pinpoint flaws in software and ultimately lead to exploit code that can be weaponized.

LAMP stands for Linux Apache Mysql and PHP. It is a "vanilla" OS, Webserver, SQL server and a web application language and how those four off the shelf technologies can be combined for rapid web development. LAMP is the model being packaged and sold by malicious underground adversaries in order to exploit people. These are known as exploit kits. Exploit kits use LAMP to set up malicious web pages, and use those pages to attack web browser and client components. The exploit kit also keeps track of the overall success rate. The kits create malicious iframes that will attempt to use a series of several exploits all at once in order to execute a malicious payload on the target machine. These iframes are windows cut into the webpage that allow visitors to view another page on the site or off the site without reloading the entire page. The exploit kit will also track victims by IP address, country, browser, OS-level, etc…

These malicious pages are delivered through vectors such as search engine optimization (SEO) and Phishing attacks.

Contagio dump (a web based collection of the latest malware samples, threats, observations and analyses) is tracking 64 versions of 42 unique exploit kits in the wild. Most of these contain between 10-20 exploits and each kit is sold for between $1000 to $2000. These 64 unique exploit kits have a total of over 100 unique exploits! Mostly targeting flash, adobe, quicktime, java, or browser vulnerabilities. Tools other than exploit kits also exist. LOIC is another off the shelf tool to be aware of. Additionally, there are Trojans, such as poison ivy, zeus, TDL, and others, which threat actors can purchase or gain use of through underground or criminal communities.

***TAKE AWAY is that exploit kits are ubiquitous and inexpensive for criminal groups to obtain and utilize. Software development quality control and layered defense in depth, combined with own systems awareness are key defensive measures.***

***Lateral Movements***

Adversaries with long-term motives will typically focus in on first gaining access to a target network, then finding target hosts on the network which enable network understanding. This tactic is generically referred to as moving laterally in the compromised network. This is where it can be tough to remove an adversary on your network because the adversary is in several places.

The tactic - and both Google Aurora as well as the RSA breaches saw this tactic used - starts with patient zero. Once patient zero is compromised the adversary begins compromising other workstations or servers with back doors. Adversaries will then use those backdoors and stand up their operations. One workstation may host various attacker tools: another workstation will be for data staging if the aggressor plans on finding and exfiltrating data. Yet another box is simply given a back door and not touched in case the aggressor loses access to the other boxes. Aggressors may continue lateral movements as they seek long-term objectives and escalate priviledges on the network.

Lateral movement typically occurs through a technique such as Passing the Hash. To illustrate, if an attacker gains access to a target user workstation and the user happens to be a local administrator, the goal becomes to jump from this springboard workstation to a print server and plant a “back door.” This is convenient because the attacker already knows the print server hostname since the user has access to it. What might not be known to the attacker is the target user domain password nor whether hi account has access to interactive sessions with the print server. Attackers may rely on the fact that Windows has a core OS service running known as Local Security Authority. This service caches the users and associated password hash data after a user has authenticated to the local system. The adversary can then utilize a tool known as Wondows Credential Editor (or metasploit…) and dump password hashes. This is not the plain text password. The password is not needed. Wondows Credential Editor can utilize this NTLM hash and start processes as the attacked user. The attacker uses Windows Credential Editor and dumps the cached hashes in LSA. The attacker identifies an account called “service Veritas.” That shines out to the attacker because Veritas is a backup software solution. If the backup software is using this service, there is a high likelihood that it is domain admin or nearly equivalent. Windows Credential Editor allows the attacker to use this hash and pass it on to the system to run processes as that user. On the local machine, he can then remotely connect to boxes as that service account. That’s how backdoors can be planted. Subsequently, one could come back to the print server and list hashes that are cached on the print server. If the domain equivalent  user has recently talked to the print server, that hash can be stolen and used as an attacker enabler for easy internal movement within the target network environment.

***TAKE AWAY is that a foundational defensive element of strategy for every organization should be development and maintenance of own asset and own system baseline configuration and operational states, as well as own systems operational awareness. Obtaining and keeping good forensic and log data can be very crucial to effective and sustainable defensive posture. Often a few Indicator of Compromise (IOC’s) can be developed around a few key, but important, departures or anomalies from normal operating parameters. These can be used to identify and triage attempts at compromise.***

# Appendix K: Task Force Goals and Objectives

The goals and objectives of the CATF are:

| Goals | Objectives |
|---|---|
| Review current situation and capabilities | 1. Consider the ability of entity system operators and cyber security analysts to detect and respond to a coordinated cyber attack.<br><br>2. Consider the extent to which entities may not isolate critical cyber systems from other business or Internet-facing systems, and the extent to which this increases the vulnerability of their systems.<br><br>3. Consider opportunities to isolate, prevent further propagation, or otherwise protect cyber systems and bulk power system assets.<br><br>4. Consider the capabilities of voice and data communications tools and energy management systems, with a focus on which minimum functional needs system operators must retain and the alternative methods to acquire or maintain this capability even in a reduced state.<br><br>5. Consider staffing capacity, challenges, and safety.<br><br>6. Assess the adequacy of current CIP cyber security practices under a coordinated cyber attack scenario. |
| Perform needs assessment | 7. Identify the functions needed to support reliable power system operations that would be particularly challenged under a coordinated cyber attack scenario. |
| Develop alternative solutions | 8. Assess the options, benefits, and costs associated with isolating critical cyber systems (i.e. control systems, energy management systems, protections systems, and their networks). Consider complete or virtual (e.g. virtual private network) separation.<br><br>9. Propose a range of alternative solutions to enhance operating capabilities, including estimated costs and effort to develop and maintain this capability. Identify the residual |

| | |
|---|---|
| | risks that may be associated with each of these solutions. |
| Coordinate Solutions | 10. Assist in outreach efforts to educate regulators, organizations, and other infrastructures in better understanding the electricity sector's preparations to address these threats. |
| Recommend Solutions | 11. Recommend potential practices or programs for use by NERC or individual entities. Create scalable drill templates that registered entities could utilize to train personnel and enhance current restoration and operating protocols. |

Agenda Item 13
Board of Trustees Meeting
May 9, 2012

# Electricity Sector Information Sharing and Analysis Center (ES-ISAC) Update: Enhancing Capability

## Action
Information

## Background
The mission of the ES-ISAC is to improve the security and reliability of the North American bulk power system (BPS) by facilitating the sharing and analysis of security-related information across the electricity industry and with government. The ES-ISAC develops and disseminates authoritative guidance regarding cyber, physical, and all-hazards threats to BPS reliability. The ES-ISAC depends on the information it receives from entity owners and operators, U.S. and Canadian government sources, and other critical infrastructure sector ISACs.

During 2012, the ES-ISAC is enhancing the capability of its two primary functions; information sharing and information analysis.

## Information Sharing
In February 2012, the NERC Board of Trustees approved the ES-ISAC policy statement that separates the operation of the ES-ISAC from compliance activities. It is anticipated that this policy will encourage entities to share information to a greater extent with the ES-ISAC regarding security incidents or vulnerabilities. A new ES-ISAC members-only portal, planned to be available by July 2012, will further encourage sharing by providing a confidential and secure mechanism. Approximately 200 NERC members are currently registered for the portal. Certain NERC staff now have access to the classified portal at the Department of Homeland Security (DHS) National Cybersecurity and Communications Integration Center. The ES-ISAC's information sharing capability is being enhanced through a number of initiatives, such as:

- Subscribing to Critical Intelligence Reporting services to more closely monitor emerging threats and vulnerabilities affecting industrial control systems, including Supervisory Control and Data Acquisition Systems (SCADA) and Energy Management Systems (EMS).
- Providing the secure communications technologies required to collaborate with the U.S. Computer Emergency Readiness Team (US-CERT) in order to analyze threats and disseminate NERC Advisories promptly to entities.

## Information Analysis
ES-ISAC staff is increasing their ability to analyze threats and their potential impact on bulk power system reliability through a number of initiatives such as:

- Subscribing to Looking Glass Cyber Intelligence to monitor real-time cyber threats that potentially affect the industrial control systems of asset owners and operators.
- Developing comprehensive Attack Tree models to help analysts assess the real risks to reliability of new and evolving threats.
- Implementing a comprehensive Analyst Workbench with the tools needed to analyze malicious software of particular interest to bulk power system entities.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda Item 14
Board of Trustees Meeting
May 9, 2012

# External Affairs Update

Janet Sena
Vice President and Director, Policy and External Affairs

May 9, 2012

RELIABILITY | ACCOUNTABILITY






# 2012 External Affairs Update

- ERO Activity Support
  - Reliability Risk Management
  - Find, Fix, Track and Report (FFT)
  - Reliability Assessment and Performance Analysis
    - EPA Cumulative Regulations Report
    - EPA RE Meetings
    - FERC Whitepaper Response
- *2012 Special Reliability Assessment: Effects of Geomagnetic Disturbances on the Bulk Power System* (GMD) Report
- Administration Activities
  - Electricity Sub-Sector Coordinating Council (ESCC)
  - Department of Homeland Security (DHS) Cybersecurity Briefing

# 2012 Congressional Activities

- Cybersecurity Legislation
  - House Cyber Week
  - DHS Bills
  - Mandatory versus Voluntary Standards
- Nominations

# Communications

- Media Inquiries
  - Solar Storm Coverage
  - GMD Coverage
  - Southwest  Outage
  - Cyber
  - EPA
- ERO Support
  - Report Rollouts
  - Regional Communicators Group

Agenda Item 15a
Board of Trustees Meeting
May 9, 2012

# Operating Committee Report

## Action
None

## Background
This report provides a summary of the key activities of the Operating Committee (OC) and its associated subcommittees in support of the NERC or OC mission and corporate goals. All these activities support the NERC or OC mission and NERC corporate goals. The March 2012 OC meeting minutes are posted at (OC March 2012 Meeting Minutes Link).

## Status of Operating Committee's Major Initiatives for 2012

1. Event Analysis Working Group (EAWG) Work and Lessons Learned
    a. Links to NERC Top Priority Issues 1: Misoperations of relay protection and control systems and 2: Human errors by field personnel.
    b. The OC is currently forming an Event Analysis Subcommittee (EAS); which should better enable the OC to support the ERO and industry in rapidly identifying reliability gaps and potential mitigations.
    c. The new subcommittee expects to present its draft scope to the OC in June 2012 for approval.
    d. The OC has appointed Sam Holman (Duke) and Hassan Hamdar (FRCC) as Chair and Vice Chair respectively.
2. Geomagnetic Disturbance and Severe Impact Resilience Task Forces (SIRTF)
    a. Links to NERC Top Priority Issue 7: Preparedness for high impact, low frequency events.
    b. OC to incorporate some SIRTF recommendations into its 2012-2013 work plan.
3. Human Performance and Field Personnel
    a. Links to Top Priority Issues 1: Misoperations of relay protection and control systems and 2: Human errors by field personnel.
    b. The OC revised the COM-002-2 Reliability Standard Audit Worksheets (RSAWs) and is developing a Reliability Guideline: System Operator Communication (the latter of which was requested by the Board of Trustees at their February 2012 meeting).
    c. OC to discuss the possibility of a Human Performance Subcommittee or Working Group based on the interest expressed by a number of people who attended NERC's Human Performance Seminar.

## Actions from the March 2012 OC Meeting

**Critical Infrastructure Strategic Initiatives: Coordinated Action Plan**
The OC endorsed the Cyber Attack Task Force Final Report and approved the SIRTF Report *Severe Impact Resilience: Considerations and Recommendations*.

**Event Analysis Process**
The Event Analysis Process (EA Process) became effective on February 12, 2012. The EAWG is developing the scope of the new EAS for the OC's consideration at its June 2012 meeting.

**OC Strategic Plan**
The OC Executive Committee and its subcommittee leadership met to review the committee's 2012 work plan and to align its existing work plan with NERC's 2012 corporate goals and objectives. This is the first of this type of meeting which is designed to ensure each subcommittee is in alignment with the OC's and the ERO's strategic priorities and can more effectively coordinate each other's tactical initiatives.

**Manual Time Error Correction Elimination Field Trial**
The OC reviewed the results of its requested investigation of the causes of fast time (i.e., Interconnection operating above 60 Hz), evaluation of the reliability risks of conducting time error corrections, and investigation of other issues around reliability, including compliance risks. The OC approved discontinuing further pursuit of the elimination of manual time error corrections.

**OC Subgroup Highlights**
The OC now has 13 subgroups, five of which jointly report to the Planning Committee (PC) and the OC.

**Joint OC/PC subgroups highlights**

1. **Performance Analysis Subcommittee (PAS)** – The OC endorsed the Event Driven Index white paper.

**Other Subgroup Highlights**

1. **Operating Reliability Subcommittee (ORS)** – The ORS continues to work with the North American Energy Standards Board's Business Practices Subcommittee on the Parallel Flow Visualization project and is addressing the notification process for geomagnetic disturbances.
2. **Resources Subcommittee (RS) –** The OC endorsed the ACE Diversity Interchange white paper and tasked the RS to transition the white paper into a reliability guideline. The RS is also working with the Frequency Response Standard Drafting Team to identify frequency events within each of the Interconnections.

Agenda Item 15b
Board of Trustees Meeting
May 9, 2012

# Planning Committee Report

## Action
None

## Background
Along with annually producing reliability assessments, performance analysis reports and special assessments, the NERC Planning Committee (PC) is actively engaged in a number of areas that are important to maintain the reliability of the bulk power system of North America. At its March 6-7, 2012 meeting in Phoenix, AZ, the PC took action on a number of issues, including the following top-priority items:[1]

### Support for Technical Justification of Bulk Electric System (BES) Definition Thresholds
The PC will provide technical assistance in support of the Phase 2 efforts of the BES Standard Drafting Team (DBES SDT). The PC is researching the following four items and will provide technical justification to the DBES SDT effort for:

1. A bright-line voltage level or other criteria for the core definition of the BES using interconnection-wide solutions if necessary.
2. Real power thresholds for *Inclusion I2* of the BES definition and assess the need for separate values for single units and aggregated values at a plant.
3. Allowing power flow out of a local network in *Exclusion E3* of the BES definition, and if power flow is allowed, establish the value and duration for same.
4. Reactive power thresholds in *Inclusion I4* of the BES definition.

A written report of the results of the group's analysis and technical justifications will be provided to NERC's Planning and Operating Committees for approval in December 2012. Upon approval, the report will be submitted to the DBES SDT for consideration in development of Phase 2 thresholds.

### Creation of Protection System Misoperations Task Force
Nearly all major system events, excluding those caused by severe weather, have had relay or automatic control misoperations contributing to their propagation. The Protection System Misoperations Task Force (PSMTF) will provide analysis and expertise to support NERC in addressing its top priority reliability issues. The PSMTF will analyze relay misoperation data, research root causes, and develop industry recommendations to reduce future relay misoperation occurrences. The key findings and recommendations will serve as technical input for industry actions to mitigate the reliability risks that can result from future protection system misoperations. The Protection System Misoperations Task Force will focus on four areas of excellence:

1. Provide a trend analysis of protection system misoperations data and root cause identification;

[1] The draft minutes are posted at http://www.nerc.com/filez/pcmin.html.

2. Form conclusions/recommendations from the analysis to reduce future misoperations from occurring;
3. Provide recommendations to NERC staff (e.g., NERC Alerts, etc.) and industry actions; and
4. Develop industry guidance through technical documents and webinars on trends, conclusions, and recommendations.

The task force will develop a report for approval by the PC that summarizes the trends from misoperation of protection systems, identification of root causes, and recommendations for actions. This report is expected to be presented at the December 2012 PC meeting for review and approval.

**Continuing Work on the Performance Analysis Annual Report**
The ultimate goal of the Performance Analysis Annual Report is twofold:

1. The report assesses the historical, overall bulk power system reliability picture. By using robust data, the reliability of the system can be explained and documented. Currently, there are no measures, datasets, or reports that explicitly and completely state the historical performance of the system.
2. The report will help identify risk clusters, and prioritize and create actionable results for reliability improvement. Once a risk universe has been found, it can be parsed into component clusters. These significant risk clusters can be selected as priority projects to develop coordinated and multifunctional solutions to relevant problems.

The Performance Analysis Annual Report provides an industry reference for historical bulk power system reliability, analytical insights with a view to action, and enables the discovery and prioritization of specific and actionable risk control steps.

Other key items addressed at the March 2012 meeting were approval of the:

- *Event Driven Index Whitepaper*
- *Severe Impact Resilience Task Force (SIRTF) Report*
- *Reliability Assessment Data Working Group (RADWG) Scope*
- *Model Validation Working Group (MVWG) Scope*
- *System Analysis and Modeling Subcommittee (SAMS) Scope*

## Future Meeting Schedule

The PC future meetings are scheduled as follows:

- June 19-20, 2012 – Toronto, Canada
- September 18-19, 2012 – St. Louis, MO
- December 11-12, 2012 – Atlanta, GA

Agenda Item 15c
Board of Trustees Meeting
May 9, 2012

# Critical Infrastructure Protection Committee Report

## 2012 Goals and Objectives – TOP 3

### Overview

Reorganize and expand the Critical Infrastructure Protection Committee (CIPC) structure to facilitate and accomplish a greater volume of work and deliverables. This will include establishing new subcommittees in areas such as physical security and cyber security. In addition, will provide an oversight for specific task force and working group efforts, as well as creating new task forces and working groups to address the new initiative requests from the NERC CEO and Board of Trustees.

- **Create and assign a BES Security Metrics Working Group** that will collaborate with the CIPC Executive Committee (EC), CIPC members and NERC staff to develop an ongoing "Annual Security Assessment" report. This working group will reach out to the joint Operating and Planning Committees Event Analysis Working Group to ensure a coordinated effort between the groups. A charter has been drafted into final version for CIPC approval. The working group consists of 15 members (11 Subject Matter Experts (SMEs) and 4 NERC Staff). The group will conduct four webinar meetings. Deliverables are scheduled for CIPC's approval in December.
- **Create and assign a Personnel Security Clearances Task Force** to deliver recommendations to industry and government for private sector security clearances. This will entail coordination with the Department of Homeland Security to increase the number and levels of U.S. Government Security clearances available to members of the CIPC and other industry SMEs. The charter has been drafted for CIPC's approval and members from industry and government have been added. Meetings are scheduled to begin work.
- **Completion and approval of one report and two guidelines**
  *"Cyber Attack Task Force Report" was* approved by CIPC at the March 7, 2012 meeting.

  *"Protecting Sensitive Information Guideline"* was approved by CIPC and is out for industry comment.

  *"Security Guideline for the Electric Sector" was* approved by CIPC and is out for industry comment.

## CIPC Strategic Plan Status

- The strategic plan and associated work plan were approved by CIPC at the March 7 meeting. Submission to the Board of Trustees for their approval at their May meeting.
- Status of work plan activities for 2012
- *Obstacles to any work plan tasks or efforts:* The biggest challenge in 2012 will be to enlist CIP SME's on the various new subcommittees, task forces, and working groups and ensuring that they are all actively engaged and progressing toward their milestones. Even in the early progress of the BES Security Metrics Working Group and the Personnel Security Clearances Task Force, the volunteers that have stepped forward to lead are already very promising.

Agenda Item 15.c.i
Board of Trustees Meeting
May 9, 2012

# Critical Infrastructure Protection Committee
# 2012 Strategic Plan

## Action
Approve the CIPC 2012 Strategic Plan.

## Background
In November 2011, the CIPC Executive Committee, chaired by CIPC Chair Barry Lawson, began to draft the CIPC Strategic Plan and develop goals to align the committee's activities with the NERC electric reliability organization (ERO) enterprise's strategic plan and top priority reliability issues. The CIPC was presented with the 2012–2016 Strategic Plan draft at the March 2012 meeting for comment. The CIPC approved the 2012 Strategic Plan and recommends it for consideration and approval by the Board of Trustees (BOT).

## 2012 CIPC Strategic Plan
The 2012 CIPC Strategic Plan serves as the foundation for the alignment of CIPC activities, including coordination with other standing committees, the strategic direction of NERC, and BOT. The strategic plan emphasizes conforming activities with the priorities of the NERC ERO enterprise and regulators, and effectively using CIPC's resources. The strategic plan describes CIPC's mission, vision and guiding principles, and outlines the areas of strategic focus and key activities for the upcoming years, while recognizing potential changes that may be required in the future by calling for an annual review of the strategic plan.

## Implementation of the CIPC Strategic Plan and Linkage to NERC's Top Priority Issues
The following table reflects specific activities that the CIPC and its subgroups will be addressing in 2012 and beyond.

| Activity No. | CIPC Area | CIPC Activity | Why is the activity required? | Deliverable and Schedule |
|---|---|---|---|---|
| 1 | Advisory Panel to Board of Trustees | Provide reports of CIPC activities at the BOT meeting.<br>Chair will serve as an active member of the ESCC contributing expertise on CIP matters.<br>Chair will serve on the Standing Committee Coordination Group (SCCG).<br>Chair will serve as a CIPC point of contact for the ES-ISAC requests; for input and assistance.<br>Coordinate across all NERC committees and working groups to assure the highest degree of collaboration possible. | All are required by CIPC Charter Section 2.1 | 2012 May BOT meeting.<br>Attended ESCC calls and March 15, 2012 meeting.<br>Attended Jan 4th and April 5th meetings.<br>Continuing.<br>Continuing through SCCG. |
| 2 | NERC Industry Alerts | CIPC will continue to support the coordinated action of NERC's technical committees (Operating Committee, Planning Committee, and CIPC) for pending NERC Alerts. | NERC President's Top Priorities and Issues: Goal 8, CIPC Charter Sections 2.2 and 2.4 | Established listing of CIPC SMEs from voting members & alternates with all contact information. |
| 3 | Cyber and Physical Security Guidelines | Assist in the development and implementation of NERC standards.<br>Identify the need for new or revised critical infrastructure protection standards and initiate standards actions by submitting standards authorization requests.<br>Assist the standards process by providing expert resources in support of the development of critical infrastructure protection standards authorization requests and standards.<br>Assist the standards process by providing a forum for education, sharing of views, and informed debate of | NERC President's Top Priorities Issues: Goal 8 and CIPC Charter Section 2.5 | CIPC members & alternates are on SDTs.<br>Established Compliance & Enforcement Input WG.<br>CIPC members & alternates as SMEs on SDTs.<br>Initiated CIPC Workshops for Cyber & Physical Security. |

| | | | | |
|---|---|---|---|---|
| | | critical infrastructure protection standards.<br>Review draft critical infrastructure protection standards authorization requests, standards, and provide comments.<br>Facilitate the implementation of critical infrastructure protection standards by developing reference documents and performing other activities.<br>Provide requested support to SDTs upon direction by NERC or the Standards Committee.<br>Contribute to standards work with the Operating and Planning Committees. | | CIPC members are engaged and informed at all CIPC meetings of current status for CIPC and industry comment periods.<br>CIPC members and alternates are asked and encouraged to provide comments on all documents for CIPC and Industry comments by NERC Staff.<br>Physical, Cyber, Operating & Policy Subcommittees have been established and charters have been developed.<br>CIPC members and alternates were advised of SME needs and have populated SDTs.<br>CIPC members and CIPC were asked and provided comments on all documents from OC and PC. |
| 4 | Compliance and Enforcement Input | CIPC will create a Compliance and Enforcement Input working group.<br>Support the Compliance Application Notice (CAN) initiative at NERC by providing timely topical expertise on matters related to cyber security, physical security, and prioritization of CANs under development.<br>Utilize the CIPC face-to-face meetings to allow discourse on CAN topic areas and encourage registered entity involvement in commenting.<br>Provide fact-based feedback to NERC on the effectiveness of the CAN process.<br>CIPC EC will solicit members to serve in a consultative or advisory role to NERC staff. | NERC President's Top Priorities and Issues: Goal 7 | Working Group approved by CIPC, March 2012, assigned to Policy Subcommittee.<br>CIPC provided input to CAN Prioritization Listing (1/19/12), PER-005 RSAW (3/26/12), and CIP-005 Compliance Report (3/15/12).<br>Compliance Dept. has been added as a permanent agenda item going forward.<br>CIPC is informed and asked to actively participate in an open and transparent CANs process.<br>On-going. |

| | | | | |
|---|---|---|---|---|
| 5 | Bulk Electric System Security Metrics | CIPC will create a Bulk Electric System Security Metrics working group to develop benchmark recommendations for Bulk Electric System Security metrics to include cyber and physical controls.<br><br>Align security performance metrics with the Standards Committee Reliability Principals.<br><br>Align the development of integrated security performance metrics with the adequate level of reliability definition.<br><br>Developing the Security Risk Matrix/Curve.<br><br>CIPC and NERC Staff will contribute to the development of an "Annual Security Assessment" report based upon work done by the Bulk Electric System Security Metrics working group. | NERC President's Top Priorities Issues Goal 8 and ERO Strategic Goal 3 | BES Security Metrics Group was approved by CIPC on March 7th, solicited and obtained CIPC. Industry volunteers & NERC SMEs, completed charter for work to include deliverables and schedule.<br><br>On-going.<br><br>On-going.<br><br>On-going.<br><br>On-going. |
| 6 | Electric Sector Security Clearances | CIPC will create and assign a Personnel Security Clearance TF to include industry and government members.<br><br>The TF will examine protocols in place for granting private sector clearances as well as the government's legal and policy requirements of the industry.<br><br>The TF will research ongoing needs of industry for access to actionable and information.<br><br>The TF will report and make recommendations to CIPC and the ESCC on security clearances.<br><br>The TF will develop a model for industry use to determine which for personnel should seek a security clearance from government. | NERC President's Top Priorities Issues - Goal 7 and CIPC Charter Section 3 | CIPC approved, March 7th, assigned to Policy Subcommittee, Chair and Vice Chair selected, solicited CIPC members, industry SMEs and NERC Staff support. Ongoing.<br><br>On-going.<br><br>Presentation to CIPC EC in 3rd Qtr, CIPC presentation and approval September CIPC meeting.<br><br>On-going. |
| 7 | Public-Private Partnership for Information Sharing | CIPC will create an Information Sharing task force to study present protocols existing between industry and government.<br><br>The task force will detail and document information- | NERC President's Top Priorities Issues Goal 7 and CIPC Section 3a | CIPC approved, March 7th, assigned to Operation Security Subcommittee, Chair selected, soliciting CIPC members, industry SMEs and NERC Staff support. |

| | | | | |
|---|---|---|---|---|
| | | sharing requirements.<br><br>Identify and research the existing information sharing structures, methods and requirements, and search for efficiencies and alternatives to improve or recommend changes in protocols.<br><br>Propose solutions that will build on practices and tools already in place.<br><br>Develop a process for secure information sharing with other entities and government partners.<br><br>Develop a method to communicate lessons learned to other entities with the minimum amount of security classification. | | |
| 8 | Support to Energy Sector Control Systems Working Group "Roadmap to achieve energy delivery systems cyber security." | CIPC will continue support of "The Roadmap to Achieve Energy Delivery Systems Cyber Security" prepared by the Energy Sector Control Systems Working Group (ESCS WG).<br><br>The Cyber Attack Task Force's report will highlight areas of greatest value to enhance detection and response capability, and this may help prioritize initiatives coming out of the Roadmap.<br><br>CIPC will update the ESCC on progress implementing recommendations found in the roadmap.<br><br>Encourage and solicit CIPC engagement and assist ESCC as appropriate. | NERC President's Top Priorities Issues Goal 7 and 8 | On-going. |
| 9 | Emerging Issues<br><br>HILF | CIPC will create a HILF Implementation task force to develop recommendations for actions identified in the Coordinated Action Plan.<br><br>The task force will review the various task force reports and address the appropriate CIPC related recommendations and propose suggested responses to CIPC for action and implementation. | NERC President's Top Priorities Issues Goal 7 and 8 | CIPC approved, March 7th, assigned to the Operating Subcommittee, Chair selected, soliciting CIPC members, industry SMEs and NERC Staff support. |
| 10 | Focus on Balanced Approach in Cyber and Physical Security | The CIPC EC will review rosters to ensure that working groups and task forces have a balance of expertise.<br><br>The CIPC EC and Physical Security and Cyber Security | NERC President's Top Priorities Issues: Goals 7 and 8 | On-going. |

| | | | | |
|---|---|---|---|---|
| | | Subcommittees will coordinate and consult to ensure expertise of the CIPC Members.<br><br>CIPC alternates and observers are engaged with task forces and working groups tasked with projects and deliver recommendations to the CIPC. | | CIPC approved, March 7th, assigned to the Cyber and Physical Subcommittee, Chair selected, soliciting CIPC members, industry SMEs and NERC Staff support.<br><br>On-going. |
| 11 | Analysis of CIP Related Incidents in Coordination with OC and PC | CIPC will create two working groups:<br>• Physical Security Analysis Working Group<br>• Cyber Security Analysis Working Group<br>These working groups will research and recommend activities to improve the security of Bulk Electric System facilities.<br>Develop Cyber and Physical expertise liaisons to coordinate expertise and assist the Joint Event Analysis Working Group as requested.<br>Develop a mechanism for evaluating malicious events while maintaining confidentiality of the compromised entity. | NERC President's Top Priorities Issues: Goals 7 and 8 | CIPC approved, March 7th, assigned to Cyber and Physical Subcommittees.<br><br>On-going. |
| 12 | CIP Training and Educational Outreach | CIPC will create two working groups. (Physical Security Training Working Group and Cyber Security Training Working Group).<br><br>The working groups will identify and prioritize current topics related to the scope of CIPC.<br>These working groups will coordinate with each other and request NERC resources, if necessary, to support their activities for the forums and workshops.<br>The working groups will report their recommendations at the CIPC meetings.<br>The CIPC will schedule Bulk Electric System security training and education at CIPC meetings. | NERC President's Top Priorities Issues Goal 7, CIPC Charter Section 2.7 and<br><br>ERO Strategic Goal 2 | CIPC approved, March 7th, assigned to Cyber and Physical Subcommittee. |

| | | | | |
|---|---|---|---|---|
| 13 | Support Board of Trustees/ESCC/Standing Committees Coordination Group (SCCG)<br>*CIPC Charter Sections 2.1-2.2* | Strengthening and supporting the CIPC relationship with the Board of Trustees, ESCC and SCCG through the CIPC chair reporting to the Board of Trustees and participation on ESCC through more detailed reporting and increased involvement.<br>Providing technical and other support as needed on CIP matters. | CIPC Charter Sections 2.1-2.2 | On-going. |
| 14 | CIPC Member and Industry Observer involvement | Encouraging and engaging CIPC voting member active participation.<br>Encouraging and engaging CIPC alternate members as active participants.<br>Encouraging and engaging industry observers as active participants.<br>CIPC EC will identify potential leadership candidates for subgroups.<br>CIPC subcommittees will review task force and working group rosters to identify gaps in expertise.<br>CIPC subcommittees will review task force and working group deliverables.<br>CIPC EC will encourage, recognize, and reward excellence. | CIPC Charter Section 4.2 | On-going. |

Agenda Item 15e
Board of Trustees Meeting
May 9, 2012

# Personnel Certification Governance Committee Report

## Action
Discussion

## Background
This report highlights the key activities of the Personnel Certification Governance Committee (PCGC). The PCGC meets four times a year in addition to conducting taskforce meetings as needed. The meeting minutes are posted at http://www.nerc.com/filez/pcgcmin.html.

## Discussion
Key Highlights of the attached report to note:

- Downward trend in the number of exams taken
- Upward trend in the number of certifications credentials issued
- Demographics of operators biased towards the 46-55 age bracket

If trustees have questions or need additional information, they may contact Pete Knoetgen, director training and accreditation, at peter.knoetgen@nerc.net

# Personnel Certification Governance Committee Report

## Accomplishments

The Personnel Certification Governance Committee (PCGC) has posted the updated NERC Board of Trustee accepted System Operator Certification Program manual on the NERC/System Operator Program Site.

The Examination Working Group (EWG) has completed the preparation of the second version of the new certification exams for each of the four credentials.

The PCGC submitted the System Operator Certification program budget to NERC with operating and maintenance expenses including capital improvements and fee structure recommendations.

## Future Tasks

The committee does not expect to propose changes to the certification program that would require posting for comments.

The PCGC continues to work on documentation of the credential establishment process, performance metric tracking, and evaluating the certification program and demographic data.

The PCGC is working with NERC database administrator and contractors to finalize plans for upgrades to the System Operator Certification and Continuing Education Database (SOCCED).

## Status Report

### NERC Certification Examination Pass Rate

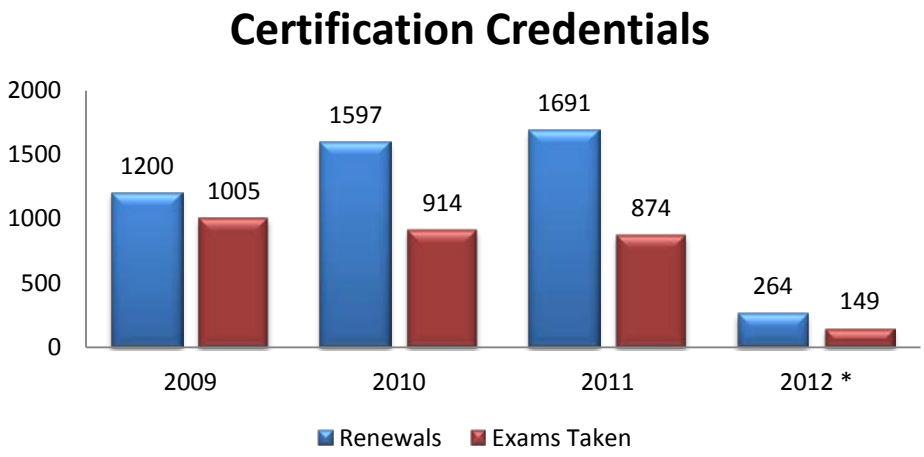
From 2009 through 2011, a total of 2,793 exams were administered. The overall pass rate has been stable the past two years. In 2012, new exams were published. The below data for 2012 is through March 31, 2012 with 6 weeks of data for the new exams.

| Year | # of Exams Taken | Number of Exams Passed | PASS Percent |
|---|---|---|---|
| 2009 | 1005 | 652 | 64.8 % |
| 2010 | 914 | 638 | 69.8 % |
| 2011 | 874 | 607 | 69.5 % |
| 2012* | 149 | 99 | 59.1% |

**Credential Maintenance**
The table below shows the number of credentials maintained using Continuing Education Hours is increasing.

| Year | Credentials Renewed |
|---|---|
| 2009 | 1,200 |
| 2010 | 1,597 |
| 2011 | 1,691 |
| 2012* | 264 |

**New Certificates versus Credential Maintenance**
The graph below shows the number of new certificates issued annually is declining while the number of credentials maintained is increasing.



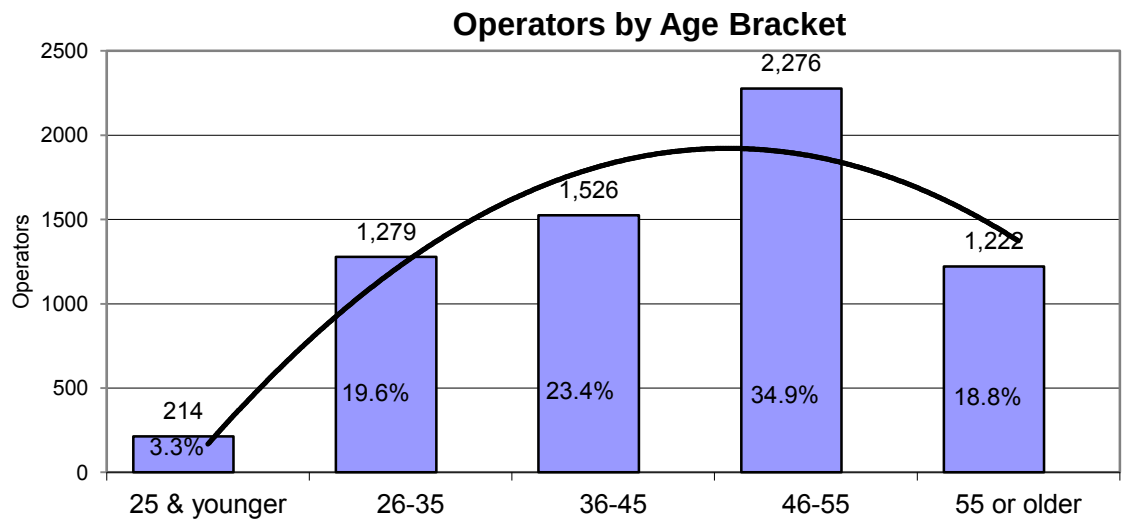

*Through March 31, 2012

**Certified Operator Population**
The total number of certified system operators with active credentials is 6,300. The population has appeared to stabilize since the collection of data in 2009.

**System Operator Demographics**
After three full years of data collection that began in early 2009, all system operators have provided demographic information. This information combines system operators taking their initial exams with those who renewed their credentials through continuing education.

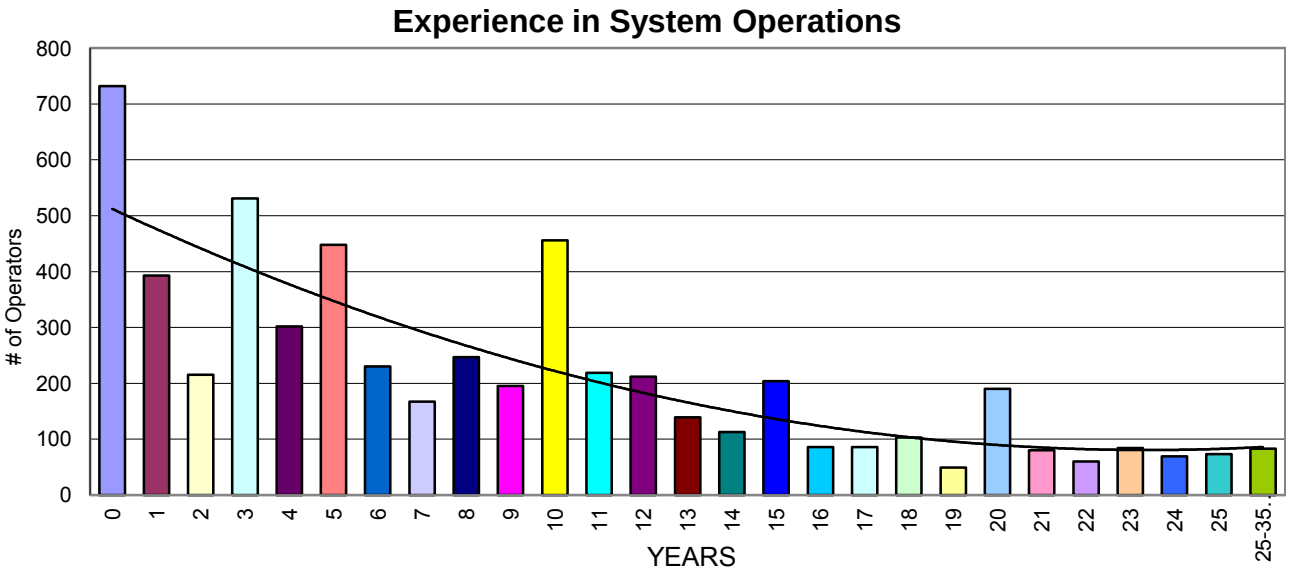
The following figures show current trends that are obtained from the demographics collected, preliminary metrics for average age of system operators and experience in system operations.

Figure 1 - Operator Population Age




The above chart shows 54 percent of system operators are over 45 years old with the largest percentage of system operators in the 46-55 age brackets.

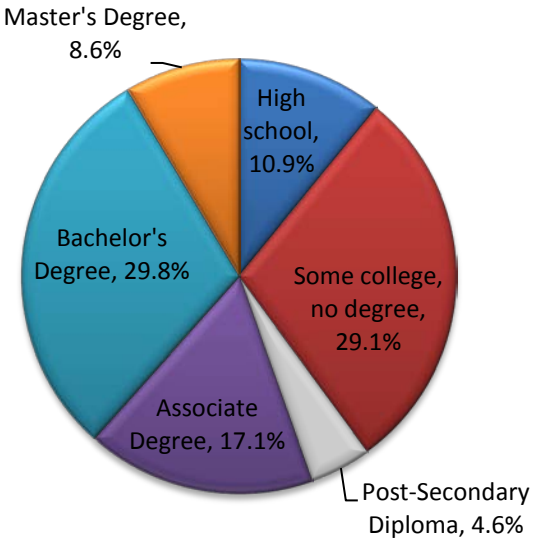
Figure 2 - Experience in System Operations




Approximately 60 percent of the certified system operators have 10 years or less experience in system operations. The average experience remains stable at 11 years.

Additional data indicates 66 percent of the certified system operator population (which includes support personnel) have five years or less experience in their current position with 50 percent of the population having three years or less experience performing their current position.

Figure 3 - Certified System Operators Level of Education




The figure above shows 38 percent of certified system operators have a bachelor degree or higher level of education.

Agenda Item 15f
Board of Trustees Meeting
May 9, 2012

# Standards Committee Report

## Action
Discussion

## Background
This report highlights some of the key activities of the Standards Committee (SC) in support of ERO Enterprise goals. The SC meets monthly and posts its meetings minutes at http://www.nerc.com/filez/scmin.html.

## Progress in Meeting Major Goals for 2012
The SC identified three major goals for 2012: developing revisions to the standards development process; completing high priority standards associated with topics most critical to bulk power system reliability; and continued refinement of the definition of the term "Bulk Electric System." The following information highlights progress in accomplishing those goals through the first quarter of 2012.

### Goal 1: Revisions to standards process
The SC has initiated action to revise its implementation of the already approved Standard Processes Manual (SPM) and is supporting the efforts of the Standards Process Input Group (SPIG).

- The SC agreed (based on advice from NERC's legal staff) to adopt the practice, initially on a case-by-case basis, of allowing drafting teams to develop summary responses to comments provided the summary responses address each issue raised by commenters. While stakeholders have become accustomed to more individualized responses, the large volume of comments received by the Cyber Security 706 Drafting Team (approximately 5,000 pages) made individual responses impractical. This practice meets ANSI's requirements for accreditation, because the drafting team is still obligated to consider every comment.
- The SC sponsored a successful field test of the "Rapid Revision" process in the second half of 2011, demonstrating that making a permanent change to a standard is an efficient alternative to processing an interpretation. During the first quarter of 2012 the SC directed the use of the draft "Rapid Revision" process as an alternative to three additional interpretations.
- The SC has two members (Allen Mosher and John A. Anderson) who are serving on the SPIG, who solicited feedback from other SC members, staff, and various drafting teams aimed at identifying changes to the standard development process that would result in developing a standard in a shorter period of time without adversely impacting either the technical quality of the standards or jeopardizing ANSI's accreditation of the NERC standards development process.

**Goal 2: Complete high priority standards associated with topics most critical to bulk power system reliability**

- Protection Systems (PRC-001, PRC-005, PRC-019, PRC-024, PRC-027)
  - PRC-001 – Protection System Coordination – The drafting team completed its second draft of the revised standard (now PRC-001 and PRC-027) and collected informal feedback with a goal of gaining more support for the concepts supporting the new requirements before posting for a formal comment period in the second quarter of 2012.
  - PRC-005 – Protection System Maintenance and Testing – The drafting team posted its next draft of the standard for a parallel successive comment and ballot period through March 28, 2012. If the ballot is successful, and the drafting team makes only minor changes to the standard, the next step will be a recirculation ballot.
  - PRC-019 – Coordination of Generating Unit or Plant Capabilities, Voltage Regulating Controls – The drafting team working on this standard posted its second draft of the proposed standard for comment/ballot through April 16, 2012.
  - PRC-024 – Generator Performance during Frequency and Voltage Excursions – The drafting team working on this standard posted its third draft of the proposed standard for comment/ballot through March 29, 2012.
- Real-time System Operator Communications (COM-002, COM-003)
  - The drafting team working on COM-002 completed a ballot that achieved an 81 percent approval in February 2012. This version of the standard includes the use of three-part communication when issuing/receiving a Reliability Directive where the term, "Reliability Directive" is defined as: A communication initiated by a Reliability Coordinator, Transmission Operator or Balancing Authority where action by the recipient is necessary to address an Emergency or Adverse Reliability Impact.
  - The drafting team working on COM-003 is working on its next draft of the proposed standard and expects to post its work in the second quarter of 2012. The team is proposing a new term "Operating Communications" defined as: Communication with the intent to change or maintain the state, status, output, or input of an Element or Facility of the Bulk Electric System. This SDT is proposing, among other things, retirement of COM-002 and use of three-part communication for all Operating Communications.
- Cyber Security (CIP-002 through CIP-011, Version 5)
  - The Cyber Security drafting team is working to complete its second draft of the CIP Version 5 standards with plans to post the standards during the second quarter of 2012.

- Frequency Response (BAL-003)
  - The Frequency Response drafting team posted its standard for stakeholder comment and ballot during the last quarter of 2011. The team has identified some significant technical issues associated with the proposed measures. The team is working to redesign its proposed requirements and will not meet the deadline of completing a standard by the May 2012 date.

**Goal 3: Continue refinement of the Definition of Bulk Electric System (BES) through Phase 2 as a high priority project**

The drafting team working on the definition of BES posted its Standard Authorization Request (SAR) for the proposed scope of work and solicited stakeholder comments during a formal comment period that ended in February 2012. The team narrowed the scope of its work based on stakeholder comments and has submitted a revised SAR for posting during the second quarter of 2012. The BES drafting team has asked the Operating Committee to provide support to this project by conducting studies to determine if there is a technical justification for, among other things, modifying the 100 kV bright line voltage level. The Operating Committee plans to complete these studies by late 2012.

A link to the standards under development web page with links to all of the projects identified above is included here for reference:
http://www.nerc.com/filez/standards/Reliability_Standards_Under_Development.html

If trustees have questions or need additional information, they may contact Allen Mosher, chair of the Standards Committee, at amosher@publicpower.org or Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 15g
Board of Trustees Meeting
May 9, 2012

# Compliance and Certification Committee Report

## Action

Approve Compliance and Certification Committee (CCC) nominations, which were provided as Agenda Item 2b.

## Summary

**CCC Meeting March 14-15, 2012, Atlanta Georgia**

Conducted quarterly CCC meeting (and subcommittee meetings) at NERC headquarters.

**Reliability Standards Quality Reviews**

Continued assisting the NERC Standards Development staff in performing Reliability Standards quality reviews.

**Compliance Application Notices (CANs) Prioritization and Input**

Assisted in the prioritization of CANs development activities as well as provided input to the actual language to be included in the CANs.

**Risk Management and Internal Controls Subcommittee (RMICS)**

Continued working with the RMICS in developing a subcommittee mandate and a 2012 Work Plan. Met with the RMICS members on April 3, 2012 in Washington, D.C.

**2011 Stakeholders Perception Survey**

Continued reviewing and analyzing the survey results in order to provide the Board of Trustees (BOT) with a list of areas where the CCC believes the BOT should focus on addressing stakeholder concerns. This list is provided by separate memo.

**2012 Stakeholders Perception Survey**

Continued working with TalentQuest in developing the criteria for the 2012 survey.

**Rules of Procedure (ROP)**

Continued working with NERC staff with regard to recommended changes in Section 500 and Appendix 5A (Organization Registration and Certification).

**Entity Risk Assessment**

Continued working with NERC staff in developing a template to be used by NERC, Regional Entities and registered entities in determining a risk identity for each registered entity related to the Compliance Enforcement Program.

**Trade Association Update**

Participated in the Trades Association update meeting in Washington, D.C. on April 4, 2012.

**Standing Committee Chair Group**

Participated in the Standing Committee Chair Group meeting in Washington, D.C. on April 5, 2012.

Agenda Item 15h
Board of Trustees Meeting
May 9, 2012

# Electricity Sub-sector Coordinating Council Report

## Action
None

## Background
This report summarizes key activities of the Electricity Sub-sector Coordinating Council (ESCC) in support of NERC's mission and corporate goals related to critical infrastructure. The ESCC is chaired by NERC's CEO and includes a NERC Board of Trustees member, five CEO-level executives appointed by the Member Representatives Committee (MRC), the chair of the NERC Critical Infrastructure Protection Committee (CIPC), and NERC's Director, Critical Infrastructure Protection. The ESCC fosters and facilitates the development of policy-related initiatives to improve the reliability and resilience of the electricity sector, including physical and cyber security. ESCC open meeting minutes are posted at: http://www.nerc.com/filez/escc.html.

## ESCC Member Term Renewal
As provided in the ESCC's Charter[1], CEO-level members of the ESCC are approaching the end of their two-year terms and the MRC is currently developing a slate of candidates. Several current CEO members have expressed an interest in continuing to serve on the ESCC to provide continuity.

NERC Board of Trustees member Mr. Paul Barber, recently replaced Ms. Janice Case who had served on the ESCC for several years.

## Recent ESCC Activities
Since the previous NERC Board of Trustees report, the ESCC held:

- A closed all-day in-person meeting with senior government officials in Washington, D.C. on March 15, 2012
- An open conference call on March 15, 2012

## Involvement in Government Partnership Initiatives
During their March 15, 2012 meeting, the ESCC discussed critical infrastructure initiatives with senior officials at the Assistant Secretary level from the U.S. Department of Energy, Department of Homeland Security, Department of Defense, and National Security staff from The White House.

- The U.S. government has proposed establishing an Energy Sector Public Private Partnership under the Critical Infrastructure Advisory Council's partnership framework to review and address risks associated with energy supplies to critical military facilities.

[1] Ref. ESCC Charter: http://www.nerc.com/docs/escc/ESCC_Charter_BOT_approved_20100512.pdf

- NERC and the industry are supporting the government's Electricity Sector Cybersecurity Risk Management Maturity initiative to develop a model intended to measure an entity's cybersecurity risk management capabilities. Elements of NERC's Cybersecurity Risk Preparedness Assessment are being adopted as part of this model.
- The DOE/NIST/NERC Cybersecurity Risk Management Process Guideline is expected to be released in May 2012.

Government officials expressed interest in a number of critical infrastructure matters and the ESCC offered to support exploring these in further detail.

- Assess the extent to which electricity reliability may be affected by the loss of global positioning system (GPS) signals used for time synchronization.
- Consider the extent to which supply chains can affect the ability of the industry to respond to catastrophic events.
- Consider conducting a tabletop exercise scenario for a catastrophic emergency event lasting weeks or months to better understand critical interdependencies and the policy-level issues and decisions that would be required.

## NERC CIP Updates

The ESCC discussed a number of security-related matters:

- ES-ISAC update, including the new ES-ISAC Policy Statement and web portal enhancement project
- Discussed the Standards Process Input Group
- Endorsed the NERC Critical Infrastructure Protection Committee's Strategic Work Plan
- External affairs update, including pending legislation
- 2011 NERC GridEx Security Exercise Lessons-Learned

## Monitoring Progress to Implement the ESCC's Strategic Roadmap

During the past year, the ESCC has monitored the progress and issues associated with the task forces as they implement the *Coordinated Action Plan* to address high-impact, low-frequency risks. The task forces have completed their reports and the Cyber Attack Task Force and Severe Impact Resilience Task Force intend to seek Board of Trustees endorsement for their reports during the May 9, 2012 meeting (ref. table below). All four task force reports highlight recommendations for further study and the ESCC anticipates continuing to provide guidance and support to the Technical Committees.

| Task Force or Initiative | Report to be Approved by | Request Comments on Draft | Receive Comments on Draft | ESCC Review | Technical Committees Approve Final | MRC and Board of Trustees Review |
|---|---|---|---|---|---|---|
| **Geomagnetic Disturbance** | OC and PC | Dec 2, 2011 | Jan 6, 2012 | Mid-Feb 2012 | Feb 1, 2012 | Feb 22, 2012 |
| **Spare Equipment Database** | PC (with OC and CIPC endorsement) | Jun 1, 2011 | Jun 29, 2011 | Oct 3, 2011 | Sep 14, 2011 | Nov 3, 2011 |
| **Cyber Attack** | CIPC (with OC endorsement) | Oct 15, 2011 | Feb 8, 2012 | Mar 5, 2012 | Mar 8, 2012 | May 9, 2012 |
| **Severe Impact Resilience** | OC (with PC endorsement) | Dec 13-15, 2011 | Jan 4, 2012 | Mar 5, 2012 | Mar 7, 2012 | May 9, 2012 |
| **NERC Crisis Plan** | NERC CEO | - | - | Aug 16, 2011 | Not Required | Not Required |

Shading Indicates Complete

## Future ESCC Meetings

| | | | |
|---|---|---|---|
| Tuesday | July 17, 2012 | 2:00– 4:00 pm | CLOSED conference call |
| Thursday | September 27, 2012 | 8:00 am – 2:00 pm<br><br>2:00– 3:00 pm | CLOSED All day in-person meeting, Washington, D.C.<br>OPEN conference call |
| Tuesday | November 27, 2012 | 2:00– 4:00 pm | CLOSED conference call |

**R E M G**
**REGIONAL ENTITY MANAGEMENT GROUP**

| | | | |
|---|---|---|---|
| **STACY DOCHODA – SPP** | **ED SCHWERDT – NPCC** | **SCOTT HENRY – SERC** | **LANE LANFORD – TRE** |
| **DAN SKAAR – MRO** | **TIM GALLAGHER – RFC** | **LINDA CAMPBELL – FRCC** | **MARK MAHER – WECC** |

Date: April 18, 2012

Memo to: NERC Board of Trustees

From: Tim Gallagher, REMG Chair

Subject: Regional Entity Report for the May Board Meeting

Dear Chairman Anderson:

**ERO NERC - Regional Entity Work Groups**

All of the Regional Entities take seriously our need to be as consistent as possible in discharging our delegated responsibilities. A key activity toward meeting this objective is our constant collaboration and interaction with each other and NERC. Below are summaries of recent activities of some of the key multi-Regional groups.

**Subgroup: ERO-Compliance and Enforcement Management Group (ECEMG)**
The ECEMG's purpose is to provide operational and day-to-day policy guidance in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure, specifically as it pertains to executing the Compliance Monitoring and Enforcement Program (CMEP). The primary initiative of ECEMG is to obtain consistency and uniformity where appropriate, across the ERO enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO.

**Status of current high priority work items:**

1. Annual Work Plan: The ERO Compliance and Enforcement Management Group developed a work plan based on the ERO Enterprise Strategic Plan that was approved in Feb 2012. The plan focuses on the cross cutting issues and synchronizes the sub workgroup efforts.

2. Compliance Enforcement Authority (CEA) Staff Training: Consistent, standardized, effective training for compliance staff continues to be a priority effort. NERC and the Regions are improving training for CEA staff. The first of two CEA staff training workshops was conducted in February and the second will be conducted in September. Additionally the ERO will conduct the first ever industry workshop for registered entities on auditor training to facilitate better preparation and understanding of the audit process in February after the CEA staff training. Another session of training for the industry will accompany the September CEA staff training.

3. Risk Based Reliability Monitoring: The ECEMG spent a significant amount of time discussing and identifying the various aspects of this initiative. Several regions are already conducting entity risk assessments and working with entities as part of pilot programs.

The NERC Compliance and Certification Committee (CCC) established a workgroup to gather industry input and perspective on a risk based assessment process and significant progress has been made. ERO focus groups by registered function began in mid-April to gather the various attributes of a sound risk assessment approach to monitoring with a focus on reliability metrics. Industry participation was exceptional and the candid conversation and suggestions will be utilized. These two efforts will be combined; the CCC work group and the industry focus groups will be melded together to develop a draft entity assessment template that will be posted for industry comment by midsummer.

4. FFT Future Phase Development: The group has been working with NERC legal on the FFT compliance filing and report and further refining the various aspects of the next phase of the FFT process and how auditors will be involved in this effort. There are many facets of this effort involving various working group participation, along with NERC staff.

**Subgroup: ERO-Reliability Assessments and Performance Analysis Group (ERO-RAPA)**

1. SPS/RAS definition update – ERO RAPA initiated an effort to align how the regions evaluate special protection systems (SPS's) and remedial action schemes (RAS's). Surveys of the regions indicated major differences in existing procedures. ERO-RAPA solicited assistance from the NERC Planning Committee (PC) via the system protection and control subcommittee (SPCS) and the system analysis and modeling subcommittee (SAMS) to develop guidelines for addressing SPS/RAS consistently across NERC. A white paper is due to the NERC PC for review in June 2012. This will be leveraged and used in phase 2 of the new PRC-004 standard, addressing SPS's.

2. Protection System Misoperations Update – Nearly a year of misoperations data has been collected under the NERC wide misoperations template. While data and analysis processes are still being refined, the data appears to be consistent and of high quality and is available on the NERC website for review. Some focus areas include improving training on specification and setting of digital relays. A follow-up webinar was well attended by the industry. The ERO-RAPA has requested (via the NERC PC) that the SPCS provide ongoing technical support to the misoperations template, incorporating industry feedback. ERO-RAPA is also providing interfacing between the SPCS and the SDT to minimize differences between the current template and the new PRC-004 standard. A misoperations task force was proposed and approved by the NERC PC. This TF will focus on the data collected to-date and make recommendations to the industry to reduce misoperations.

   With this first year misoperations dataset, cross-mapping analyses have indicated that out of 133 three-or-more transmission AC circuit outage events reported, 50% of were initiated by protection system misoperations between 2008 and 2011, [1] validating that misoperations continue to be an important reliability issue.

   An effort is also underway to automate the data collection process. A web-based tool is expected to be available in June 2012. This will improve accuracy of data reconciliation between misoperations and transmission/generation outages, and significantly reduce ERO-RAPA staff's time spent on manual reconciliation.

3. UVLS Survey – ERO RAPA has collected information from the regions to investigate similarities/differences in undervoltage load shedding (UVLS) procedures. A report will be

[1] http://www.nerc.com/docs/pc/rmwg/pas/2012_sor_draft/TADS%20Analysis%20Section.docx

presented at the April ERO-RAPA meeting. The initial survey of UVLS data suggests that there are some differences in what is being submitted to the Regions by Registered Entities and also which schemes are considered applicable to the NERC Standards associated with UVLS. RAPA will strive to improve consistency across the Regions in this area as well.

4. 2012 State of Reliability report – This year ERO-RAPA was able to complete the 2011 annual quality review of the Transmission Availability Data System (TADS) one week ahead of schedule. This outstanding effort significantly contributes to ERO's ability to deliver the 2012 *State of Reliability* report in the second quarter of 2012.

5. Generating Availability Data System (GADS) – ERO-RAPA is leading the first ERO mandatory data collection of conventional generator performance data starting the first quarter of 2012. A web-based tool will be launched on April 24, 2012 for Generator Owners (GOs) to enter generator outages each quarter.

6. Spare Equipment Database (SED) – As a part of ESCC's critical infrastructure strategic plan, a web-based Spare Equipment Database (SED) tool is expected to be released for GOs and TOs to use on May 22, 2012.

7. Risk Clusters – ERO-RAPA is working with NERC technical committees and their subgroups to continue identifying top initiating events that impact reliability, and aims to build a probabilistic model that statistically links reliability causes and effects. The results can be used as technical bases to prioritize and improve standards development and compliance monitoring.

8. Next Challenges – Based on 2011 post summer assessment, one of major challenges is integration of wind generation during peak hours. ERO-RAPA will be working with stakeholders to develop options, including how demand response could be deployed to improve flexibility and reliability.

**Subgroup: ERO - CIP Compliance Working Group (CCWG)**

1. The CCWG supported the drafting of the soon to be published Compliance Analysis Report (CAR) on CIP Standard CIP-005-3 and has worked with NERC to develop a revised CAN-0024 (Use of Data Diodes) to address misunderstandings related to compliance requirements.

2. The CCWG also extensively discussed and reached concurrence regarding certain issues associated with CIP-002-4.

**Subgroup: ERO - Enforcement Sanction Mitigation Working Group (ESMWG)**

1. Currently, the ESMWG is focusing on reliability risk assessments, FFT processing, TFEs, dismissals, and CIP NOP processing. The ESMWG, as always, continues to focus on inter-regional collaboration pertaining to Enforcement and Mitigation topics.

**Subgroup: ERO - Compliance Monitoring Process Working Group (CMPWG)**
The Compliance Monitoring Process Working Group (CMPWG) has been working to improve the consistency of regional monitoring programs by working on the projects identified below and continual sharing of experiences in the performance of monitoring of the Registered Entities. The following are recent activities in which the CMPWG is involved:

| Project | Progress |
|---|---|
| Review of Sampling Methodology and Samples developed for requirements | Regions have met to discuss their approach. Regional approaches are being gathered for comparison and further discussion, on schedule. |
| | |
| Development of Audit Approaches of 693 Standards | RSAW WG has met with Craig Struck and received direction on how and what to proceed on going forward. Regions are developing audit approaches for review. Work Progressing |
| | |
| Sharing of Audit Process Tools among the Regions | Ongoing, this is being discussed during each call and meeting. Latest tools introduced are MK Insight software package for managing audit and spot checks. |
| | |
| Development of Auditors Workbook | On hold pending changes to RSAWs and other training documents. |
| | |
| Update and development of QRSAWs for 2012 | Completed in 2011, RSAW WG will prepare for 2013 AML and work to have them completed for 2013 audits. |
| | |
| Supporting ERO Auditor Workshops | Completed support of NERC Spring Workshop, will work to support Fall Workshop as agenda is developed |
| | |
| Meet with other working groups | Met with CCWG in January and have scheduled another meeting in September. Plans are underway to meet with CRWG in January, 2013. |
| | |
| Provide 10 significant WG activities, tools, or methods that are believed to either align consistent practices for greater implementation across all Regions | Task ready to be presented on May 7th deadline. |
| | |
| Develop 693 Auditor Team Composition and Training Document | Document has been developed and commented upon by the regions. Document is being finalized for submittal. |
| Provide review and comments to proposed enhancements of existing NERC Audit tools (Audit Report Template) | Draft Version 2 revision to Compliance Process Directive 2010-CAG-001 Regional Entity Compliance Audit Report Processing. |

**Subgroup: ERO - Compliance Information Management Group (CIMG)**

1. The Compliance Information Management Group (CIMG) and Certification and Registration Working Group (CRWG) have identified the need to accommodate the transfer of open enforcement actions from one entity (deregistered entity) to another entity within the Regional systems. Both working groups are working to revise the NERC Bulletin #2011-005 on Transfer of Assets. Once approved, the Regional Systems will be updated to allow for any newly identified business rules. The CIMG and CRWG are also working to document the expectations for Regions to collect and submit registration change information to NERC for analysis.

2. The CIMG is working with NERC to improve the two-way data transfer between NERC and the Regions, including real-time status of violations, Standards data, and eliminating the manual submittal of data. The CIMG is starting to document additional data fields the Regions would like to receive from NERC, additional fields NERC requires from the Regions, and next steps to securely transfer files from the Regions to NERC. New business rules have also been identified and implemented to improve the data integrity at NERC, including the ability for Regions to update the Standard version and requirement for a violation and successfully transmit the change to NERC. A proposal for NERC to update its Standards database to add an indicator for requirements or sub-requirements that will not have a VRF assigned, because it is explanatory text only, has been drafted and is currently under review.

**Subgroup: ERO - Training and Education Group (TEG)**

1. In 2012, the ERO Training and Education Group (TEG) is focused on coordination of training projects and priorities for the ERO and stakeholders, and consistent with the charter, is providing a forum for communication and information exchange among NERC staff and the Regional Entity training representatives. Recent discussions included the 2013 budget planning assumptions and opportunities for coordinating training materials and expenses among NERC and Regional Entities.

2. The TEG is focused on two primary training needs for 2012, those being auditor training and development of training on reliability standards for both the ERO staff and industry entities. Auditor training focus includes updating existing auditor and audit team leader training content and delivery, including training for the implementation of the Compliance Enforcement Initiative Phases I and II. In addition, the TEG is providing recommendations for the ERO auditor workshop agendas conducted twice each year. The second priority is developing the methods and training materials for selected reliability standards application guidance for ERO staff and auditors. This guidance and training material would also be shared with the industry in an efficient manner. The TEG will continue to collaborate and provide regional entity input for the training development process.

**Subgroup: ERO - Legal Group (EROLG)**

The EROLG's purpose is to provide a forum for discussing legal issues involving NERC and Regional Entity activities, especially focusing on the internal and corporate issues germane to the functioning of the ERO. The group meets monthly via telephone and quarterly via face-to-face meetings. The following are recent activities in which the EROLG is involved:

- Development of a standard Conflict of Interest policy and Confidentiality Agreement for use at NERC and the Regional Entities;
- Ongoing development and retention of a pool of potential Hearing Officer candidates;
- Update and development of Regional Entity training programs;
- Development of a pro forma confidentiality agreement for NERC and all Regions;

- Development of an internal review standard and process to create better structure and organization for future proposed revisions to the Rules of Procedure or its Appendices; and
- Ongoing review of implications of relevant Commission Orders.

**Subgroup: ERO - Certification and Registration Working Group (CRWG)**

1. CRWG is in the process of revision and approval of the Certification Process Documents - 29 Templates created; 30 Finalized; 9 are in process of being reviewed- estimated completion April 26th, 2012. After final approval, these documents will be posted on NERC website for all regional entities and registered entities to view and use for their upcoming functional certification process.

2. CRWG has finalized and approved the new formatted registration letters, which will be sent by NERC to new, revised, and deactivated registered entities. CRWG is working on a single registration form for all regions (20% complete); estimated completion June 30, 2012. CRWG is also working on the development of a training program on Registration and Certification processes for all CRWG members and other working groups as needed.

**Subgroup: ERO - Regional Standards Group (RSG)**

RSG Meetings

1. The Regional Standards Group (RSG) meets on a monthly basis and has held 3 meetings this year in-person or by phone. The regions have worked to perform quality reviews, post regional standards to the NERC website, and file regional standards and variances with FERC. In addition, they have worked on a whitepaper that helps define the differences between regional standards and regional variances. They also worked together to provide input to the standards section of the Business Plan and Budget Common Assumptions for 2013.

Status of Regional UFLS standards

2. On November 4, 2010, the NERC Board of Trustees adopted PRC-006-1 Automatic Underfrequency Load Shedding and directed NERC staff to file the standard with FERC. Included in PRC-006-1 are Interconnection-wide variances for Quebec and WECC. Concurrent with the development of PRC-006-1, several regions were developing regional underfrequency load shedding standards based on historical documents and practices. Two of those regions, SERC and NPCC, subsequently submitted those regional standards for adoption by the NERC

   Board of Trustees. SPP has developed its regional standard with stakeholder consensus and is expecting to present the standard at an upcoming Regional Entity Trustees meeting for action. MRO and TRE have evaluated the continent-wide standard and have determined that it provides sufficient reliability coverage in their respective regions. FRCC is currently performing a comparison between the NERC Board approved continent-wide standard and the FRCC Underfrequency Program to determine if there are any reliability gaps that would require further action in the form of a Regional Reliability Standard or a regional variance to the continent-wide standard. Finally, RFC has suspended the current RFC UFLS standard drafting efforts indefinitely until such time the associated NERC standard (PRC-006-1) is enforced and effective. A report is being prepared for the May BOT meeting.

Status of Efforts to Address Version 0 (Fill-In-The-Blank) Standards

3. The RSG issued a report in October of 2006 establishing a systematic methodology for resolving the potential issues surrounding the existing NERC Reliability Standards that contain "fill-in-the-blank" characteristics. The Report identified 31 continent-wide standards that needed to be addressed and established a work plan to meet the needs identified. Of the 31 fill-in-the-blank standards identified in that 2006 report, revisions to ten standards have been completed; seven are scheduled to be completed in 2012, two in 2014, one in 2015, nine in 2016, and the last two in 2017. A draft report was circulated to the EMG members.

Status of Regional Standards Programs

4. Anthony Jablonski (RFC) is working with the regions to develop the content of a report on the status of regional standards programs in each of the eight regions. The report will be presented at the May BOT meeting.

**Subgroup – ERO – Information Technology Steering Group (ITSG)**

1. CRATS –webCDMS+ is under development by OATI to primarily develop discrepancy reports for the 5 CDMS regions (MRO, RFC, SPP, TRE and WECC) and a simple export of targeted data for Board reports. All activities are on time and targeted for production in early May. Parallel work is being done with all 8 regions to identify discrepancies and reconcile issues and on revisiting and drafting new business rules. Near term discussions will be held on document synchronization.

2. Events Analysis – ERO Project team identified. First task will be to jointly develop project scope.

3. ERO Project Prioritization – Each region was requested to rank each project within the ERO project list to determine project priorities beyond the existing projects (CRATS, EA, BES Exception and Reliability Assessments). The Project Management Office (PMO) would then take the average of the rankings to recommend priorities beyond what is already defined. The responses were due by April 18.

North American Transmission FORUM

## Mission

The Forum's mission is to **promote excellence** in the reliable operation of the electric transmission system.

## Vision

The Forum envisions **continuously improving** the **reliability** of the electric transmission system.

## Approach

The Forum members advance industry performance by developing and sharing best practices; providing candid, constructive feedback; holding each other accountable, and ensuring the focus and commitment of our members' senior leadership.

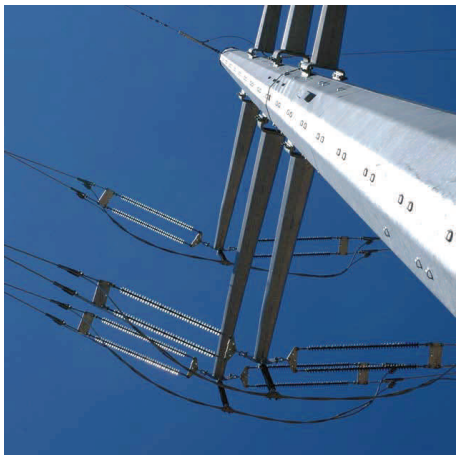
The Forum leverages technology for speed and efficiency, and teams of subject matter experts (SMEs) can be assembled quickly to respond to member needs and issues.

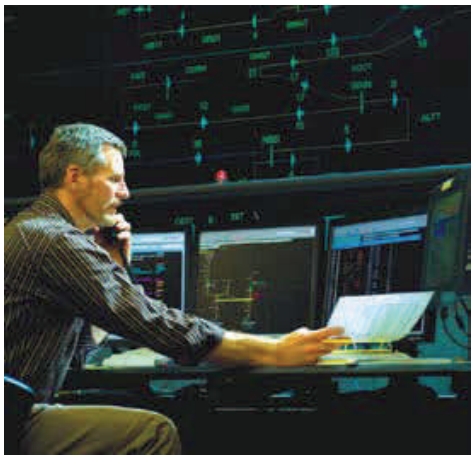
SMEs interact through a private Web portal, Internet meetings, online surveys and conference calls. Periodic face-to-face meetings build working relationships and allow knowledge transfer on key reliability issues. Onsite peer reviews, conducted by teams of up to 25 reliability professionals, offer direct, confidential feedback and constructive opinions.

## Programs

Our interdependent program areas—practices, information sharing, metrics and peer reviews—are focused on improving reliability among our many diverse members.





## Organizations (72)

- Investor-owned: 43
- State/Municipal: 8
- Cooperative: 10
- Federal/Provincial: 6
- ISO/RTO: 5

**Percent of total demand**. Represents over 90% of the net peak demand in the U.S. and Canada

**Transmission**. Approximately 370,000 miles of transmission (about 80% of the transmission circuit miles at 100 kV and above in the U.S. and Canada)

## Experts (2200+)

Our community of subject matter experts provides broad experience in a range of topics:

- System protection
- Operations
- Maintenance
- Training
- Physical and cyber security
- Vegetation management
- Public relations
- Human performance
- Metrics

## Membership Eligibility

Any organization that owns, operates, or controls at least 50 circuit miles of integrated (network) transmission facilities at 100 kV or above, operates a "24/7" transmission control center with NERC-certified transmission or reliability operators, or has an open access transmission tariff or equivalent on file with a regulatory authority, may join the Forum.

© 2012 North American Transmission Forum, Inc. • www.transmissionforum.net

North American Transmission FORUM

# Programs

## Practices

The Forum's groups of subject matter experts hold Web meetings each month and write Forum practices.

- Compliance
- Facility Ratings
- Human Performance
- Line and Substation Maintenance
- Modeling
- Operator Tools
- Operator Training
- Security
- System Protection
- Vegetation Management

**Current topics**

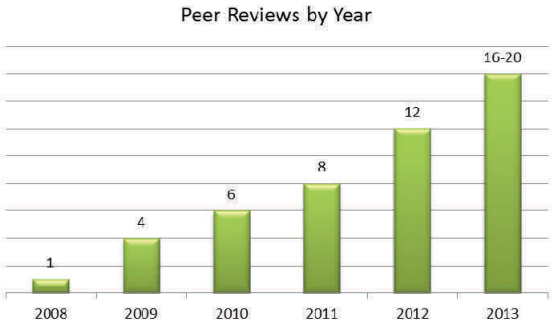
- Physical and cyber security
- Personnel training and implementation of PER-005
- Vegetation management community education
- Modeling
- Compliance management
- System protection misoperations

## Peer Reviews

Forum peer reviews help our members "raise the bar" for their own operations from good to great.

Review teams that comprise subject matter experts in each practice area spend one week at the "host" peer site. The teams' final reports include noteworthy practices that are shared with the other Forum members, and recommendations for the host to implement.

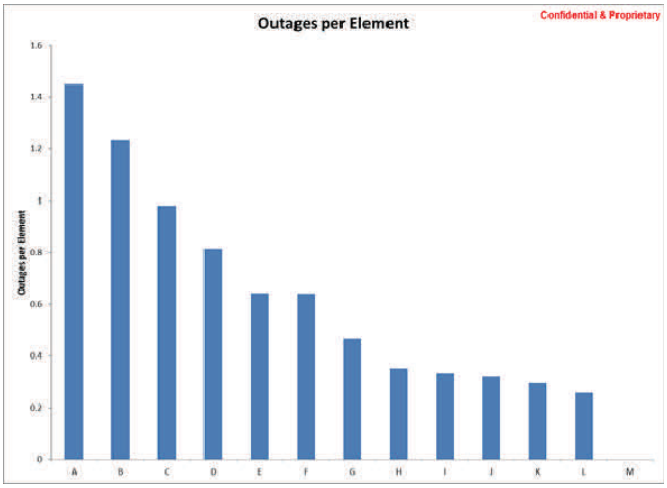
The program will ramp up through 2014 to a schedule in which members will be reviewed approximately every four years.




## Metrics

The Forum collects transmission equipment performance information, such as TADS data. Improving equipment performance directly contributes to improving reliability. The metrics program:

- Allows Forum members to confidentially view other's data
- Provides tools to facilitate peer benchmarking
- Will expand breadth and depth of data collection in 2012




## Information Sharing

Forum members readily share information for "lessons learned" and assistance:

- System event analysis
- Equipment event reports and alerts
- Vegetation contacts
- Surveys on topical subjects
- Case studies
- Members' practices and procedures
- Audit experiences and lessons
- Compliance violations (feedback to Forum practices)

**Recent surveys**

- Switching practices
- Operating limits
- SCADA systems
- Logging procedures
- Security
- Facility ratings

© 2012 North American Transmission Forum, Inc. • www.transmissionforum.net

# High Level Actions

**Overarching Themes** *(Make a positive reliability impact, continuously improve)*

- Measure progress; aggressively pursue continuous improvement, prioritized on a reliability-risk basis
- Promote candid, constructive peer feedback and accountability as membership-wide norms
- Share information effectively and efficiently – get the right information to the right people for optimum results
- Formalize and strengthen processes in all program areas; ensure effective integration
- Continuously add value

**Practices** (*Clarify reliability linkage, identify and export superior practices)*

- Focus practices on the highest priority reliability topics
- Formalize reliability excellence principles
- Define and disseminate superior practices

**Peer Reviews** (*Increase formality, focus, and frequency)*

- Conduct rigorous advanced planning, including team selection and associated training
- Systematically communicate key themes to members; increase accountability regarding follow-up
- Incorporate host-member advance self-evaluation as peer review input
- Hone focus, customize scope as warranted to add value

**Metrics and Information Sharing** *(Measure what matters, set high expectations, share key information efficiently)*

- Define relevant reliability metrics with specific improvement goals
- Foster timely dissemination of lessons learned; facilitate effective member response
- Identify and proactively address adverse trends and precursors to more consequential events
- Refine member benchmarking efforts to increase effectiveness and reduce redundancy

**External Interfaces** *(Leverage collective wisdom towards reliability improvement)*

- Proactively and routinely interface with FERC, NERC, and others on key reliability issues
- Clarify roles and strengthen working relationships with other industry reliability organizations
- Benchmark relevant organizations from other industries; incorporate findings

**New Program Areas and Activities** *(Innovate while adhering to the mission and vision)*

- Member assistance - provide targeted assistance upon member request to improve in important areas: human performance (error reduction), internal compliance programs, etc.
- Reliability Initiatives - assume leadership to address selected key reliability challenges
- Enhance event analyses and sharing of lessons learned
    - Develop cause-determination templates and training to promote quality and consistency
    - Assume leadership for cause analysis and lessons learned generation for selected events
- Provide for consolidated member training on key reliability topics

© 2012 North American Transmission Forum, Inc. • www.transmissionforum.net

**From:** Eleanor Crouch
**To:** Eleanor Crouch
**Subject:** NERC ANNOUNCEMENT: Member Representatives Committee (MRC) and Board of Trustees (BOT) Meetings-May 8-9, 2012 | Arlington, VA
**Date:** Friday, March 09, 2012 12:41:34 PM

# Meeting Announcement

## Member Representatives Committee (MRC)
## Board of Trustees (BOT)

May 8-9, 2012 | Arlington, VA

**Click Here for:** Meeting Registration

**Click Here for:** Meeting Details

When making your hotel reservation, please be sure to mention "NERC" to get the preferred rate and ensure your reservation is credited to the NERC room block. The hotel will charge NERC a penalty if the total rooms blocked for this event are not picked up. Also, if you use a travel agency for your travel plans, please make sure the agency mentions NERC. For more information or assistance, please contact Eleanor Crouch at eleanor.crouch@nerc.net or (404) 446-2572.

For more information or assistance, please contact Eleanor Crouch at eleanor.crouch@nerc.net

**3353 Peachtree Road NE**
**Suite 600, North Tower**
**Atlanta, GA 30326**
**404-446-2560 | www.nerc.com**

---
You have received this email because you are a registered representative in the Registered Ballot Body.

| | |
|---|---|
| **From:** | anthony.jablonski@rfirst.org |
| **To:** | rsg |
| **Subject:** | FW: Modification to the regional stds write up for the board |
| **Date:** | Monday, April 16, 2012 2:41:27 PM |
| **Attachments:** | Combined-BOTMRC-May2012-03302012-hh+ssw04042012+ssw04112012 (2)+rsg concerns.docx |

RSG Members,

I had conveyed the groups concern, with the standards write up to the NERC Board, to my Boss (Tim Gallagher) and he agreed with the concerns. Please see the attached modified document. Also, he wanted me to thank the group for bringing these concerns up as well. Thanks and have a great day.

---

**From:** Tim Gallagher
**Sent:** Monday, April 16, 2012 8:14 AM
**To:** Herb Schrayshuen (Herb.Schrayshuen@nerc.net); Connie White; Dan Skaar; Edward Schwerdt; Lane Lanford; Linda Campbell; Mark Maher; Patty Tymcio; Scott Henry; Stacy Dochoda; Tim Gallagher
**Cc:** Anthony Jablonski; Patty Tymcio
**Subject:** Modification to the regional stds write up for the board

Hi Herb.

Sorry to do this, but I am responding to some good feedback from the RSG. Since the MRO separate opinion is now being included in the write-up, I am including some revisions to the final section of the main part of the report. That paragraph, in attempting to answer why some regions are not performing regional standards development, was intended to eliminate the need for the MRO supplement. Since the supplement will be included, some things need to come out. See my revisions.

Tony – please send to RSG and thank them for the input.

Best,

Tim

---
CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential, privileged or subject to copyright belonging to Reliability*First* Corporation. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this electronic message is strictly prohibited and may be unlawful. If you have received this message in error, please notify the sender immediately and permanently delete the original and any copy of this electronic message.

---
Y

- - -
Y

Agenda Item 7a
BOT-MRC
May 2012

# Report on Status of Regional Standards Development Programs

## Action
Discussion

## Background
### Points of Agreement Among the Regions

*All Regions advocate continent-wide standards/solutions where possible*.
*No Region anticipates a large amount of new future work on regional standards.*

### When Are Regional Standards Appropriate?
Regional standards are appropriate to address reliability issues in two circumstances. First, regional standards may have more stringent requirements than those in a NERC Standard (including matters not addressed by a NERC Standard) and second regional standards may address a regional difference necessitated by a physical difference in the Bulk Power System (BPS). Below is the language from FERC Order 693:

> *While uniformity is the goal with respect to Reliability Standards, we recognize that it may not be achievable overnight. Over time, we would expect that the regional differences will decline and uniform and best practices will develop. In Order No. 672, the Commission identified two instances where regional differences may be permitted, i.e., regional differences that are more stringent than continent-wide Reliability Standards (including those that address matters not addressed by a continent-wide Reliability Standard), and a regional difference necessitated by a physical difference in the Bulk Power System.*

### Current Standards Activity
Regional standards, like NERC Standards are developed by stakeholders. To a certain extent, the standards activity for each Regional Entity is influenced by the regional stakeholders' interest in developing regional standards.

Florida Reliability Coordinating Council (FPCC), Reliability*First* (RFC), and Midwest Reliability Organization (MRO) have standards on hold or have suspended development, primarily to allow for NERC development of standards addressing the same reliability issue to be prepared. Once that happens the need for a particular regional standard would be re-assessed to determine the best course of action (i.e., continue regional standard development, develop a Regional Variance or terminate the project if the NERC Standard appropriately addresses the reliability risks).

SERC Reliability Corporation (SERC), Northeast Power Coordinating Council (NPCC), Southwest Power Pool, RE (SPP), Texas Reliability Entity (TRE), and Western Electricity Coordinating Council (WECC) each have Standards under active development. As contained in the NERC

2012-2014 Reliability Standards Development Plan, the total number of regional standards is 13. Of the 13, 2 (SERC UFLS and NPCC UFLS) are already NERC approved and awaiting FERC action.

WECC also has a Regional Variance under development.

**Future Regional Standards Activity**
No future regional standards beyond those referenced above are currently proposed and no regional standards are anticipated being proposed by any Region, although WECC may seek to make minor revisions to one of its already FERC-approved regional standards.

All Regions believe their collective work with NERC should focus primarily on continent-wide standards, improving the existing standards and eliminating unneeded requirements of minimal reliability benefit, however, in some instances regional standards are needed in addition to the continent-wide standards. These regional standards add specificity, further stringency and or augment the continent-wide standard's reliability requirements as well as enhancing reliability and facilitating compliance within the Region.

**Why are some Regions developing Regional Standards?**
Some Regions were concerned that there may be reliability gaps posed by the fill-in-the-blank standards that had to be addressed and determined the best way to address the risk was to put a regional solution in place until NERC developed a continent-wide one. This was primarily driven by the concern that the many competing priorities NERC faces in its standards program may prevent development of necessary continent-wide standards in an acceptable time frame.

Some Regions developed regional standards in response to the fill-in-the-blank standards to improve, replace or supplement existing reliability criteria or address a lack of criteria. Other Regions were very comfortable that their existing reliability criteria adequately addressed concerns in the fill-in-the-blank standards.

Some Regions believe that it is beneficial at this time to drive higher levels of reliability initially on a "smaller" footprint. Until such time as NERC can address a methodology to consider costs as compared with the benefits of moving a more stringent reliability standard forward, it may be better for reliability to enable standards to be written to smaller portions of the system especially where critical load pockets exist. A strict adoption of a "one-size fits all" strategy may degrade reliability in some areas.

In some cases, a NERC continent-wide standard cannot be developed or the industry does not support development of a continent-wide reliability standard to address an identified reliability gap that exists in a given Region. The recourse in such circumstances is that a Region may be forced to pursue a Regional Variance to a continent-wide reliability standard or initiate development of a regional reliability standard in order to address the reliability risk posed.

The nature of the BPS within a given Region—its load diversity and density, level of interconnectivity, size and location of critical load centers, and electrical characteristics—results in differing levels of risk to reliability and at times, a greater or lesser need for a regional standard.

**Why are some Regions not developing Regional Standards?**
~~Some~~ All Regions believe the primary focus of standards development, within the ERO enterprise, should be on continent-wide standards, improving the existing standards and eliminating requirements with little reliability benefit.~~. These Regions are also concerned that the fill-in-the-blank standards, over time, could be institutionalized as regional differences potentially resulting in an additional layer of standards complexity.~~ Some Regions feel the requirements of the fill-in-the-blank standards are already appropriately addressed in their existing reliability criteria and thus a standards solution is not necessary. ~~T~~Further, in some cases, there is a concern that the fill-in-the-blank standards, over time, could be institutionalized as regional differences potentially resulting in an additional layer of standards complexity.~~hese Regions see the fill-in-the-blank standards as more of a compliance enforceability gap, rather than a reliability gap since Regions developed procedures to address these matters as the legacy "Regional Reliability Organization". In addition, increased specificity in regional standards could be seen as crossing the line between the regulated and the regulator and potentially confusing the technical responsibility for reliability~~.

MRO staff respectfully submits supplemental thoughts to the Regions' collective response to the question: **"Why are some Regions not developing Regional Standards?"**

To begin with, MRO believes that more consistency in operating and planning the BPS is needed across North America and within the Eastern Interconnection. In this regard, Order No. 672 recognized the benefits of greater uniformity and consistency in the development of reliability standards while providing the flexibility for technical differences where necessary. Specifically, the Commission stated there "**that uniformity of reliability standards should be the goal and the practice, the rule rather than the exception.** Greater uniformity will encourage best practices, thereby enhancing reliability and benefiting consumers and the economy. Congress envisioned greater uniformity in adopting section 215 and a broad cross-section of the industry supports this goal." (Emphasis added.)

Furthermore, more uniformity, where possible, will help simplify operations and reduce compliance burdens, thus, lowering costs and, more importantly, improving reliability. This, of course, needs to be balanced with diversity of resources and technologies to assure a robust, resilient and secure system.

As a separate matter, MRO is concerned that efforts to develop regional standards, which to date has focused in part on addressing fill-in-the-blank standards[1], will preempt or dilute resources on NERC's efforts to seek continent-wide solutions for those standards. Additionally, once regional standards (for the fill-in-the-blank standards) are in place under Section 215, they will be difficult to sunset and the opportunity to pursue the objective of more consistency will be diminished by institutionalizing regional differences. The unfortunate result will be an additional layer of standards and increased complexity for the Registered Entities to comply with those standards. While MRO does not object to the development of regional standards or variances, MRO believes the collective work of the Regions and NERC should focus primarily on continent-wide standards, *improving* the existing standards and *eliminating* unneeded requirements. Along these lines, as the Commission itself recently recognized in the FFTR order, we should be reviewing the application of the standards to see whether unnecessary or redundant requirements can be removed in order to improve the efficiency of compliance.

For all of these reasons, MRO has suspended its regional standards development in order to focus on improving the technical application of standards and focus its resources on continent-wide standards efforts. MRO further supports NERC's efforts to expedite the fill-in-the-blank standards into continent-wide standards, because the fill-in-the-blank standards should be replaced by continent-wide or interconnection-wide standards wherever possible.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

[1] As background, each Region, as the legacy Regional Reliability Organization (RRO), had procedures to address the fill-in-the-blank requirements. However, the Region could not enforce the standards under Section 215 because they pointed to the legacy RRO (which in turn pointed to "members" of the RRO.) Therefore, the fill-in-the-blank standards lacked *line of sight* enforceability to all owners, users, or operators of the bulk electric system. While some Regions began to develop regional standards in response to the fill-in-the-blank standards, each Region had existing reliability criteria to address the fill-in-the-blank standards, albeit only enforceable through voluntary means as "good utility practice".
Commission Order 693-A acknowledges that an "enforceability" gap under Section 215 has resulted from these fill-in-the-blank standards, but, again, the industry and Regions have a long history of procedures in place to address these reliability matters (as "good utility practice" and enforceable via voluntary means). The Regional Entities have assumed the responsibility for maintaining the legacy fill-in-the-blank procedures until suitable standards are established under Section 215 in the United States. This is consistent with Commission Orders 693 and 693-A. as well as NERC directions.

Agenda Item 7b
BOT-MRC
May 2012

# Report on Status of ERO and Regional Underfrequency Load Shedding (UFLS) Activities

## Action
Discussion

## Request
At the February 2012 NERC Board of Trustees (BOT) meeting, the trustees requested a summary of the status of the PRC-006 (UFLS) standard implementation in North America and, in particular, a discussion on the efforts of those Regions developing or pursuing regional UFLS standards, which support or augment the implementation of the continent-wide underfrequency load shedding PRC-006-1 standard.

## General Overview
The NERC Rules of Procedure Sections 311-312 give the Regional Entities the ability to, at their discretion, implement regional standards. The design of the PRC-006 Reliability Standard recognized the effectiveness of a number of pre-existing UFLS programs currently in place within the Regions. This is evidenced by the inclusion of variances for the Quebec Interconnection and the Western Electricity Coordinating Council (WECC) in the continent-wide standard. Other Regions have decided that developing a regional standard would provide the best approach to addressing regional UFLS programs, while others have decided to withhold standards development activity (in some cases pending FERC approval of the PRC-006-1 standard). SERC and Northeast Power Coordinating Council (NPCC) have taken the approach of developing a regional UFLS standard that is consistent with the NERC standard, but augments it with more specificity to their respective regions.

## North American Standard PRC-006-1
Reliability Standard PRC-006-1 establishes design and documentation requirements for automatic underfrequency load shedding programs to arrest declining frequency, assist recovery of frequency following under-frequency events and provide last resort system preservation measures. The standard contains BOT-approved Regional Variances for WECC and the Quebec Interconnection, which resides within the NPCC footprint. The Regional Variances preserve certain aspects of the UFLS programs within those regions. The standard improves reliability by establishing common performance characteristics that all UFLS programs must meet by assigning responsibility for the development and assessment of UFLS programs to the Planning Coordinator (PC).

In Order No. 693, FERC did not approve or remand the proposed reliability standard PRC-006-0, noting that it is a fill-in-the-blank standard requiring the then Regional Reliability Organizations (RRO) to develop the details of their UFLS programs. However, FERC directed NERC to eliminate the use of the RRO as a responsible entity and transition these responsibilities to the

Regional Entity or to one or more registered entities. The PRC-006-1 standard addresses this directive in an equally efficient and effective manner by assigning responsibility to the PC for establishing UFLS programs, consistent with the expectations for that function in the NERC Functional Model Version 5.

The drafting team also determined that in some areas, the Transmission Owners (TOs) are responsible for implementing UFLS, and their approach is consistent with the current standard. The team did not identify a meaningful way to incorporate criteria that reaches beyond Bulk Electric System (BES)-connected generators for purposes of modeling.

Because the PC, as explained in the NERC functional model, has a "wide area" view of the BES, the drafters of the PRC-006-1 Standard, with stakeholder concurrence, determined that the PC is the logical entity to replace the RRO in the NERC PRC-006-1 Standard. FERC has not yet issued an order on the PRC-006-1 standard. For Regions that only have a small number of PC's in their footprints, e.g., Reliability*First* Corporation (RFC) with two large PCs and Texas Reliability Entity (TRE) with one PC, an effort by the PCs to coordinate their UFLS programs are relatively easy to achieve. For Regions with many PCs in their footprint, the coordination of UFLS programs could possibly become difficult to achieve without direction from the Region. In those instances, the establishment of a regional standard may be appropriate.

A link to the North American standard project history and files is included here for reference: http://www.nerc.com/filez/standards/Underfrequency_Load_Shedding.html

### Florida Reliability Coordinating Council (FRCC)

The FRCC Regional Standard PRC-006-FRCC-1 FRCC Automatic Underfrequency Load Shedding Program was developed and has been approved by the FRCC Registered Ballot Body and the FRCC Board of Directors. Based on concerns identified by NERC standards staff and the pending Commission (FERC), approval of the NERC Continent-Wide Reliability Standard PRC-006-1 Automatic Underfrequency Load Shedding and associated regional variances, the regional project has been placed on "hold". FRCC has since revised regional criteria documents (FRCC Automatic Underfrequency Load Shedding Program, revision date: April 7, 2011) to ensure its procedures comply with the requirements of BOT adopted NERC Reliability Standard, PRC-006-1—Automatic Underfrequency Load Shedding. The FRCC System Protection and Controls Subcommittee (SPCS) and FRCC Standards Staff is currently comparing the NERC Board approved continent-wide standard and the FRCC Underfrequency Program to determine if further action is required in support of a Regional Reliability Standard or a regional variance to the continent-wide standard.

Project information may be found at:
https://www.frcc.com/Standards/Lists/Standard%20Announcements/DispForm.aspx?ID=52&Source=https%3A%2F%2Fwww%2Efrcc%2Ecom%2FStandards%2Fdefault%2Easpx

### Midwest Reliability Organization (MRO)

When the NERC PRC-006-1 standard is approved, MRO believes there will be no reliability gaps that need to be addressed in an MRO Regional UFLS standard and therefore does not intend to pursue one. MRO believes that because there are very few PCs in the region, no further guidance other than what is contained in the North American Standard is necessary to implement effective UFLS programs.

### Northeast Power Coordinating Council (NPCC)

UFLS requirements have been in place in NPCC for many years prior to implementation of NERC Reliability Standards. If approved by FERC, the NPCC regional UFLS standard will apply to portions of NPCC that are both synchronous and asynchronous to the eastern interconnection. Control areas that are asynchronous, e.g., Quebec, may develop UFLS parameters with a different technical basis, if required. Also, the Quebec Interconnection portion of NPCC has had an interconnection wide UFLS program consistent with the NPCC legacy UFLS program for many years. A variance to address the Quebec interconnection was integrated into the PRC-006-1 standard when it was developed and approved by the BOT in November 2010.

The PRC-006-NPCC Standard provides measures to automatically assure system preservation by implementing an automatic underfrequency load shedding program to respond to system underfrequency events. The Standard will also emphasize the need for coordination among the NPCC areas, including the Quebec Interconnection and those areas outside of the NPCC footprint, and provide direction for refinements of underfrequency systems already in place. In addition, the NPCC standard includes more specificity to such issues as compliance for small entities, compensatory load shedding for older generators that do not meet performance characteristics, and the clear identification of what entities must do in order to contribute to an effective UFLS program within the NPCC region.

The PRC-006-NPCC standard was approved by the NERC BOT in February 2012 and is being prepared for a second quarter filing with FERC.

Project information may be found at:
https://www.npcc.org/Standards/SitePages/DevStandardDetail.aspx?DevDocumentId=4

### Reliability*First* Corporation (RFC)

On February 23, 2012, the RFC Board of Directors suspended the current RFC UFLS standard drafting efforts indefinitely until the associated continent-wide PRC-006-1 standard is enforced and becomes effective. RFC staff will actively monitor the progress of the associated NERC standard efforts and promote them on a continent-wide basis. If RFC determines that reliability

gaps arise or are identified within the RFC footprint, RFC will take appropriate action, i.e., request its board to reinstate such drafting efforts or submit a new Standards Authorization Request (SAR) to be moved through the standards process. To fill the gap in the time between when the NERC standard becomes enforceable and effective, RFC has legacy UFLS requirements which are enforceable based upon the current, FERC-approved PRC-007-0 Reliability Standard. When the NERC PRC-006-1 standard is approved by FERC and RFC determines that it addressed the reliability gaps, it is anticipated that the RFC legacy UFLS documents will be retired accordingly.

The RFC Board of Directors' decision to suspend the regional UFLS efforts was partially based on an independent RFC Staff assessment and recommendation. Based on the current NERC PRC-006-1 draft standard, RFC staff believes there are no reliability gaps. The NERC Project 2007-01-Under-frequency Load Shedding project focused on developing a NERC continent-wide UFLS Standard, which requires the PC to develop a UFLS program for their respected areas, with UFLS entities required to provide automatic tripping of load in accordance with the PCs' UFLS program design and schedule. This replaces the fill-in-the-blank requirement for the Regions to develop such UFLS program. With RFC having two large PCs spanning multiple Regions, RFC staff believes it is appropriate for the PCs to perform the analysis and develop such UFLS program for their respected areas.

Project information may be found at:
https://rsvp.rfirst.org/PRC006RFC01/default.aspx

### SERC Corporation (SERC)

The SERC UFLS Standard was approved by the BOT at its November 2011 meeting and filed with FERC in February 2012. The standard was developed to provide regional UFLS requirements to entities in SERC. UFLS requirements have been in place at a continent-wide level and within SERC for many years prior to implementation of federally mandated reliability compliance standards in 2007.

In 2008, SERC commenced work on PRC-006-SERC-01. NERC also began work on revising PRC-006-0 at a continent-wide level. The SERC standard was developed to be consistent with the NERC UFLS standard.

PRC-006-SERC-01 clearly defines the roles and responsibilities of parties to whom the standard applies. The standard identifies the PC as the entity responsible for developing UFLS schemes within its PC area. The regional standard adds specificity not contained in the NERC standard for development and implementation of a UFLS scheme in the SERC Region. Specifically, R2 provides minimum requirements for set points, time delays and steps for underfrequency load shedding. Other requirements address implementation tolerances for both large and small (less than 100 MW) entities; and specify implementation timelines.

Project information may be found at:
http://serc.centraldesktop.com/standardhomepage/doc/10467819/w-RegionalUflsStandard

### Southwest Power Pool (SPP)

SPP is actively working on its seventh draft of the regional standard for its UFLS program. This standards development program intends to use the proven high performance characteristics of the existing SPP UFLS program and refine its requirements and coordination procedures through an open process as described in the SPP Standard Development Process Manual.

In January 2012, the SPP System Protection and Control Working Group (SPCWG), which served as the UFLS Standard Drafting Team (SDT), asked the Markets and Operations Policy Committee (MOPC) for an advisory vote on SPP UFLS Standard (PRC-006-SPP-1). The MOPC concurred with the standard with a 76.7percent roll call vote. Also in January, the SPP Members Committee endorsed the SDT's recommendation to concur with the standard. The Board of Directors did not endorse PRC-006-SPP-1.

The standard will be presented to the Regional Entity Trustees for action at their April 23, 2012 meeting. The Trustees can either 1) Recommend NERC approve the standard through the NERC process, 2) Remand PRC-006-SPP-1 to the SDT through MOPC with comments and instructions, or 3) Determine there is no need for the standard and terminate future activity.

Under the draft regional standard, UFLS program performance will be measured based on the entity's planning values and not the one-minute average of the entity's load prior to the first underfrequency relay action. This is a change from the currently used SPP Criteria.

Project information may be found at: http://www.spp.org/section.asp?pageID=101

### Texas Reliability Entity (TRE)

TRE does not intend to develop a regional UFLS standard at this time. In April of 2008 a SAR (SAR-002) was approved in TRE initiating the development of a regional UFLS standard (PRC-006-TRE-1). Based on the concurrent, continent-wide development of PRC-006-1, the TRE SDT decided to suspended active development work and to monitor the progress of the NERC UFLS Project. Upon completion of PRC-006-1, the SDT recommended terminating the regional UFLS project. On October 5, 2011, the TRE Regional Standards Committee approved the withdrawal of the SAR and disbanding the standard drafting team in view of the contents of the continent-wide UFLS standard. Note that there is only one Planning Coordinator in the ERCOT Interconnection, and there are ERCOT rules regarding UFLS that supplement the NERC standard.

Project information may be found at:
http://www.texasre.org/standards_rules/standardsdev/rsc/sar002/Pages/Default.aspx

**Western Electricity Coordinating Council (WECC)**

WECC has a long standing UFLS program and has integrated its current UFLS program administration needs in the WECC region within the approved North American Standard as a regional variance.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 7c
BOT-MRC
May 2012

# Report on Status of Operating Communications Protocols

## Action
Discussion

## Discussion
Below is a report on the status of the plan related to the approval of the COM-002 interpretation by the board at its February 2012 meeting in Phoenix. The board requested an update on the activities related to COM-002 to be provided at its May 2012 meeting.

## Summary
During the discussion at the February 2012 meeting in which the board approved the COM-002 interpretation, the board recognized that better practices are needed for the communication of directed changes to the state of the Bulk Power System. With the interpretation of the COM-002 standard (which provides that the COM-002 standard only applies when a directive is issued to address a real-time emergency situation and not to routine instructions issued during normal operations) there now exists a reliability gap which must be addressed on an expedited basis.

The actions being taken in response to this need are as follows:

- Revision of the RSAW for COM-002;
- Development of a guidance document for operators, outlining best practices (should be issued by the time of the BOT meeting);
- Guidance to the regions for interim compliance decisions; and
- Expediting the development of the COM-003 standard.

The status of each of these efforts will be reported at the May 2012 meetings.

A link to the project history and files for COM-002 is included here for reference:
http://www.nerc.com/filez/standards/Project2009-22_RFI_COM-002-2_R2_IRC.html

If trustees have questions or need additional information, they may contact either Mike Moon, director of compliance operations, or Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

| | |
|---|---|
| **From:** | Emily Pennel |
| **To:** | rsg |
| **Subject:** | SPP RE"s edits to regional stds write up for the board |
| **Date:** | Monday, April 16, 2012 4:29:32 PM |
| **Attachments:** | Combined-BOTMRC+rsg concerns+SPPRE.docx |

Hi Herb – SPP RE's latest edits to the UFLS report didn't make it over into this document. I added the SPP RE UFLS edits (plus an edit on page 1) to Tony's version he sent at 1:38 today. Thanks!

Emily Pennel
RE Training and Education Specialist
Southwest Power Pool Regional Entity
16101 St. Vincent Way, Ste. 103 • Little Rock, AR 72223
office: 501.614.3337 • cell: 501.680.7119 • fax: 501.821.8726
epennel.re@spp.org
SPP.org

---

**From:** anthony.jablonski@rfirst.org [mailto:anthony.jablonski@rfirst.org]
**Sent:** Monday, April 16, 2012 1:37 PM
**To:** rsg
**Subject:** FW: Modification to the regional stds write up for the board

RSG Members,

I had conveyed the groups concern, with the standards write up to the NERC Board, to my Boss (Tim Gallagher) and he agreed with the concerns. Please see the attached modified document. Also, he wanted me to thank the group for bringing these concerns up as well. Thanks and have a great day.

---

**From:** Tim Gallagher
**Sent:** Monday, April 16, 2012 8:14 AM
**To:** Herb Schrayshuen (Herb.Schrayshuen@nerc.net); Connie White; Dan Skaar; Edward Schwerdt; Lane Lanford; Linda Campbell; Mark Maher; Patty Tymcio; Scott Henry; Stacy Dochoda; Tim Gallagher
**Cc:** Anthony Jablonski; Patty Tymcio
**Subject:** Modification to the regional stds write up for the board

Hi Herb.

Sorry to do this, but I am responding to some good feedback from the RSG. Since the MRO separate opinion is now being included in the write-up, I am including some revisions to the final section of the main part of the report. That paragraph, in attempting to answer why some regions are not performing regional standards development, was intended to eliminate the need for the MRO supplement. Since the supplement will be included, some things need to come out. See my revisions.

Tony – please send to RSG and thank them for the input.

Best,

Tim

---

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential, privileged or subject to copyright belonging to Reliability*First* Corporation. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this electronic message is strictly prohibited and may be unlawful. If you have received this message in error, please notify the sender immediately and permanently delete the original and any copy of this electronic message.

---

Y

---

Y

---

Y

Agenda Item 7a
BOT-MRC
May 2012

# Report on Status of Regional Standards Development Programs

## Action
Discussion

## Background
**Points of Agreement Among the Regions**

*All Regions advocate continent-wide standards/solutions where possible*.
*No Region anticipates a large amount of new future work on regional standards.*

**When Are Regional Standards Appropriate?**
Regional standards are appropriate to address reliability issues in two circumstances. First, regional standards may have more stringent requirements than those in a NERC Standard (including matters not addressed by a NERC Standard) and second regional standards may address a regional difference necessitated by a physical difference in the Bulk Power System (BPS). Below is the language from FERC Order 693:

> *While uniformity is the goal with respect to Reliability Standards, we recognize that it may not be achievable overnight. Over time, we would expect that the regional differences will decline and uniform and best practices will develop. In Order No. 672, the Commission identified two instances where regional differences may be permitted, i.e., regional differences that are more stringent than continent-wide Reliability Standards (including those that address matters not addressed by a continent-wide Reliability Standard), and a regional difference necessitated by a physical difference in the Bulk Power System.*

**Current Standards Activity**
Regional standards, like NERC Standards are developed by stakeholders. To a certain extent, the standards activity for each Regional Entity is influenced by the regional stakeholders' interest in developing regional standards.

Florida Reliability Coordinating Council (FPCC), Reliability*First* (RFC), and Midwest Reliability Organization (MRO) have standards on hold or have suspended development, primarily to allow for NERC development of standards addressing the same reliability issue to be prepared. Once that happens the need for a particular regional standard would be re-assessed to determine the best course of action (i.e., continue regional standard development, develop a Regional Variance or terminate the project if the NERC Standard appropriately addresses the reliability risks).

SERC Reliability Corporation (SERC), Northeast Power Coordinating Council (NPCC), Southwest Power Pool~~,~~ RE (SPP RE), Texas Reliability Entity (TRE), and Western Electricity Coordinating Council (WECC) each have Standards under active development. As contained in the NERC

2012-2014 Reliability Standards Development Plan, the total number of regional standards is 13. Of the 13, 2 (SERC UFLS and NPCC UFLS) are already NERC approved and awaiting FERC action.

WECC also has a Regional Variance under development.

**Future Regional Standards Activity**
No future regional standards beyond those referenced above are currently proposed and no regional standards are anticipated being proposed by any Region, although WECC may seek to make minor revisions to one of its already FERC-approved regional standards.

All Regions believe their collective work with NERC should focus primarily on continent-wide standards, improving the existing standards and eliminating unneeded requirements of minimal reliability benefit, however, in some instances regional standards are needed in addition to the continent-wide standards. These regional standards add specificity, further stringency and or augment the continent-wide standard's reliability requirements as well as enhancing reliability and facilitating compliance within the Region.

**Why are some Regions developing Regional Standards?**
Some Regions were concerned that there may be reliability gaps posed by the fill-in-the-blank standards that had to be addressed and determined the best way to address the risk was to put a regional solution in place until NERC developed a continent-wide one. This was primarily driven by the concern that the many competing priorities NERC faces in its standards program may prevent development of necessary continent-wide standards in an acceptable time frame.

Some Regions developed regional standards in response to the fill-in-the-blank standards to improve, replace or supplement existing reliability criteria or address a lack of criteria. Other Regions were very comfortable that their existing reliability criteria adequately addressed concerns in the fill-in-the-blank standards.

Some Regions believe that it is beneficial at this time to drive higher levels of reliability initially on a "smaller" footprint. Until such time as NERC can address a methodology to consider costs as compared with the benefits of moving a more stringent reliability standard forward, it may be better for reliability to enable standards to be written to smaller portions of the system especially where critical load pockets exist. A strict adoption of a "one-size fits all" strategy may degrade reliability in some areas.

In some cases, a NERC continent-wide standard cannot be developed or the industry does not support development of a continent-wide reliability standard to address an identified reliability gap that exists in a given Region. The recourse in such circumstances is that a Region may be forced to pursue a Regional Variance to a continent-wide reliability standard or initiate development of a regional reliability standard in order to address the reliability risk posed.

The nature of the BPS within a given Region—its load diversity and density, level of interconnectivity, size and location of critical load centers, and electrical characteristics—results in differing levels of risk to reliability and at times, a greater or lesser need for a regional standard.

**Why are some Regions not developing Regional Standards?**
~~Some~~ All Regions believe the primary focus of standards development, within the ERO enterprise, should be on continent-wide standards, improving the existing standards and eliminating requirements with little reliability benefit.~~. These Regions are also concerned that the fill-in-the-blank standards, over time, could be institutionalized as regional differences potentially resulting in an additional layer of standards complexity.~~ Some Regions feel the requirements of the fill-in-the-blank standards are already appropriately addressed in their existing reliability criteria and thus a standards solution is not necessary. ~~T~~Further, in some cases, there is a concern that the fill-in-the-blank standards, over time, could be institutionalized as regional differences potentially resulting in an additional layer of standards complexity.~~hese Regions see the fill-in-the-blank standards as more of a compliance enforceability gap, rather than a reliability gap since Regions developed procedures to address these matters as the legacy "Regional Reliability Organization". In addition, increased specificity in regional standards could be seen as crossing the line between the regulated and the regulator and potentially confusing the technical responsibility for reliability~~.

MRO staff respectfully submits supplemental thoughts to the Regions' collective response to the question: **"Why are some Regions not developing Regional Standards?"**

To begin with, MRO believes that more consistency in operating and planning the BPS is needed across North America and within the Eastern Interconnection. In this regard, Order No. 672 recognized the benefits of greater uniformity and consistency in the development of reliability standards while providing the flexibility for technical differences where necessary. Specifically, the Commission stated there "**that uniformity of reliability standards should be the goal and the practice, the rule rather than the exception.** Greater uniformity will encourage best practices, thereby enhancing reliability and benefiting consumers and the economy. Congress envisioned greater uniformity in adopting section 215 and a broad cross-section of the industry supports this goal." (Emphasis added.)

Furthermore, more uniformity, where possible, will help simplify operations and reduce compliance burdens, thus, lowering costs and, more importantly, improving reliability. This, of course, needs to be balanced with diversity of resources and technologies to assure a robust, resilient and secure system.

As a separate matter, MRO is concerned that efforts to develop regional standards, which to date has focused in part on addressing fill-in-the-blank standards[1], will preempt or dilute resources on NERC's efforts to seek continent-wide solutions for those standards. Additionally, once regional standards (for the fill-in-the-blank standards) are in place under Section 215, they will be difficult to sunset and the opportunity to pursue the objective of more consistency will be diminished by institutionalizing regional differences. The unfortunate result will be an additional layer of standards and increased complexity for the Registered Entities to comply with those standards. While MRO does not object to the development of regional standards or variances, MRO believes the collective work of the Regions and NERC should focus primarily on continent-wide standards, *improving* the existing standards and *eliminating* unneeded requirements. Along these lines, as the Commission itself recently recognized in the FFTR order, we should be reviewing the application of the standards to see whether unnecessary or redundant requirements can be removed in order to improve the efficiency of compliance.

For all of these reasons, MRO has suspended its regional standards development in order to focus on improving the technical application of standards and focus its resources on continent-wide standards efforts. MRO further supports NERC's efforts to expedite the fill-in-the-blank standards into continent-wide standards, because the fill-in-the-blank standards should be replaced by continent-wide or interconnection-wide standards wherever possible.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

[1] As background, each Region, as the legacy Regional Reliability Organization (RRO), had procedures to address the fill-in-the-blank requirements. However, the Region could not enforce the standards under Section 215 because they pointed to the legacy RRO (which in turn pointed to "members" of the RRO.) Therefore, the fill-in-the-blank standards lacked *line of sight* enforceability to all owners, users, or operators of the bulk electric system. While some Regions began to develop regional standards in response to the fill-in-the-blank standards, each Region had existing reliability criteria to address the fill-in-the-blank standards, albeit only enforceable through voluntary means as "good utility practice".
Commission Order 693-A acknowledges that an "enforceability" gap under Section 215 has resulted from these fill-in-the-blank standards, but, again, the industry and Regions have a long history of procedures in place to address these reliability matters (as "good utility practice" and enforceable via voluntary means). The Regional Entities have assumed the responsibility for maintaining the legacy fill-in-the-blank procedures until suitable standards are established under Section 215 in the United States. This is consistent with Commission Orders 693 and 693-A. as well as NERC directions.

Agenda Item 7b
BOT-MRC
May 2012

# Report on Status of ERO and Regional Underfrequency Load Shedding (UFLS) Activities

## Action
Discussion

## Request
At the February 2012 NERC Board of Trustees (BOT) meeting, the trustees requested a summary of the status of the PRC-006 (UFLS) standard implementation in North America and, in particular, a discussion on the efforts of those Regions developing or pursuing regional UFLS standards, which support or augment the implementation of the continent-wide underfrequency load shedding PRC-006-1 standard.

## General Overview
The NERC Rules of Procedure Sections 311-312 give the Regional Entities the ability to, at their discretion, implement regional standards. The design of the PRC-006 Reliability Standard recognized the effectiveness of a number of pre-existing UFLS programs currently in place within the Regions. This is evidenced by the inclusion of variances for the Quebec Interconnection and the Western Electricity Coordinating Council (WECC) in the continent-wide standard. Other Regions have decided that developing a regional standard would provide the best approach to addressing regional UFLS programs, while others have decided to withhold standards development activity (in some cases pending FERC approval of the PRC-006-1 standard). SERC and Northeast Power Coordinating Council (NPCC) have taken the approach of developing a regional UFLS standard that is consistent with the NERC standard, but augments it with more specificity to their respective regions.

## North American Standard PRC-006-1
Reliability Standard PRC-006-1 establishes design and documentation requirements for automatic underfrequency load shedding programs to arrest declining frequency, assist recovery of frequency following under-frequency events and provide last resort system preservation measures. The standard contains BOT-approved Regional Variances for WECC and the Quebec Interconnection, which resides within the NPCC footprint. The Regional Variances preserve certain aspects of the UFLS programs within those regions. The standard improves reliability by establishing common performance characteristics that all UFLS programs must meet by assigning responsibility for the development and assessment of UFLS programs to the Planning Coordinator (PC).

In Order No. 693, FERC did not approve or remand the proposed reliability standard PRC-006-0, noting that it is a fill-in-the-blank standard requiring the then Regional Reliability Organizations (RRO) to develop the details of their UFLS programs. However, FERC directed NERC to eliminate the use of the RRO as a responsible entity and transition these responsibilities to the

Regional Entity or to one or more registered entities. The PRC-006-1 standard addresses this directive in an equally efficient and effective manner by assigning responsibility to the PC for establishing UFLS programs, consistent with the expectations for that function in the NERC Functional Model Version 5.

The drafting team also determined that in some areas, the Transmission Owners (TOs) are responsible for implementing UFLS, and their approach is consistent with the current standard. The team did not identify a meaningful way to incorporate criteria that reaches beyond Bulk Electric System (BES)-connected generators for purposes of modeling.

Because the PC, as explained in the NERC functional model, has a "wide area" view of the BES, the drafters of the PRC-006-1 Standard, with stakeholder concurrence, determined that the PC is the logical entity to replace the RRO in the NERC PRC-006-1 Standard. FERC has not yet issued an order on the PRC-006-1 standard. For Regions that only have a small number of PC's in their footprints, e.g., Reliability*First* Corporation (RFC) with two large PCs and Texas Reliability Entity (TRE) with one PC, an effort by the PCs to coordinate their UFLS programs are relatively easy to achieve. For Regions with many PCs in their footprint, the coordination of UFLS programs could possibly become difficult to achieve without direction from the Region. In those instances, the establishment of a regional standard may be appropriate.

A link to the North American standard project history and files is included here for reference: http://www.nerc.com/filez/standards/Underfrequency_Load_Shedding.html

### Florida Reliability Coordinating Council (FRCC)

The FRCC Regional Standard PRC-006-FRCC-1 FRCC Automatic Underfrequency Load Shedding Program was developed and has been approved by the FRCC Registered Ballot Body and the FRCC Board of Directors. Based on concerns identified by NERC standards staff and the pending Commission (FERC), approval of the NERC Continent-Wide Reliability Standard PRC-006-1 Automatic Underfrequency Load Shedding and associated regional variances, the regional project has been placed on "hold". FRCC has since revised regional criteria documents (FRCC Automatic Underfrequency Load Shedding Program, revision date: April 7, 2011) to ensure its procedures comply with the requirements of BOT adopted NERC Reliability Standard, PRC-006-1—Automatic Underfrequency Load Shedding. The FRCC System Protection and Controls Subcommittee (SPCS) and FRCC Standards Staff is currently comparing the NERC Board approved continent-wide standard and the FRCC Underfrequency Program to determine if further action is required in support of a Regional Reliability Standard or a regional variance to the continent-wide standard.

Project information may be found at:
https://www.frcc.com/Standards/Lists/Standard%20Announcements/DispForm.aspx?ID=52&Source=https%3A%2F%2Fwww%2Efrcc%2Ecom%2FStandards%2Fdefault%2Easpx

### Midwest Reliability Organization (MRO)

When the NERC PRC-006-1 standard is approved, MRO believes there will be no reliability gaps that need to be addressed in an MRO Regional UFLS standard and therefore does not intend to pursue one. MRO believes that because there are very few PCs in the region, no further guidance other than what is contained in the North American Standard is necessary to implement effective UFLS programs.

### Northeast Power Coordinating Council (NPCC)

UFLS requirements have been in place in NPCC for many years prior to implementation of NERC Reliability Standards. If approved by FERC, the NPCC regional UFLS standard will apply to portions of NPCC that are both synchronous and asynchronous to the eastern interconnection. Control areas that are asynchronous, e.g., Quebec, may develop UFLS parameters with a different technical basis, if required. Also, the Quebec Interconnection portion of NPCC has had an interconnection wide UFLS program consistent with the NPCC legacy UFLS program for many years. A variance to address the Quebec interconnection was integrated into the PRC-006-1 standard when it was developed and approved by the BOT in November 2010.

The PRC-006-NPCC Standard provides measures to automatically assure system preservation by implementing an automatic underfrequency load shedding program to respond to system underfrequency events. The Standard will also emphasize the need for coordination among the NPCC areas, including the Quebec Interconnection and those areas outside of the NPCC footprint, and provide direction for refinements of underfrequency systems already in place. In addition, the NPCC standard includes more specificity to such issues as compliance for small entities, compensatory load shedding for older generators that do not meet performance characteristics, and the clear identification of what entities must do in order to contribute to an effective UFLS program within the NPCC region.

The PRC-006-NPCC standard was approved by the NERC BOT in February 2012 and is being prepared for a second quarter filing with FERC.

Project information may be found at:
https://www.npcc.org/Standards/SitePages/DevStandardDetail.aspx?DevDocumentId=4

### Reliability*First* Corporation (RFC)

On February 23, 2012, the RFC Board of Directors suspended the current RFC UFLS standard drafting efforts indefinitely until the associated continent-wide PRC-006-1 standard is enforced and becomes effective. RFC staff will actively monitor the progress of the associated NERC standard efforts and promote them on a continent-wide basis. If RFC determines that reliability

gaps arise or are identified within the RFC footprint, RFC will take appropriate action, i.e., request its board to reinstate such drafting efforts or submit a new Standards Authorization Request (SAR) to be moved through the standards process. To fill the gap in the time between when the NERC standard becomes enforceable and effective, RFC has legacy UFLS requirements which are enforceable based upon the current, FERC-approved PRC-007-0 Reliability Standard. When the NERC PRC-006-1 standard is approved by FERC and RFC determines that it addressed the reliability gaps, it is anticipated that the RFC legacy UFLS documents will be retired accordingly.

The RFC Board of Directors' decision to suspend the regional UFLS efforts was partially based on an independent RFC Staff assessment and recommendation. Based on the current NERC PRC-006-1 draft standard, RFC staff believes there are no reliability gaps. The NERC Project 2007-01-Under-frequency Load Shedding project focused on developing a NERC continent-wide UFLS Standard, which requires the PC to develop a UFLS program for their respected areas, with UFLS entities required to provide automatic tripping of load in accordance with the PCs' UFLS program design and schedule. This replaces the fill-in-the-blank requirement for the Regions to develop such UFLS program. With RFC having two large PCs spanning multiple Regions, RFC staff believes it is appropriate for the PCs to perform the analysis and develop such UFLS program for their respected areas.

Project information may be found at:
https://rsvp.rfirst.org/PRC006RFC01/default.aspx

### SERC Corporation (SERC)

The SERC UFLS Standard was approved by the BOT at its November 2011 meeting and filed with FERC in February 2012. The standard was developed to provide regional UFLS requirements to entities in SERC. UFLS requirements have been in place at a continent-wide level and within SERC for many years prior to implementation of federally mandated reliability compliance standards in 2007.

In 2008, SERC commenced work on PRC-006-SERC-01. NERC also began work on revising PRC-006-0 at a continent-wide level. The SERC standard was developed to be consistent with the NERC UFLS standard.

PRC-006-SERC-01 clearly defines the roles and responsibilities of parties to whom the standard applies. The standard identifies the PC as the entity responsible for developing UFLS schemes within its PC area. The regional standard adds specificity not contained in the NERC standard for development and implementation of a UFLS scheme in the SERC Region. Specifically, R2 provides minimum requirements for set points, time delays and steps for underfrequency load shedding. Other requirements address implementation tolerances for both large and small (less than 100 MW) entities; and specify implementation timelines.

Project information may be found at:
http://serc.centraldesktop.com/standardhomepage/doc/10467819/w-RegionalUflsStandard

## Southwest Power Pool Regional Entity (SPP RE)

SPP has completed its~~is~~ consensus (~~actively working on its~~ seventh) draft of the regional standard for its UFLS program. This standard~~s development program~~ intends to use the proven high performance characteristics of the existing SPP UFLS program and refine its requirements and coordination procedures through an open process as described in the SPP Standard Development Process Manual.

In January 2012 the SPP System Protection and Control Working Group (SPCWG), which served as the UFLS Standard Drafting Team (SDT), asked the Markets and Operations Policy Committee (MOPC) for an advisory vote on SPP UFLS Standard (PRC-006-SPP-1). The MOPC concurred with the standard with a 76.7 percent roll call vote. Also in January the SPP Members Committee endorsed the SDT's recommendation to concur with the standard. The Board of Directors did not endorse PRC-006-SPP-1.

The standard will be presented to the Regional Entity Trustees for action at their April 23, 2012 meeting. The Trustees can either 1) Recommend NERC approve the standard through the NERC process, 2) Remand PRC-006-SPP-1 to the SDT through MOPC with comments and instructions, or 3) Determine there is no need for the standard and terminate future activity.

NERC PRC-006 is not applicable to Generator Owners. The only way to enforce the Generator Owners' participation in the UFLS program is to create a Regional Standard. The SPP UFLS SDT believes that the UFLS program needs to include Generator Owners since they have an essential part in balancing load and generation.

Under the planned approach UFLS program performance will be measured based on the Registered E~~e~~ntity's planning values and not the one-minute average of the Registered E~~e~~ntity's load prior to the first underfrequency relay action. This has changed from the currently used SPP Criteria.

Project information may be found at: http://www.spp.org/section.asp?pageID=101

## Texas Reliability Entity (TRE)

TRE does not intend to develop a regional UFLS standard at this time. In April of 2008 a SAR (SAR-002) was approved in TRE initiating the development of a regional UFLS standard (PRC-006-TRE-1). Based on the concurrent, continent-wide development of PRC-006-1, the TRE SDT decided to suspended active development work and to monitor the progress of the NERC UFLS Project. Upon completion of PRC-006-1, the SDT recommended terminating the regional UFLS project. On October 5, 2011, the TRE Regional Standards Committee approved the withdrawal of the SAR and disbanding the standard drafting team in view of the contents of the continent-wide UFLS standard. Note that there is only one Planning Coordinator in the ERCOT Interconnection, and there are ERCOT rules regarding UFLS that supplement the NERC standard.

Project information may be found at:
http://www.texasre.org/standards_rules/standardsdev/rsc/sar002/Pages/Default.aspx

**Western Electricity Coordinating Council (WECC)**

WECC has a long standing UFLS program and has integrated its current UFLS program administration needs in the WECC region within the approved North American Standard as a regional variance.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 7c
BOT-MRC
May 2012

# Report on Status of Operating Communications Protocols

## Action
Discussion

## Discussion
Below is a report on the status of the plan related to the approval of the COM-002 interpretation by the board at its February 2012 meeting in Phoenix. The board requested an update on the activities related to COM-002 to be provided at its May 2012 meeting.

## Summary
During the discussion at the February 2012 meeting in which the board approved the COM-002 interpretation, the board recognized that better practices are needed for the communication of directed changes to the state of the Bulk Power System. With the interpretation of the COM-002 standard (which provides that the COM-002 standard only applies when a directive is issued to address a real-time emergency situation and not to routine instructions issued during normal operations) there now exists a reliability gap which must be addressed on an expedited basis.

The actions being taken in response to this need are as follows:

- Revision of the RSAW for COM-002;
- Development of a guidance document for operators, outlining best practices (should be issued by the time of the BOT meeting);
- Guidance to the regions for interim compliance decisions; and
- Expediting the development of the COM-003 standard.

The status of each of these efforts will be reported at the May 2012 meetings.

A link to the project history and files for COM-002 is included here for reference:
http://www.nerc.com/filez/standards/Project2009-22_RFI_COM-002-2_R2_IRC.html

If trustees have questions or need additional information, they may contact either Mike Moon, director of compliance operations, or Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

April 5, 2012

Mr. Scott Helyer, Chair
NERC Member Representatives Committee
Vice President, Transmission
Tenaska, Inc.
1701 E. Lamar Blvd.
Arlington, Texas 76006

**Re: Policy Input to NERC Board of Trustees**

Dear Scott:

Congratulations on your first meeting as chair of the Member Representatives Committee (MRC). The Board greatly appreciated the active engagement of committee members in all of the discussions, along with the prepared policy inputs provided to the Board in advance of the meeting.

I have identified below three items on which the Board will be particularly interested in policy input from the MRC members for the upcoming meetings in May. As always, the Board also welcomes input on any other issues that stakeholders wish to provide. I understand the agendas for the MRC and Board meetings are expected to be posted by April 25.

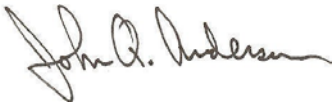
**Standards Process Input Group —** The Board looks forward to hearing from the MRC Standards Process Input Group (SPIG) on their findings and policy recommendations for improving the existing NERC standards development process and to active discussion of these recommendations by the entire MRC.

**2013 NERC and Regional Entity Common Business Plan and Budget Assumptions —** NERC and the Regional Entities jointly developed Common Business Plan and Budget Assumptions for the 2013-2015 planning period and posted them for comment on February 21, 2012. The assumptions are being updated in response to comments received from EEI, which have also been posted on the NERC website. Additional comments on the common assumptions are welcome, and will be appropriately considered in business plan and budget review and approval process. As always, it will be most helpful if these comments are as specific as possible. In addition, since the actual draft business plan and budget document will be released after the agendas are posted but prior to the MRC meeting, there will be an opportunity to discuss it at the MRC meeting, thereby providing additional input to the Board.

**Definition of Adequate Level of Reliability** — As part of the request to the MRC to provide policy input to the Board on the definitions of Bulk Electric System (BES) and Adequate Level of Reliability (ALR), a task force of the Planning, Operating, Critical Infrastructure Protection and Standards Committees has been working on the definition of ALR (see ALR Task Force website) and expects to post by the end of April for industry review and comment a draft definition document, a supporting technical reference document, a discussion paper on risk tolerance, and a mapping of ALR reliability objectives to NERC's Reliability Principles. While we are still not at the stage where the Board will be asked to take action, we would welcome any initial comments and discussion by the MRC members.

Thank you in advance for providing written comments to Holly Mann, MRC Secretary (holly.mann@nerc.net) **by May 1, 2012** so they can be sent to the Board for review in advance of the meeting.

Thank you,



John Q. Anderson, Chair
NERC Board of Trustees

cc: NERC Board of Trustees
Member Representatives Committee
Regional Executives

Agenda Item 7a
BOT-MRC
May 2012

# Report on Status of Regional Standards Development Programs

## Action
Discussion

## Background
### Points of Agreement Among the Regions

*All Regions advocate continent-wide standards/solutions where possible*.
*No Region anticipates a large amount of new future work on regional standards.*

### When Are Regional Standards Appropriate?
Regional standards are appropriate to address reliability issues in two circumstances. First, regional standards may have more stringent requirements than those in a NERC Standard (including matters not addressed by a NERC Standard) and second regional standards may address a regional difference necessitated by a physical difference in the Bulk Power System (BPS). Below is the language from FERC Order 693:

> *While uniformity is the goal with respect to Reliability Standards, we recognize that it may not be achievable overnight. Over time, we would expect that the regional differences will decline and uniform and best practices will develop. In Order No. 672, the Commission identified two instances where regional differences may be permitted, i.e., regional differences that are more stringent than continent-wide Reliability Standards (including those that address matters not addressed by a continent-wide Reliability Standard), and a regional difference necessitated by a physical difference in the Bulk Power System.*

### Current Standards Activity
Regional standards, like NERC Standards are developed by stakeholders. To a certain extent, the standards activity for each Regional Entity is influenced by the regional stakeholders' interest in developing regional standards.

Florida Reliability Coordinating Council (FPCC), Reliability*First* (RFC), and Midwest Reliability Organization (MRO) have standards on hold or have suspended development, primarily to allow for NERC development of standards addressing the same reliability issue to be prepared. Once that happens the need for a particular regional standard would be re-assessed to determine the best course of action (i.e., continue regional standard development, develop a Regional Variance or terminate the project if the NERC Standard appropriately addresses the reliability risks).

SERC Reliability Corporation (SERC), Northeast Power Coordinating Council (NPCC), Southwest Power Pool, RE (SPP), Texas Reliability Entity (TRE), and Western Electricity Coordinating Council (WECC) each have Standards under active development. As contained in the NERC

2012-2014 Reliability Standards Development Plan, the total number of regional standards is 13. Of the 13, 2 (SERC UFLS and NPCC UFLS) are already NERC approved and awaiting FERC action.

WECC also has a Regional Variance under development.

**Future Regional Standards Activity**
No future regional standards beyond those referenced above are currently proposed and no regional standards are anticipated being proposed by any Region, although WECC may seek to make minor revisions to one of its already FERC-approved regional standards.

All Regions believe their collective work with NERC should focus primarily on continent-wide standards, improving the existing standards and eliminating unneeded requirements of minimal reliability benefit, however, in some instances regional standards are needed in addition to the continent-wide standards. These regional standards add specificity, further stringency and or augment the continent-wide standard's reliability requirements as well as enhancing reliability and facilitating compliance within the Region.

**Why are some Regions developing Regional Standards?**
Some Regions were concerned that there may be reliability gaps posed by the fill-in-the-blank standards that had to be addressed and determined the best way to address the risk was to put a regional solution in place until NERC developed a continent-wide one. This was primarily driven by the concern that the many competing priorities NERC faces in its standards program may prevent development of necessary continent-wide standards in an acceptable time frame.

Some Regions developed regional standards in response to the fill-in-the-blank standards to improve, replace or supplement existing reliability criteria or address a lack of criteria. Other Regions were very comfortable that their existing reliability criteria adequately addressed concerns in the fill-in-the-blank standards.

Some Regions believe that it is beneficial at this time to drive higher levels of reliability initially on a "smaller" footprint. Until such time as NERC can address a methodology to consider costs as compared with the benefits of moving a more stringent reliability standard forward, it may be better for reliability to enable standards to be written to smaller portions of the system especially where critical load pockets exist. A strict adoption of a "one-size fits all" strategy may degrade reliability in some areas.

In some cases, a NERC continent-wide standard cannot be developed or the industry does not support development of a continent-wide reliability standard to address an identified reliability gap that exists in a given Region. The recourse in such circumstances is that a Region may be forced to pursue a Regional Variance to a continent-wide reliability standard or initiate development of a regional reliability standard in order to address the reliability risk posed.

The nature of the BPS within a given Region—its load diversity and density, level of interconnectivity, size and location of critical load centers, and electrical characteristics—results in differing levels of risk to reliability and at times, a greater or lesser need for a regional standard.

**Why are some Regions not developing Regional Standards?**
Some Regions believe the primary focus of standards development, within the ERO enterprise, should be on continent-wide standards, improving the existing standards and eliminating requirements with little reliability benefit. These Regions are also concerned that the fill-in-the-blank standards, over time, could be institutionalized as regional differences potentially resulting in an additional layer of standards complexity. These Regions see the fill-in-the-blank standards as more of a compliance enforceability gap, rather than a reliability gap since Regions developed procedures to address these matters as the legacy "Regional Reliability Organization". In addition, increased specificity in regional standards could be seen as crossing the line between the regulated and the regulator and potentially confusing the technical responsibility for reliability.

MRO staff respectfully submits supplemental thoughts to the Regions' collective response to the question: **"Why are some Regions not developing Regional Standards?"**

To begin with, MRO believes that more consistency in operating and planning the BPS is needed across North America and within the Eastern Interconnection. In this regard, Order No. 672 recognized the benefits of greater uniformity and consistency in the development of reliability standards while providing the flexibility for technical differences where necessary. Specifically, the Commission stated there "**that uniformity of reliability standards should be the goal and the practice, the rule rather than the exception.** Greater uniformity will encourage best practices, thereby enhancing reliability and benefiting consumers and the economy. Congress envisioned greater uniformity in adopting section 215 and a broad cross-section of the industry supports this goal." (Emphasis added.)

Furthermore, more uniformity, where possible, will help simplify operations and reduce compliance burdens, thus, lowering costs and, more importantly, improving reliability. This, of course, needs to be balanced with diversity of resources and technologies to assure a robust, resilient and secure system.

As a separate matter, MRO is concerned that efforts to develop regional standards, which to date has focused in part on addressing fill-in-the-blank standards[1], will preempt or dilute

[1] As background, each Region, as the legacy Regional Reliability Organization (RRO), had procedures to address the fill-in-the-blank requirements. However, the Region could not enforce the standards under Section 215 because they pointed to the legacy RRO (which in turn pointed to "members" of the RRO.) Therefore, the fill-in-the-blank standards lacked *line of sight* enforceability to all owners, users, or operators of the bulk electric system. While some Regions began to develop regional standards in response to the fill-in-the-blank standards, each Region had

resources on NERC's efforts to seek continent-wide solutions for those standards. Additionally, once regional standards (for the fill-in-the-blank standards) are in place under Section 215, they will be difficult to sunset and the opportunity to pursue the objective of more consistency will be diminished by institutionalizing regional differences. The unfortunate result will be an additional layer of standards and increased complexity for the Registered Entities to comply with those standards. While MRO does not object to the development of regional standards or variances, MRO believes the collective work of the Regions and NERC should focus primarily on continent-wide standards, *improving* the existing standards and *eliminating* unneeded requirements. Along these lines, as the Commission itself recently recognized in the FFTR order, we should be reviewing the application of the standards to see whether unnecessary or redundant requirements can be removed in order to improve the efficiency of compliance.

For all of these reasons, MRO has suspended its regional standards development in order to focus on improving the technical application of standards and focus its resources on continent-wide standards efforts. MRO further supports NERC's efforts to expedite the fill-in-the-blank standards into continent-wide standards, because the fill-in-the-blank standards should be replaced by continent-wide or interconnection-wide standards wherever possible.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

---

existing reliability criteria to address the fill-in-the-blank standards, albeit only enforceable through voluntary means as "good utility practice".

Commission Order 693-A acknowledges that an "enforceability" gap under Section 215 has resulted from these fill-in-the-blank standards, but, again, the industry and Regions have a long history of procedures in place to address these reliability matters (as "good utility practice" and enforceable via voluntary means). The Regional Entities have assumed the responsibility for maintaining the legacy fill-in-the-blank procedures until suitable standards are established under Section 215 in the United States. This is consistent with Commission Orders 693 and 693-A. as well as NERC directions.

Agenda Item 7b
BOT-MRC
May 2012

# Report on Status of ERO and Regional Underfrequency Load Shedding (UFLS) Activities

## Action
Discussion

## Request
At the February 2012 NERC Board of Trustees (BOT) meeting, the trustees requested a summary of the status of the PRC-006 (UFLS) standard implementation in North America and, in particular, a discussion on the efforts of those Regions developing or pursuing regional UFLS standards, which support or augment the implementation of the continent-wide underfrequency load shedding PRC-006-1 standard.

## General Overview
The NERC Rules of Procedure Sections 311-312 give the Regional Entities the ability to, at their discretion, implement regional standards. The design of the PRC-006 Reliability Standard recognized the effectiveness of a number of pre-existing UFLS programs currently in place within the Regions. This is evidenced by the inclusion of variances for the Quebec Interconnection and the Western Electricity Coordinating Council (WECC) in the continent-wide standard. Other Regions have decided that developing a regional standard would provide the best approach to addressing regional UFLS programs, while others have decided to withhold standards development activity (in some cases pending FERC approval of the PRC-006-1 standard). SERC and Northeast Power Coordinating Council (NPCC) have taken the approach of developing a regional UFLS standard that is consistent with the NERC standard, but augments it with more specificity to their respective regions.

## North American Standard PRC-006-1
Reliability Standard PRC-006-1 establishes design and documentation requirements for automatic underfrequency load shedding programs to arrest declining frequency, assist recovery of frequency following under-frequency events and provide last resort system preservation measures. The standard contains BOT-approved Regional Variances for WECC and the Quebec Interconnection, which resides within the NPCC footprint. The Regional Variances preserve certain aspects of the UFLS programs within those regions. The standard improves reliability by establishing common performance characteristics that all UFLS programs must meet by assigning responsibility for the development and assessment of UFLS programs to the Planning Coordinator (PC).

In Order No. 693, FERC did not approve or remand the proposed reliability standard PRC-006-0, noting that it is a fill-in-the-blank standard requiring the then Regional Reliability Organizations (RRO) to develop the details of their UFLS programs. However, FERC directed NERC to eliminate the use of the RRO as a responsible entity and transition these responsibilities to the

Regional Entity or to one or more registered entities. The PRC-006-1 standard addresses this directive in an equally efficient and effective manner by assigning responsibility to the PC for establishing UFLS programs, consistent with the expectations for that function in the NERC Functional Model Version 5.

The drafting team also determined that in some areas, the Transmission Owners (TOs) are responsible for implementing UFLS, and their approach is consistent with the current standard. The team did not identify a meaningful way to incorporate criteria that reaches beyond Bulk Electric System (BES)-connected generators for purposes of modeling.

Because the PC, as explained in the NERC functional model, has a "wide area" view of the BES, the drafters of the PRC-006-1 Standard, with stakeholder concurrence, determined that the PC is the logical entity to replace the RRO in the NERC PRC-006-1 Standard. FERC has not yet issued an order on the PRC-006-1 standard. For Regions that only have a small number of PC's in their footprints, e.g., Reliability*First* Corporation (RFC) with two large PCs and Texas Reliability Entity (TRE) with one PC, an effort by the PCs to coordinate their UFLS programs are relatively easy to achieve. For Regions with many PCs in their footprint, the coordination of UFLS programs could possibly become difficult to achieve without direction from the Region. In those instances, the establishment of a regional standard may be appropriate.

A link to the North American standard project history and files is included here for reference: http://www.nerc.com/filez/standards/Underfrequency_Load_Shedding.html

### Florida Reliability Coordinating Council (FRCC)

The FRCC Regional Standard PRC-006-FRCC-1 FRCC Automatic Underfrequency Load Shedding Program was developed and has been approved by the FRCC Registered Ballot Body and the FRCC Board of Directors. Based on concerns identified by NERC standards staff and the pending Commission (FERC), approval of the NERC Continent-Wide Reliability Standard PRC-006-1 Automatic Underfrequency Load Shedding and associated regional variances, the regional project has been placed on "hold". FRCC has since revised regional criteria documents (FRCC Automatic Underfrequency Load Shedding Program, revision date: April 7, 2011) to ensure its procedures comply with the requirements of BOT adopted NERC Reliability Standard, PRC-006-1—Automatic Underfrequency Load Shedding. The FRCC System Protection and Controls Subcommittee (SPCS) and FRCC Standards Staff is currently comparing the NERC Board approved continent-wide standard and the FRCC Underfrequency Program to determine if further action is required in support of a Regional Reliability Standard or a regional variance to the continent-wide standard.

Project information may be found at:
https://www.frcc.com/Standards/Lists/Standard%20Announcements/DispForm.aspx?ID=52&Source=https%3A%2F%2Fwww%2Efrcc%2Ecom%2FStandards%2Fdefault%2Easpx

### Midwest Reliability Organization (MRO)

When the NERC PRC-006-1 standard is approved, MRO believes there will be no reliability gaps that need to be addressed in an MRO Regional UFLS standard and therefore does not intend to pursue one. MRO believes that because there are very few PCs in the region, no further guidance other than what is contained in the North American Standard is necessary to implement effective UFLS programs.

### Northeast Power Coordinating Council (NPCC)

UFLS requirements have been in place in NPCC for many years prior to implementation of NERC Reliability Standards. If approved by FERC, the NPCC regional UFLS standard will apply to portions of NPCC that are both synchronous and asynchronous to the eastern interconnection. Control areas that are asynchronous, e.g., Quebec, may develop UFLS parameters with a different technical basis, if required. Also, the Quebec Interconnection portion of NPCC has had an interconnection wide UFLS program consistent with the NPCC legacy UFLS program for many years. A variance to address the Quebec interconnection was integrated into the PRC-006-1 standard when it was developed and approved by the BOT in November 2010.

The PRC-006-NPCC Standard provides measures to automatically assure system preservation by implementing an automatic underfrequency load shedding program to respond to system underfrequency events. The Standard will also emphasize the need for coordination among the NPCC areas, including the Quebec Interconnection and those areas outside of the NPCC footprint, and provide direction for refinements of underfrequency systems already in place. In addition, the NPCC standard includes more specificity to such issues as compliance for small entities, compensatory load shedding for older generators that do not meet performance characteristics, and the clear identification of what entities must do in order to contribute to an effective UFLS program within the NPCC region.

The PRC-006-NPCC standard was approved by the NERC BOT in February 2012 and is being prepared for a second quarter filing with FERC.

Project information may be found at:
https://www.npcc.org/Standards/SitePages/DevStandardDetail.aspx?DevDocumentId=4

### Reliability*First* Corporation (RFC)

On February 23, 2012, the RFC Board of Directors suspended the current RFC UFLS standard drafting efforts indefinitely until the associated continent-wide PRC-006-1 standard is enforced and becomes effective. RFC staff will actively monitor the progress of the associated NERC standard efforts and promote them on a continent-wide basis. If RFC determines that reliability

gaps arise or are identified within the RFC footprint, RFC will take appropriate action, i.e., request its board to reinstate such drafting efforts or submit a new Standards Authorization Request (SAR) to be moved through the standards process. To fill the gap in the time between when the NERC standard becomes enforceable and effective, RFC has legacy UFLS requirements which are enforceable based upon the current, FERC-approved PRC-007-0 Reliability Standard. When the NERC PRC-006-1 standard is approved by FERC and RFC determines that it addressed the reliability gaps, it is anticipated that the RFC legacy UFLS documents will be retired accordingly.

The RFC Board of Directors' decision to suspend the regional UFLS efforts was partially based on an independent RFC Staff assessment and recommendation. Based on the current NERC PRC-006-1 draft standard, RFC staff believes there are no reliability gaps. The NERC Project 2007-01-Under-frequency Load Shedding project focused on developing a NERC continent-wide UFLS Standard, which requires the PC to develop a UFLS program for their respected areas, with UFLS entities required to provide automatic tripping of load in accordance with the PCs' UFLS program design and schedule. This replaces the fill-in-the-blank requirement for the Regions to develop such UFLS program. With RFC having two large PCs spanning multiple Regions, RFC staff believes it is appropriate for the PCs to perform the analysis and develop such UFLS program for their respected areas.

Project information may be found at:
https://rsvp.rfirst.org/PRC006RFC01/default.aspx

### SERC Corporation (SERC)

The SERC UFLS Standard was approved by the BOT at its November 2011 meeting and filed with FERC in February 2012. The standard was developed to provide regional UFLS requirements to entities in SERC. UFLS requirements have been in place at a continent-wide level and within SERC for many years prior to implementation of federally mandated reliability compliance standards in 2007.

In 2008, SERC commenced work on PRC-006-SERC-01. NERC also began work on revising PRC-006-0 at a continent-wide level. The SERC standard was developed to be consistent with the NERC UFLS standard.

PRC-006-SERC-01 clearly defines the roles and responsibilities of parties to whom the standard applies. The standard identifies the PC as the entity responsible for developing UFLS schemes within its PC area. The regional standard adds specificity not contained in the NERC standard for development and implementation of a UFLS scheme in the SERC Region. Specifically, R2 provides minimum requirements for set points, time delays and steps for underfrequency load shedding. Other requirements address implementation tolerances for both large and small (less than 100 MW) entities; and specify implementation timelines.

Project information may be found at:
http://serc.centraldesktop.com/standardhomepage/doc/10467819/w-RegionalUflsStandard

## Southwest Power Pool (SPP)

SPP is actively working on its seventh draft of the regional standard for its UFLS program. This standards development program intends to use the proven high performance characteristics of the existing SPP UFLS program and refine its requirements and coordination procedures through an open process as described in the SPP Standard Development Process Manual.

In January 2012, the SPP System Protection and Control Working Group (SPCWG), which served as the UFLS Standard Drafting Team (SDT), asked the Markets and Operations Policy Committee (MOPC) for an advisory vote on SPP UFLS Standard (PRC-006-SPP-1). The MOPC concurred with the standard with a 76.7percent roll call vote. Also in January, the SPP Members Committee endorsed the SDT's recommendation to concur with the standard. The Board of Directors did not endorse PRC-006-SPP-1.

The standard will be presented to the Regional Entity Trustees for action at their April 23, 2012 meeting. The Trustees can either 1) Recommend NERC approve the standard through the NERC process, 2) Remand PRC-006-SPP-1 to the SDT through MOPC with comments and instructions, or 3) Determine there is no need for the standard and terminate future activity.

Under the draft regional standard, UFLS program performance will be measured based on the entity's planning values and not the one-minute average of the entity's load prior to the first underfrequency relay action. This is a change from the currently used SPP Criteria.

Project information may be found at: http://www.spp.org/section.asp?pageID=101

## Texas Reliability Entity (TRE)

TRE does not intend to develop a regional UFLS standard at this time. In April of 2008 a SAR (SAR-002) was approved in TRE initiating the development of a regional UFLS standard (PRC-006-TRE-1). Based on the concurrent, continent-wide development of PRC-006-1, the TRE SDT decided to suspended active development work and to monitor the progress of the NERC UFLS Project. Upon completion of PRC-006-1, the SDT recommended terminating the regional UFLS project. On October 5, 2011, the TRE Regional Standards Committee approved the withdrawal of the SAR and disbanding the standard drafting team in view of the contents of the continent-wide UFLS standard. Note that there is only one Planning Coordinator in the ERCOT Interconnection, and there are ERCOT rules regarding UFLS that supplement the NERC standard.

Project information may be found at:
http://www.texasre.org/standards_rules/standardsdev/rsc/sar002/Pages/Default.aspx

**Western Electricity Coordinating Council (WECC)**

WECC has a long standing UFLS program and has integrated its current UFLS program administration needs in the WECC region within the approved North American Standard as a regional variance.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 7c
BOT-MRC
May 2012

# Report on Status of Operating Communications Protocols

## Action
Discussion

## Discussion
Below is a report on the status of the plan related to the approval of the COM-002 interpretation by the board at its February 2012 meeting in Phoenix. The board requested an update on the activities related to COM-002 to be provided at its May 2012 meeting.

## Summary
During the discussion at the February 2012 meeting in which the board approved the COM-002 interpretation, the board recognized that better practices are needed for the communication of directed changes to the state of the Bulk Power System. With the interpretation of the COM-002 standard (which provides that the COM-002 standard only applies when a directive is issued to address a real-time emergency situation and not to routine instructions issued during normal operations) there now exists a reliability gap which must be addressed on an expedited basis.

The actions being taken in response to this need are as follows:

- Revision of the RSAW for COM-002;
- Development of a guidance document for operators, outlining best practices (should be issued by the time of the BOT meeting);
- Guidance to the regions for interim compliance decisions; and
- Expediting the development of the COM-003 standard.

The status of each of these efforts will be reported at the May 2012 meetings.

A link to the project history and files for COM-002 is included here for reference:
http://www.nerc.com/filez/standards/Project2009-22_RFI_COM-002-2_R2_IRC.html

If trustees have questions or need additional information, they may contact either Mike Moon, director of compliance operations, or Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Agenda
# Member Representatives Committee

May 8, 2012 | 1:00-4:30 p.m. Eastern

Westin Arlington Gateway
801 North Glebe Road
Arlington, Virginia 22203
703-717-6200

**Introductions and Chair's Remarks**

**NERC Antitrust Compliance Guidelines and Public Meeting Notice**

**Consent Agenda**

1. **Minutes* – Approve**
   a. March 29, 2012 Conference Call
   b. February 8, 2012 Meeting
2. **Future Meetings* – Information**
3. **Remarks from Gerry Cauley, NERC President and CEO**
4. **Nominations***
   a. Recommend Slate of MRC Members to Serve on the Board of Trustees Nominating Committee
   b. Nominate Slate for the Electricity Sub-Sector Coordinating Council (ESCC)
5. **2013 NERC Business Plan and Budget – Information**
6. Additional Discussion of MRC Informational Session Items, May 1* **– Discussion**
   a. Bulk Electric System (BES) Definition, Phase 2
   b. Definition of Adequate Level of Reliability (ALR)
   c. Risk-Based Compliance Monitoring and Entity Assessments
   d. Compliance Enforcement Initiatives
7. **Status of Current Standards Projects – Discussion**
   a. Status of Regional Standards Development Programs*
   b. Status of Underfrequency Load Shedding (UFLS) Activities*
   c. Status of Operating Communications Protocols*
   d. Standards for Board of Trustees Adoption, May 9 [Reference: Board of Trustees Agenda Item 6]

8. **2012 State of Reliability Report* – Information**
9. **Recommendations from the 2011 Southwest Outage* – Information**
10. **Culture of Reliability Excellence*** – Tom Bowe, PJM **– Discussion**
11. **Regulatory Update* – Information**
12. **Recommendations of the Standards Process Input Group (SPIG)* – Discussion**
    a. **Further Discussion on Recommendations of the SPIG in Standards Oversight and Technology Committee Meeting (to follow MRC Meeting)**

*Background materials included.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Antitrust Compliance Guidelines

## I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

## II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

## III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.

Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# DRAFT Minutes
# Member Representatives Committee
# Pre-Meeting Conference Call

March 29, 2012 | 3:00 p.m. Eastern
Dial in: 800-743-4304
No pass code necessary

Chair Scott Helyer convened a duly-noticed open meeting by conference call of the North American Electric Reliability Corporation's Member Representatives Committee (MRC) on March 29, 2012 at 3:00 p.m. Eastern. The meeting announcement, agenda, and list of attendees are attached as **Exhibits A, B,** and **C**, respectively. MRC membership attendance/roll call was not necessary since no quorum was required.

### NERC Antitrust Compliance Guidelines and Public Meeting Notice

Holly Mann, assistant to the NERC president and ceo, and committee secretary, directed the participants' attention to the NERC Antitrust Compliance Guidelines and the public meeting notice.

### Review of May 8, 2012 Draft MRC Agenda

Chair Helyer reviewed the preliminary agenda for the upcoming May 8, 2012 MRC meeting in Arlington, VA **(Exhibit D)**.

- Topics for discussion will include: regional standards development, underfrequency load shedding, operating communications (COM-002, COM-003, technical guidance), Rules of Procedure changes, 2011 Southwest Outage, and the progress of the Standards Process Input Group (SPIG).
- The Standards Oversight and Technology Committee will meet immediately following the MRC on May 8 to provide additional discussion of the recommendations of the SPIG.
- Tom Bowe, executive director, reliability and compliance, PJM Interconnection, will present on the Culture of Reliability Excellence.
- Additional time will be given to discuss the May 1 MRC Informational Session, which will include: Bulk Electric System (BES) and Adequate Level of Reliability (ALR) definitions, entity assessments, demand response availability, summer assessment conclusions, and Find, Fix, Track and Report (FFT) initiative.

**Review of May 9, 2012 Draft Board of Trustees (Board) Agenda**
Chair Helyer reviewed the preliminary agenda for the May 9, 2012 BOT meeting in Arlington, VA (**Exhibit E**).

The MRC was reminded of the Board's upcoming request to provide policy input on several emerging issues. A letter requesting policy input from the MRC will be distributed on April 6.

**Schedule of Events for Upcoming Meetings**
Chair Helyer reviewed the schedule of events for the upcoming MRC, Board, and Board Committees meetings (**Exhibit H**). MRC members were encouraged to review all materials for the MRC, Board, and Board committee meetings and attend as many of these meetings as possible, in advance of the MRC's discussion on May 8.

**Committee Nominations**
Holly Mann announced two upcoming nomination processes:

1. MRC members for the Board Nominating Committee
2. CEO executive slate for the Electricity Sub-Sector Coordinating Council (ESCC)

MRC members were informed that they will receive additional information prior to the May 8 meeting regarding these nomination processes.

**Meeting Adjourned**
There being no further business, the call was terminated at 4:00 p.m. Eastern.

Submitted by,



Holly Mann,
Committee Secretary

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Draft Minutes
# Member Representatives Committee (MRC)

February 8, 2012 | 1:00–5:00 p.m. Mountain
Arizona Grand Resort
8000 S. Arizona Grand Parkway
Phoenix, AZ 85044

Chair Scott Helyer called to order the North American Electric Reliability Corporation (NERC) Member Representatives Committee (MRC) meeting on February 8, 2012 at 1:00 p.m., MT. The meeting announcement, agenda, and list of attendees are attached as **Exhibits A**, **B**, and **C**, respectively.

### NERC Antitrust Compliance Guidelines and Public Meeting Notice

Chair Helyer called attention to the NERC Antitrust Compliance Guidelines and the public meeting notice. Any questions regarding these guidelines or notice should be addressed to NERC's General Counsel, David Cook.

### Introductions and Chair's Remarks

Chair Helyer declared a quorum present with the following recognized proxies:

- Tom Bowe for Terry Boston – ISO/RTO
- Bill Gallagher for Terry Huval – Transmission Dependent Utility
- Jodi Jerich for Charles Acquard – Small End-Use Customer
- Del Smith for Robin Lunt – State Government
- Linda Campbell for Gordon Gillette – Regional Entity (non-voting)
- Gilbert Neveu for Jean-Paul Théorêt – Canadian Provincial (non-voting)

Chair Helyer acknowledged and welcomed Vice Chair Carol Chinn, six new members to the MRC, and attending staff from the Federal Energy Regulatory Commission (FERC). Chair Helyer also recognized the policy input provided by the MRC and stakeholders at the request of John Q. Anderson, chair of the NERC Board of Trustees.

### Minutes

The MRC approved the draft minutes of its November 2, 2011 meeting and January 12, 2012 pre-meeting conference call (**Exhibits D and E**).

### Election of Board of Trustees (BOT)

Dave Goulding, chair of the nominating committee, provided a report and recommendation for the re-election of three NERC BOT members for the class of 2015. Chair Helyer called for a vote of the MRC for the re-election of Ken Peterson, Bruce Scherr and Jan Schori. Chair Helyer confirmed a two-thirds affirmative vote from eligible members and congratulated the returning members of the NERC BOT.

### Welcome to Phoenix

Dave Areghini, retired associate general manager for Salt River Project, welcomed participants to Phoenix and provided opening remarks regarding the advancement of the ERO Enterprise concept for the purpose of strengthening reliability. Mr. Areghini shared that he believes the greatest deficiency facing the ERO is the inability to successfully quantify progress, use appropriate metrics, and leverage resources that exist among the industry. NERC and the Regions are encouraged to reach out to the industry and promote training and practice that reinforce our culture of reliability.

### Remarks from Gerry Cauley, NERC President and CEO

Mr. Cauley recognized the policy input received by the BOT and shared his appreciation for the continued opportunities for dialogue with the MRC and industry. There were a number of accomplishments by NERC and the ERO Enterprise in 2011 which utilized support from the industry; these included the filing of the Bulk Electric System (BES) definition with FERC, continued prioritization of standards, completion of GridEx, and progression of the Find, Fix, Track and Report (FFT) initiative. Additional investment in the event analysis process and procedure also proved successful for 2011.

### Update on ERO Enterprise Strategic Planning and Corporate Goals

The current ERO Enterprise Strategic Plan (2012-2015) includes goals that span three major focus areas:

1. Standards and compliance
2. Risks to reliability
3. Coordination and collaboration

The 2012 goals are structured around achieving efficiency and effectiveness, a risk-management focus, and accomplishable outcomes and results. NERC's standards need to be results-based with effective compliance monitoring and internal controls.

NERC is in the process of confirming weights for each of the three focus areas and the multiple corporate performance metrics associated with each since they are not all equal in the eyes of NERC, the Regions, industry or FERC. The goals, objectives and measures will continue to be scaled over the upcoming weeks based on importance, relevance, and timeliness of each. A more refined version is expected to be delivered to the BOT Corporate Governance and Human Resources Committee by the end of the month.

Mr. Cauley also recognized opportunities exist to collaborate with registered entities and the forums to analyze data and align risks and cause codes. The forums and others among the industry could also take on the responsibility of identifying risks and analyzing data to determine trends and patterns. As the ERO, NERC is obligated to identify and prioritize certain risks and patterns, between identifying risks and fixing them there is a lot of work to be done.

Mr. Cauley confirmed NERC's intent to be more transparent in its corporate year-end report for 2012.

**Standards Development Process Improvements**

Mr. Cauley wants to introduce, in 2012, another opportunity to seek clarification on the overall structure and timeliness of the standards development process to ensure greater efficiency and quality of results. The ERO must equally consider the weight of compliance on those entities that have to implement and meet the requirements of standards.

In the past, additional time has been allocated to address improvements to the administrative processing, balloting, etc. It is now the time to address several additional issues in the upcoming year:

1. **Process** – Determining how to address the efficiency of the process by breaking the existing mold for how we develop standards. Are there other options and alternatives for developing a successful development cycle that will improve a timely standards process?
2. **Resources** – Maximizing the use of appropriate resources. Protecting the right of all stakeholders involved while deriving the necessary talents to comprise the drafting team and ensuring the correct legal, writing, and enforcement support for standards development.
3. **Governance** – Determining if sustainable governance is in place to produce adequate reliability through standards development. Encouraging the ERO Enterprise to continue identifying risks and setting the priorities and timeline for producing a standard through the use of an improved process.

Chair Helyer recognized the MRC has a role to support and advise the BOT on the issue of standards development. Various comments were received in writing prior to the meeting, but the following comments were provided by the MRC members regarding this topic:

- The current process lacks a clear scope and facilitation framework for the drafting team.
  - There need to be clear rules for everyone who participates in a standard drafting team (SDT), including NERC and FERC staff.
  - The team structure currently lacks sufficient policy advisors and technical writers.
  - NERC should serve in a guiding role for the team, as a facilitator to address the scope, manage the schedule, and to maintain specific issues.

- Concerns were raised about the need to have the industry included in the governance of the standards development.
- NERC is not the only organization that has tried to master the development of standards. NERC should benchmark its process against other organizations that set standards. MRC should take a role in leading the effort to revise the standards development process. The BOT relies on the MRC for this involvement.
- The MRC should ensure that input from stakeholders remains at the forefront and be careful to remember the international collaboration and policy input from Canadian Electricity Association (CEA).
- Attention should be given to the comments and recommendations of the trades. There needs to be a senior group of leaders to consider other process optimization, such as American National Standards Institute (ANSI's) process, as well keeping the industry input.
- The development of the FFT process has been a success and should be trusted.

Suggestions were made for the MRC to form a small steering group to provide policy input to the BOT regarding improvements to the standards development process. Chair Helyer suggested the MRC form a small steering group under the invitation of Chair Anderson and the BOT. Participants may include MRC members, a Canadian representative, Chair of the Standards Committee, representative from the trades and/or forums, NERC staff, BOT members, and others. Projected milestones would include:

- **April 1** – an initial progress report from the steering group to the full MRC
- **MRC Informational Webinar** – a preview of the presentation intended for the BOT meeting in May
- **May meeting** – the full presentation and discussion to the BOT

### Rules of Procedure (ROP) Updates

Rebecca Michael, associate general counsel, NERC, reviewed a number of substantive changes to the ROP that are scheduled to be presented to the BOT for approval on February 9.

The substantive changes also include a proposal to delete appendices 3C and 6. There are currently agreements and memoranda of understandings in place between NERC and its international partners that warrant the retirement of the current Appendix 3C. Appendix 6 contains minor administrative details that no longer warrant inclusion in the ROP.

Future action regarding the ROP includes:

- Edits to Appendix 8 following the implementation of the event analysis process document; addressing the roles of situational awareness staffing in the ES-ISAC.
- Section 511, interventions in regional transmission organizations (RTOs)/ independent system operators' (ISOs) enforcement matters. Action on this section was deferred to the BOT meeting on February 23, 2012.

The following comments were provided by the MRC members regarding this topic:

- The BOT is asked to delay their decision/approval of the proposed updates and deletions to the ROP in an effort to give the MRC and industry ample time to review and provide final inputs to the changes discussed today.
- Some are concerned about changes to Section 400 that grant an appeals process to the Regional Entity (RE) if a ruling from the hearing body is not considered favorable or desirable. Is there an added concern for circumstances involving REs that select/appoint the hearing body?
- Some are in support of the RE acquiring the ability to appeal the decision of the hearing body. This change to the ROP is considered a positive parallel to the existing language that currently limits appeals to the RE.
- There is large support for the removal of Appendix 8 from this cycle of changes to the ROP. Future changes to Appendix 8 should be presented to the MRC as a package submission, in conjunction with other applicable areas of the ROP.
- It is unclear what warrants the MRC's discussion or policy input regarding changes to NERC's bylaws. A stakeholder would have to garner support from 50 entities across two segments or acquire a NERC officer to champion their proposal for a change to NERC's bylaws.
- The proposed change to the certification of entities is not a minor change. A reliability business case is needed for this proposed change to determine the impact across Industry and the benefit to reliability.

### Event Analysis Update and Reliability Risk Trends

Earl Shockley, director of reliability risk management, NERC, summarized the event analysis field trial that resulted in the finalization of an ERO event analysis process document scheduled to be presented to the BOT for approval on February 9.

The following comments were provided by the MRC members regarding this topic:

- Members would like to receive additional details regarding the industry alert expected to be issued for the purpose of identifying change management events.

- There is little known about the timeframes that are targeted by NERC to issue reports from event analysis and lessons learned. How will the industry know when to expect these reports to be issued and available for peer-reference and use?

NERC confirmed it will ensure there is no breach in confidentiality, for those entities or regions involved in the event analysis process, through the release of these lessons learned and reports.

**Generator Owners and Operators That Own and Operate Transmission Facilities**

Mike Moon, director of compliance, NERC, presented an update on the status of draft compliance guidance and directive concerning the registration of Generator Owner/Operators (GO/GOPs) as Transmission Owner/Operators (TO/TOPs).

The following comments were provided by the MRC members regarding this topic:

- It is important to support the work invested by the standard drafting team (SDT) and recognize the potential for benefit to the industry. There is continued encouragement to utilize the SDT, NERC staff, the Regions, etc. and the standards development process that is currently in place to address any concerns that may arise around this issue.
- The full package of four standards (FAC-001, FAC-003, PRC-004 and PRC-005) might be remanded to the SDT to allow time to resolve the issue and objection of FAC-003 and return for MRC input during the May meeting. PRC-005 will also be balloted before the May meeting.
- There may be some facilities that are so complex that they require additional standards to be applied. A one size fits all approach may not be sufficient for this issue.
- The SDTs and NERC staff need to ensure all gaps are addressed with this set of standards before the package is submitted to FERC.
- Is there a list of requirements that are still a concern for NERC staff? Based on the presentation from the BOT Standards Oversight and Technology Committee (SOTC), it is not clear which standards NERC staff believes should be within scope of this current project.
- Complexities surrounding issues, such as this one, ultimately limit the timeliness involved with the standards development process.

NERC staff agreed to provide a review of the technical details that can support the SDT and provide a full picture regarding “completeness” of this initiative.

**COM-002 Interpretation**

The MRC provided the following input on the interpretation from the SDT on COM-002 regarding three-part communications during emergency circumstances:

- The interpretation of the COM-002 standard is the industry's opinion via the SDT.
- Nothing in the standard prevents using three-part communications during normal, non-emergency conditions and there is no penalty described in the standard for using three-part communications during non-emergency conditions.
- A concern was raised that the standard interpretation appears that we are backing away from reliability. Also, what is the risk between now and when the standard interpretation is approved?
- If three-part communications is used on a routine basis, can we determine when the emergency actually occurred?
- Three-part communications will not necessarily solve all dilemmas surrounding the exchange of information between entities. Many entities strive to use three-part communications most of the time while clearly recognizing that during emergencies it is required. Pursuing entities in terms of compliance should only be done if there is failure during emergency circumstances. If allocating resources to hunt down every time we fail to use three-part communications, even in routine operations, then we are not focusing ourselves on the risks that are most important.
- Industry has been surprised with how the standard has been enforced, based on how we want it to read or say and not by what it actually does read/say.
- The enforcement issue implies there may need to be a review of the language within the standard itself and not necessarily the interpretation of that standard that we are faced with today.
- It is hard to demonstrate that an entity has participated in three-part communications 100 percent of the time. Is it a violation with a penalty process if one sample is found where three-part communications was not used, during non-emergency times? We need to focus on making a reliability difference.
- Is this interpretation following the strict construction-approach of the standard?

The MRC concluded that the interpretation does follow the strict intent of the standard, during emergency conditions. The way the standard was being applied ultimately leads to the need for an interpretation.

**Definition of Adequate Level of Reliability (ALR)***

The ALR task force is re-evaluating the existing ALR definition and determining objectives that will be measurable along with cost benefits, load loss distinctions, and an accompanying definition of "cascading". Ongoing efforts include the development of a white paper on the management of social impacts and risks to reliable BES operations. The schedule for industry comment is March 2012.

The MRC requested an update during their May informational session prior to the next face-to-face meeting in Arlington, Virginia. The BOT is expected to receive a final presentation in November 2012.

**Bulk Electric System (BES) Definition — Filing of Phase 1 and Preparations for Phase 2**

Herb Schrayshuen, vice president of standards and training, NERC, recognized the success of Phase 1 and confirmed the petition was filed with FERC in January 2012. Phase 2 is underway to finalize the Standards Authorization Request (SAR), develop the technical justification, and provide clarification from Phase 1. The schedule for industry comment is March 2012.

The MRC requested an update during their May informational session prior to the next face-to-face meeting in Arlington, Virginia.

**Geomagnetic Disturbance Task Force (GMDTF) Update**

Mark Lauby, vice president of reliability assessment and performance analysis, NERC, provided an update on the GMDTF's interim report. The major conclusions include loss of reactive power, challenge to maintain supply, and damage to certain transformers. The task force continues to work with industry to develop open source coding, create source tools for modeling, simulation, and measurement, and to review NERC Reliability Standards for opportunities for enhancement. The BOT is expected to receive the interim report for acceptance and endorsement of the recommendations during the February 23 meeting. An embargoed copy will be shared with various entities following BOT acceptance and endorsement.

The following comments were provided by the MRC members regarding this topic:

- This is a positive demonstration on how technical reports should be developed based on accurate data. Industry provided world class experts to support this task force initiative with NERC. This is how NERC is intended to work and operate.
- Members want to ensure this good work and the recommendations are continually shared with FERC, Congress and other entities.
- A parallel communication effort should be established with the Electricity Sub-Sector Coordinating Council (ESCC) regarding the release and socialization of this report.

### Compliance Enforcement Initiative (CEI) Update

Ken Lotterhos, director of enforcement, NERC, confirmed NERC is preparing for the six-month status report to submit to FERC during March 2012 and is seeking comments from industry by February 23. The following comments were provided by the MRC members regarding this topic:

- A question was asked about the difference in timelines between processing the FFT violations versus the full Notice of Penalty (NOP) violations.
- Many regions initiated the FFT process with a majority of under-processed cases and immediately noticed efficiencies. As more cases enter the FFT process, efficiencies are expected to continue.
- A plan needs to be in place with a schedule for how auditors will accomplish all the steps necessary to reach Phase 2.
- The MRC is interested in knowing how FERC will address FFT.

FERC staff acknowledged the MRC's interest to receive more information once it becomes available.

NERC confirmed its intent to provide more data for the FFT and NOP processes so issues such as timelines are clearer to the industry.

### Culture of Reliability Excellence

Eric Ruskamp, standards and compliance manager, Lincoln Electric System, provided a presentation on the subject matter expertise of its personnel who are cross trained to address NERC standards, compliance, and enforcement (**Exhibit G**)

Tom Bowe, executive director of reliability and compliance, PJM Interconnection, is scheduled to provide a presentation during the May 2012 meeting.

### November 2011 FERC Technical Conference on Reliability

There were no MRC comments regarding this FERC Technical Conference.

### May 8, 2012 Meeting and Future Meetings

The following are future MRC meeting dates and locations:

- May 8–9, 2012 – Arlington, VA
- August 15–16, 2012 – Quebec City, Canada
- November 6–7, 2012 – New Orleans, LA
- February 6–7, 2013 – San Diego, CA
- May 8–9, 2013 – Philadelphia, PA

- August 14–15, 2013 – Montreal, Canada
- November 6–7, 2013 – Atlanta, GA
- February 5–6, 2014 – Phoenix, AZ

**Update on Regulatory Matters**

Chair Helyer invited MRC members with questions or concerns regarding additional regulatory matters to meet with David Cook, senior vice president and general counsel, NERC at the conclusion of the meeting.

**Adjournment**

There being no further business, the meeting terminated at 5:30 p.m. MT.

Submitted by,



Holly Mann
Secretary

# Future Meetings

## Action
None

## Background
Below are the future meetings as approved by the board on May 11, 2011.

**2012 Dates**

| | |
|---|---|
| May 8–9 | Arlington, VA |
| August 15–16 | Quebec City, Canada |
| November 6–7 | New Orleans, LA |

**2013 Dates**

| | |
|---|---|
| February 6–7 | San Diego, CA |
| May 8–9 | Philadelphia, PA |
| August 14–15 | Montreal, Canada |
| November 6–7 | Atlanta, GA |

**2014 Dates**

| | |
|---|---|
| February 5–6 | Phoenix, AZ |

Agenda Item 4a
MRC Meeting
May 8, 2012

# Recommend Slate of MRC Members to Serve on the Board of Trustees Nominating Committee

## Action

Establish the recommended slate of five Member Representatives Committee (MRC) members.

## Background

Chair Scott Helyer will invite MRC members to volunteer to serve on the Board of Trustees Nominating Committee. In 2012, Jan Schori will chair the Nominating Committee.

Agenda Item 4b
MRC Meeting
May 8, 2012

# Nominate Slate for the Electricity Sub-Sector Coordinating Council (ESCC)

## Action

Discussion — Slate of CEO-level membership to the Electricity Sub-Sector Coordinating Council (ESCC).

## Background

The ESCC, which fosters and facilitates the coordination of sector-wide activities and initiatives to improve the security of the nation's critical infrastructure and requires the participation of CEO-level members who serve for staggered two year terms.

In accordance with the ESCC Charter, the MRC is responsible for the solicitation of nominations and approval of the proposed slate of five executive level members. Nominations are requested annually by the MRC and received no later than June 21 for new members, as well as members who wish to be re-elected for subsequent terms on the ESCC.

Agenda Item 6a
MRC Meeting
May 8, 2012

# Bulk Electric System (BES) Definition, Phase 2

## Action
Discussion

## Background
Phase 1 of Project 2010-17, Definition of Bulk Electric System (DBES), concluded on November 21, 2011 with stakeholder approval of a revised definition of BES and an application form titled "*Detailed Information to Support an Exception Request"* referenced in the Rules of Procedure Exception Process. The Board of Trustees unanimously adopted in January 2012 the Definition, Exception Process, and Rules of Procedure modifications, which has been filed with FERC for approval.

Phase 2 of the project is being initiated to develop appropriate technical justification to support refinements to the definition that were suggested by stakeholders during Phase 1. The DBES Standard Drafting Team is actively working with the NERC Technical Committees (Operating and Planning Committees) to collect and analyze information needed to support revisions to the DBES developed in Phase 1 of this project. The goal is to provide a technically justifiable definition that identifies the appropriate electrical components necessary for the reliable operation of the interconnected transmission network. The development may include other improvements to the definition as deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing a high quality and technically sound DBES.

If trustees have questions or need additional information, they may contact Pete Heidrich, manager of reliability standards, FRCC and chair of the DBES SDT at pheidrich@frcc.com or Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 6b
MRC Meeting
May 8, 2012

# Definition of Adequate Level of Reliability (ALR)

## Action
Discussion

## Background
The Adequate Level of Reliability Task Force (ALRTF) was formed in May 2011 under the auspices of the NERC Standing Committees Coordinating Group (SCCG), which comprises the chairs and vice chairs of NERC's standing committees[1], to address concerns expressed by the NERC Board of Trustees (BOT), the Member Representatives Committee (MRC), and stakeholders that NERC's current definition of Adequate Level of Reliability (ALR) needs reassessment to ensure that the definition supports and helps to define NERC's mission to ensure reliable operation of the bulk power system.

At the end of April 2012, the ALRTF completed a draft definition document, a draft technical document, a discussion paper on risk tolerance, and a mapping document that compares the proposed ALR objectives with NERC's reliability principles. These documents are posted and available for a 60-day industry comment period (http://www.nerc.com/filez/alrtf.html). The ALRTF will meet at the end of June to review comments and make corresponding changes, with the goal of presenting a definition and supporting documents to the BOT by the end of the calendar year.

Allen Mosher, chair of the ALRTF and chair of the NERC Standards Committee, will present and discuss the status of this initiative.

[1] Operating Committee, Planning Committee, Critical Infrastructure Protection Committee, Standards Committee, and Compliance and Certification Committee.

Agenda Item 6c
MRC Meeting
May 8, 2012

# Risk-Based Compliance Monitoring and Entity Assessments

## Action

Discussion

## Background

The purpose of this update is to provide a comprehensive overview for the Risk-Based Compliance Monitoring Initiative (CEI). The webinar slide presentation will address NERC's purpose for the initiative, what success would look like, and the NERC projects that support the initiative. A discussion paper, Risk-Based Reliability Compliance Monitoring, is attached (Attachment 1).

The initiative, which is being implemented through the projects listed below, integrates the concept of risk, to a greater degree, into ERO compliance and enforcement activities. Identification of risk allows for resources of the ERO, Regional Entities, and registered entities to be focused on those issues that pose the greatest potential risk to the reliability of the bulk power system (BPS). The initiative also provides for a paradigm shift from one of backward-looking compliance monitoring to one of empowering registered entities to be forward-looking and more successful in their compliance assurance activities.

This initiative integrates the evaluation of risk throughout the process at the program level, the registered entity level and in the enforcement processing level, as follows:

**Program Level**

- Annual Implementation Plan
- Actively Monitored List

**Registered Entity Level**

- Entity Assessment – The assessment (or evaluation) will, among other objectives, determine scope and frequency of compliance monitoring for each registered entity
- Compliance Monitoring - Integration of verification of internal controls into the compliance monitoring to determine the due diligence a Compliance Enforcement Authority (CEA) is to use (the amount of evidence to review) to obtain reasonable assurance the registered entity is compliant

**Enforcement Processing Level**

- Resolution of non-compliance based on risk (CEI)
  - Find, Fix and Track - Lower Risk Possible Violations
  - Notice of Penalty

## Summary

This initiative is designed to:

- Allow for focus of resources on reliability issues
- Empower registered entities to be forward-looking and successful in their compliance activities

The major change elements of this initiative are assessing the frequency and scope of an entity's compliance monitoring based on the individual entity's potential impact on the reliability of the BPS, the integration of formal audit principles into compliance monitoring, including assessing internal controls, and the implementation of CEI Phase Two, where discretion is applied in the field.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment 1

# Risk-Based Reliability Compliance Monitoring

April 20, 2012

As the Electric Reliability Organization (ERO) continues to evolve, greater emphasis has been placed on incorporating risk-based concepts in all endeavors to more efficiently utilize resources and focus on the significant risks of the electrical sector. From the ERO Enterprise Strategic Plan 2012-2015 approved in February of 2012, the following vision is detailed:

> "To be the trusted leadership that ensures and continuously improves the reliability of the North American bulk power system (BPS) by implementing relevant standards; promoting effective collaboration, cooperation, and communication around important risks to reliability; and utilizing expertise from the industry to produce outcomes that improve reliability."

Within the strategic plan, the four Pillars for Success clearly articulate the critical components that will be emphasized to achieve this vision:

- ***Reliability*** – to address events and identifiable risks, thereby improving the reliability of the BPS.
- ***Assurance*** – to provide assurance to the public, industry, and government for the reliable performance of the BPS.
- ***Learning*** – to promote learning and continuous improvement of operations and adapt to lessons learned for improvement of BPS reliability.
- ***Risk-Based Approach*** – to focus attention, resources and actions on issues most important to BPS reliability.

The purpose of this paper is to provide a comprehensive overview of the Risk-Based Compliance Monitoring Initiative and its components; the initiative's background; the necessity of making compliance a tool that supports reliability; an articulation of success; and the criticality of greater consideration of internal controls; as well as to identify potential Rules of Procedure (ROP) changes. The NERC corporate goals for 2012 firmly direct these efforts, specifically within Goal No. 1 for Standards and Compliance, performance objective c: *Promote a culture of compliance with mandatory reliability standards across the industry.* Successful implementation of the performance objective will be, in part, determined by the following measures:

- 11 – Educate industry on effective compliance programs and effective reliability risk controls.
- 12 – Develop risk-based compliance monitoring approaches to maximize reliability benefits and improve efficiencies, and to encourage effective internal controls at registered entities.

Additionally, the ERO will support the industry by identifying procedures, practices and controls to address reliability risks resulting from noncompliance.

**Overview**

In late 2010 and early 2011, industry and NERC staff began discussions of risk-based compliance monitoring with a goal of refining compliance and enforcement efforts to support reliability efforts. Initial efforts between industry and NERC staff included greater analysis to support development of the Annual Implementation Plan and Actively Monitored List (AML); discussion of refined compliance monitoring concepts to include appropriately scoped audits and spot checks; a white paper developed by Tom Burgess; and the NERC Compliance and Certification Committee (CCC) Work Group's effort to refine issues and develop options for future direction.

Ultimately success for both the ERO and the industry will be based on a clear set of concepts that include an emphasis on reliability and less compliance bureaucracy; compliance programs designed to support reliability on a forward-looking basis with greater reliance on internal controls; an industry that monitors, finds, fixes, tracks, and reports (FFT) issues; and refocused resources to allow us to address high-risk reliability issues. The Risk-Based Compliance Monitoring Initiative will manifest these concepts in:

- Registered entities that are empowered to be in control of monitoring their own compliance activities and have successful compliance programs.
- ERO and industry resources being focused on reliability.
- The successful implementation of a risk-based approach to compliance monitoring.

There must be greater emphasis on reliability and less on compliance and enforcement bureaucracy. While the requirements are enforceable, shifting to greater consideration of the intent and purpose of the standard will provide greater opportunity for industry collaboration and information sharing to meet reliability obligations.

The ERO compliance monitoring program and registered entities' compliance programs should be designed to support reliability on a forward-looking basis with greater consideration and reliance on internal controls. The current construct is focused on the rearward-looking process of reviewing potentially significant amounts of evidence over the entire audit period. Further, all violations, regardless of the risk created to the reliability of the BPS or when the violation occurred, must be processed. This rearward-looking approach to compliance monitoring provides little to no confidence that the entities have the ability to make judgments about their future state of reliability.

An emphasis on internal controls and how an entity manages its own compliance programs is forward-looking. Internal controls are proactive and, coupled with a solid internal compliance program, will

demonstrate an entity's commitment to manage compliance with a focus on reliability until the next compliance monitoring effort. The industry has already demonstrated a commitment to compliance as evidenced by the high numbers of self-identified possible violations (PVs); 69 percent in 2011 and 68 percent over the entire enforceable period (2007-present). Self-identified violations include four of the eight compliance monitoring program discovery methods: self reports, self certifications, data submittals and exception reporting. This is a significant factor in the reasoning for the Compliance Enforcement Initiative (CEI) and the FFT mechanism. The industry has demonstrated that it does indeed monitor, FFT compliance issues and PVs.

With this proactive and responsible compliance mentality, both the ERO and industry can focus more resources on high-risk reliability issues and less on compliance. Registered entities will be able to deploy and utilize resources to improve reliability as opposed to managing compliance risk and the volumes of data required to demonstrate compliance on a rearward-looking basis.

Consideration of internal controls and internal compliance programs are basic auditing concepts and principles designed to be forward-looking. These concepts are articulated in detail in the "Yellow Book" or Government Auditing Standards, which were most recently revised in December 2011.[1] Other auditing organizations and references include the Committee of Sponsoring Organizations (COSO) of the Treadway Commission Framework[2,3] and the Public Company Accounting Oversight Board (PCAOB)[4]

Key components of auditing include rigorous planning and preparation, appropriate field work, and reporting to communicate the audit team's results. Planning and preparation must include an assessment of the organization to be audited and a consideration of the internal controls. The finding of the audit must be based on the auditor's professional judgment in obtaining reasonable assurance of compliance. Based on the level of the performed audit, an auditor may not have sufficient knowledge to determine that an entity is compliant; only that there was not a finding of non-compliance. Finally, reporting must communicate the results for the intended purpose of the program.

Reasonable Assurance as discussed in the International Federation of Accountants (IFAC) / The International Auditing and Assurance Standards Board (IAASB)'s International Standards on Auditing #200[5], Introduction is:

> *"Reasonable assurance is a high level of assurance. It is obtained when the auditor has obtained sufficient appropriate audit evidence to reduce audit risk . . . to an acceptably low level. However, reasonable assurance is not an absolute level of assurance, because there are inherent limitations of an audit which result in most of the audit evidence on*

[1] Available at: http://www.gao.gov/products/GAO-12-331G, April 2012.
[2] http://www.coso.org/
[3] Members include American Accounting Association, American Institute of CPAs, Financial Executives International, The Association for Accountants and Financial Professionals in Business, and the Institute of Internal Auditors
[4] http://pcaobus.org/Pages/default.aspx
[5] Available at: http://www.ifac.org/sites/default/files/downloads/a008-2010-iaasb-handbook-isa-200.pdf, April 2012.

*which the auditor draws conclusions and bases the auditor's opinion being persuasive rather than conclusive."*

Professional Judgment from GAGAS Section 6.03 is detailed as:

> *"Objectives for performance audits range from narrow to broad and involve varying types and quality of evidence. In some engagements, sufficient, appropriate evidence is available, but in others, information may have limitations.* ***Professional judgment*** *assists auditors in determining the audit scope and methodology needed to address the audit objectives, and in evaluating whether sufficient, appropriate evidence has been obtained to address the audit objectives."* [emphasis added]

## Components of the Risk-Based Compliance Monitoring Initiative

As NERC moves towards greater consideration and utilization of risk-based concepts and methods in the Compliance Monitoring and Enforcement Program (CMEP)[6], the following levels have been identified for focus: the program level, specifically the Annual Implementation Plan and AML; the registered entity level, where development of the entity assessment is critical; and the compliance issue or violation level.

### *The Program Level*

At the program level the Risk-Based Compliance Monitoring Initiative focuses in two areas: the development of the AML and communication of compliance assessment approaches, specifically through the Reliability Standard Audit Worksheets (RSAWs).

### *The AML*

The AML will identify the highest priority standards for compliance monitoring. These standards will establish the baseline or starting point for the Regional Entity (RE) in developing an appropriate scope of compliance monitoring for an individual registered entity, based upon the results of the Entity Impact Evaluation (see discussion on appropriately scoping compliance monitoring below). The highest priority Reliability Standards and associated Requirements populating this list are determined annually through a review of the following:

- ERO High-Risk Priorities
- FERC Orders and Guidance
- Compliance History and Culture
- Input from NERC Staff including Compliance Operations, Critical Infrastructure Protection, Enforcement, Events Analysis and Investigations, Legal, Reliability Assessments and Performance Analysis, and Standards

[6] Available at: http://www.nerc.com/files/Appendix4C_Uniform_CMEP_20110101.pdf

- Future Considerations

### *Communication of Compliance Assessment Approaches through the RSAWs*

To clearly communicate compliance assessment approaches, NERC has begun to update the RSAWs by integrating the standard drafting team's intent, obtaining broader industry input and resolving compliance monitoring approaches. The objective of obtaining this input is to reduce any gap between the drafting team's intent for the standard and compliance expectations. Compliance and enforcement will continue to own the RSAWs to ensure Compliance Enforcement Authorities (CEAs) appropriately and consistently monitor compliance; however it is expected that this integration effort will, as RSAWs are modified, prevent spikes in the number of violations when standards become enforceable and prevent unnecessary violations for existing standards. Further, this effort will, to the extent possible, consolidate compliance guidance documents into one location, where CEAs and registered entities can easily access all relevant information. It is anticipated that the improved understanding that comes along with the updated RSAWs will reduce the number of requests for standard interpretations and compliance application notices (CANs).

NERC is also beginning to introduce formal auditing principles[7], including the assessment of internal controls, into the RSAWs.[8] As discussed above, this widely accepted auditing practice provides auditors an opportunity to assess whether a registered entity has control over its own compliance activities and the ability to use that assessment to determine the level of due diligence that will be required during the audit. Using this method, the auditor has the ability to monitor the entity's internal controls, which are not subject to compliance, and use the entity's evidence of compliance activities to verify the effectiveness of the internal controls. The updated RSAWs introduce these concepts with a discussion of the purpose for assessing internal controls during an audit and a reminder for an entity to provide an auditor or CEA with its internal controls (see discussion on incorporating internal controls into compliance monitoring below).

### *The Entity Level*

At the entity level the Risk-Based Compliance Monitoring Initiative focuses on two areas: the implementation of Entity Impact Evaluations, and inclusion of auditing principles, specifically internal controls, into compliance monitoring.

### *Entity Impact Evaluations*

An open and transparent Entity Impact Evaluation will provide a consistent method for Regional Entities (Res) to determine appropriately scoped, or customized, compliance monitoring for each registered entity. The Entity Impact Evaluation will be a non-public evaluation that, in the successful

[7] Utilized in Generally Accepted Government Auditing Standards (GAGAS) and outlined in the Committee of Sponsoring Organizations of the Treadway Commission's (COSO) model; members of COSO include the American Accounting Association, American Institute of CPAs, Financial Executives International, The Association for Accountants and Financial Professionals in Business, and the Institute of Internal Auditors.

[8] The location of internal control information will be determined based on industry preference, but may be located either in each individual RSAW or in an overarching RSAW document that may also contain other information pertaining to multiple RSAWs.

implementation of the Risk-Based Compliance Monitoring Initiative, will be initially performed by the registered entity and completed in collaboration with the RE.

The results of an entity's Entity Impact Evaluation will determine the frequency of future compliance monitoring, the methods of compliance monitoring, and the number of standards that will be included in a registered entity's appropriately scoped compliance monitoring. The Entity Impact Evaluation will consist of four elements:

- The entity's internal controls, Internal Compliance Program and regional considerations;
- The entity's technical factual information (such as the number of transmission miles, etc);
- The entity's performance in each of its registered functions; and
- The entity's compliance history story.

All entities will have the ability, and are encouraged, to influence the amount of compliance monitoring that it will receive by managing their above four elements. An entity may not be able to change its technical facts; however an entity may have the ability to alter its performance metrics, the story behind its compliance history or its internal controls and internal compliance program. In the vision of success, the majority, if not all, entities will manage the four elements of their Entity Impact Evaluation and will qualify for less compliance monitoring.

There criteria to be considered in a review of the entity's internal controls and internal compliance program are interwoven. The internal compliance program elements are outlined in a series of FERC orders[9] and include the original 13 questions as well as the four hallmarks. The COSO model[10] is used as a guideline for evaluating the internal controls; it provides a framework consisting of five elements. Three of the five elements are considered in the Entity Impact Evaluation – the Control Environment, the Risk Assessment, and Information and Communication. The remaining two elements, Internal Control Activities and Monitoring Internal Controls, are verified during compliance monitoring. Internal controls are not subject to compliance but will affect the level of due diligence an auditor will conduct for evidence that is subject to compliance.

For example, an entity that may have more impact to the BPS from a technical perspective may have demonstrated good performance, a positive story behind its compliance history and strong internal

[9] Policy Statement on Enforcement *(13 questions) Docket No. PL06-1-000, 113 FERC ¶ 61,068 (October 20, 2005;* Revised Policy Statement on Enforcement *Docket No. PL08-3-000, 123 FERC ¶ 61,156 (May 18, 2008);* Policy Statement on Compliance *(4 Hallmarks) Docket No. PL09-1-000,125 FERC ¶ 61,058 (October 16, 2008;* Policy Statement on Penalty Guidelines *Docket No. PL10-4-000, 130 FERC ¶ 61,220 (March 18, 2010); suspended on April 15, 2010;* Revised Policy Statement on Penalty Guidelines *(Additional criteria during a FERC 1.b investigation) Docket No. PL10-4-000,132 FERC ¶ 61,216 (September 17, 2010)*

[10] This procedure is based on the *Internal Control – Integrated Framework (1992)* COSO model and subsequent *Guidance on Monitoring Internal Control Systems (2009),* which emphasizes the monitoring element of the 1992 model.

controls. The positive elements of the Entity Impact Evaluation may offset the potential high impact to the grid, qualifying the entity for less compliance monitoring.

In another example, a registered entity may have effective internal controls and an effective internal compliance program, non-impactful technical factual information, a good compliance history story and perform well in all its registered functions, except one. That entity may qualify for less compliance monitoring with some spot checking in the area with a need for improvement.

There are currently activities for the development of the Entity Impact Evaluation template underway — one is a broad-based working group under the CCC, and the second is a series of focus groups that will provide feedback to the CCC working group. The focus groups will provide input regarding performance metrics that would provide a fair and accurate representation of a specific function within one entity. These two efforts, along with input from the REs, will be combined into one draft and will be posted for industry comment in early summer 2012. It is a NERC goal to have the completed template posted on the NERC website for use by the end of 2012. The REs may begin using the Entity Impact Evaluation template in 2013; however it is anticipated that the Entity Impact Evaluation will be implemented slowly over the next few years.

### *Inclusion of Auditing Principles, Specifically Internal Controls, into Compliance Monitoring*

The inclusion of internal controls into compliance monitoring represents a paradigm shift from rearward-looking monitoring of compliance over the entire audit period to forward-looking monitoring of an entity's internal controls, which will determine the amount of due diligence required for an auditor to assess compliance – i.e., the amount of evidence that is necessary to review.

The amount of due diligence required will be based on whether the entity's internal controls are effective. In this context, being effective means that the registered entity's internal controls are finding any human drift in performance or any non-compliance at potential failure points in their compliance activities; the entity is fixing the drift or non-compliance; the entity is tracking the mitigation of the drift or non-compliance as well as any future occurrences; and if the entity determines there has been a PV, it is reporting the PV to the applicable RE. Under this method, the entity may assess and remediate issues using the FFT mechanism so lesser or minimal-risk issues do not detract from moderate and high-risk issues.

Where an entity has effective internal controls, a CEA will pull a reduced sampling from recent activity to verify that the entity's internal controls are working. If the sampling demonstrates that the entity's internal controls are working, the CEA will determine there is reasonable assurance of compliance. This provides a forward-looking approach to compliance monitoring, as effective internal controls is an indication of future compliance performance. If the sampling demonstrates that the entity's internal controls are not working, the CEA will be required to conduct more due diligence to determine if the entity has any non-compliance. In either case the CEA will sample recent activity and will not seek to

verify whether there has been any historical non-compliance over the entire audit period, unless there are specific concerns or reasons to do so. The results of this verification of the entity's internal controls will be used to update the Entity Impact Evaluation.

COM-002, specifically three-part communication, may be used as an example of internal controls. For this example, the compliance activity is the act of conducting the three-part communication. The internal controls for the entity consists of its supervisor pulling and reviewing 30 minutes of recorded tapes each week, plus listening to several live conversations per week. This allows the supervisor to identify any human drift away from compliance with reliability standards before a PV occurs.

Another entity separates their internal controls for this same standard into two categories: preventative controls and detective controls. Its preventive controls are comprised of processes, procedures, tools and signage, including its: Accident Prevention Manual; Annual Directive Training (Energy Control Center (ECC) Operators); Reliability Coordinator (RC) Directive Format (ECC Document); Guideline for Proper Communications (ECC Procedure); Safety Stand Down Presentations (Fossil Plants); Module in the "Conduct of Shift Operations & Maintenance Training" (Fossil Plants); Fossil Plant training "3-Way Communication Human Performance Tool"; and three-way communication signs in control rooms of fossil power plants. This entity's detective controls include random monitoring of calls by ECC Supervisors and supervisors on the floor in the ECC observations.

In summary, implementing auditing principles, including Internal Controls, offers many benefits:

- Internal controls are not enforceable, so provide an opportunity for entities to demonstrate forward-looking capabilities without being subject to compliance.
- Internal controls provide the maximum flexibility for entities to demonstrate their control over compliance activities.
- Internal controls provide an opportunity for entities to FFT any non-compliance or identify and correct human drift prior to having a PV.
- Provides an opportunity for additional auditor training to assess internal controls and emphasize as a means for greater reliability benefit.
- Provides less emphasis on auditors reviewing mountains of evidence.
- Provides greater emphasis on forward-looking compliance monitoring.

## The Enforcement Processing Risk Level

### *The FFT Violation Processing Methodology*

In 2011, the ERO began processing lesser- and minimal-risk violations through the FFT process. The process was designed to expedite processing for lesser or minimal risk PVs by making a rapid determination of the risk, verifying that the non-compliance had been mitigated, and then resolving the

issue without the need for extensive evidence and paperwork. The process has been met with great success and, with some stipulations, approval from FERC in the March 15, 2012 order. Front-end work to determine whether a PV qualifies for FFT treatment will diminish as the process matures, auditors are trained, and FFT determinations are made in the field.

### How Do We Get There?

It bears repeating that success for both the ERO and the industry ultimately will be based on a clear set of concepts that include an emphasis on reliability with less compliance bureaucracy; compliance programs designed to support reliability on a forward-looking basis with greater reliance on internal controls; an industry that monitors, FFTs issues; and refocused resources to allow industry and the ERO to address high-risk reliability issues. The Risk-Based Compliance Monitoring Initiative will manifest these concepts in:

- Registered entities that are empowered to be in control of monitoring their own compliance activities and that have successful compliance activities.
- ERO and industry resources being focused on reliability.
- The successful implementation of a risk-based approach to compliance monitoring.

Getting there will require a paradigm change in the ERO and industry's approach to compliance monitoring and enforcement. "Consistency" will take on a new meaning; rather than all registered entities being monitored for compliance in the same manner, consistency will mean that registered entities' impact to the bulk power system will be evaluated in the same manner. This evaluation will result in each registered entity having an appropriately scoped compliance monitoring program that has been customized with the frequency, methods, scope (number of standards) and depth (level of due diligence) of compliance monitoring adjusted in totality or in specific functional areas.

The ERO's path to this end goal involves several processes, as defined below.

#### *The Program Risk Level – the AML and RSAWs*

The AML will continue to exist in order to provide a basic framework of standards as a starting point for a REs determination for appropriately scoped compliance monitoring for a specific entity. RSAWs will evolve as they become aligned with the standards drafting teams' intentions and are communicated to FERC, or the appropriate regulatory body, during the standard's regulatory approval. This evolution will occur as the RSAWs are developed for new or changing standards, or as the RSAWs are revised for currently existing standards.

The AMLs will be created each year based on risk profiling, and the RSAWs will begin to be aligned with the standard drafting teams' intent for compliance monitoring.

### *The First Entity Risk Level – Entity Impact Evaluation*

Entities will have the ability to influence the amount of compliance monitoring that they will receive based on the factors considered in the Entity Impact Evaluation. In a successful implementation of the Risk-based Compliance Monitoring Initiative, entities would conduct their own Entity Impact Evaluation using the four criteria:

- The entity's internal controls, Internal Compliance Program and regional considerations;
- The entity's technical factual information (such as the number of transmission miles, etc);
- The entity's performance in each of its registered functions; and
- The entity's compliance history story.

Further, a registered entity will provide their self-conducted Entity Impact Evaluation with their RE and collaborate on the evaluation. In the vision of success, the majority, if not all entities will manage their Entity Impact Evaluation and will qualify for less compliance monitoring.

Thus, another step to a successful implementation of the Risk-Based Compliance Monitoring Initiative is for registered entities to conduct their own Entity Impact Evaluations, assume control of monitoring their compliance activities using internal controls and work with their RE.

### *The Second Entity Risk Level – Internal Controls in Compliance Monitoring*

The second level of risk assessment at the entity level occurs during the compliance monitoring, with the implementation of generally accepted auditing principles. Two aspects of internal controls, Internal Control Activities and Monitoring Internal Controls, are verified during compliance monitoring and will determine the level of due diligence a CEA will be required to perform to obtain reasonable assurance that there isn't any non-compliance, as discussed above. This verification of the entity's internal controls will be included in the next update of the Entity Impact Evaluation.

Thus, another step toward successful implementation of the Risk-Based Compliance Monitoring Initiative is for registered entities to create or identify internal controls that may be evaluated, but are not subject to compliance, during compliance monitoring activities. In the event that a registered entity does not have internal controls, traditional or status quo compliance monitoring will be conducted unless the CEA determines that increased due diligence is required.

### *The Enforcement Processing Risk Level – the Find, Fix and Track (FFT) Violation Processing Methodology*

As discussed above, this processing method has been met with great success and, with some stipulations, approval from FERC in the March 15, 2012 order. However, there are still advancements for efficiency that can and should be made to complete the successful implementation of risk-based compliance monitoring.

These advancements include:

- Identifying criteria for a lesser or minimal risk PV (FERC restricted FFT candidates to lesser or minimal-risk PVs for the foreseeable future);
- Train auditors to readily identify FFT violations in the field in order to gain efficiencies on the front end of the processing cycle;
- Provide auditors with the authority to determine whether a non-compliance or PV qualifies for FFT processing;
- Obtain consistency in application across RE enforcement and auditing staff;;
- Pursue regulatory approval for the REs to track the FFT PVs without submission to the applicable regulatory body; and
- Obtain regulatory approval for moderate-risk PVs to be considered in the FFT process.

### *Changes to the ROP*

While the ERO has the authority to implement the Risk-Based Compliance Monitoring Initiative under the current ROP, there are two sections that may require removal or modification to provide flexibility for establishing an appropriately scoped compliance monitoring program. The two sections in the Compliance Monitoring and Enforcement Program (CMEP) are:

- Section 3.1.4.2, Period Covered; and
- Section 11 Compliance Audits of BPS Owners, Operators, and Users.

Section 3.1.4.2 addresses the CEA requiring evidence of compliance over the entire audit period. It provides, in pertinent part:

- Section 3.1.4.2, Period Covered

  > "…However, if a Reliability Standard specifies a document retention period that does not cover the entire period described above, the registered entity will not be found in non-compliance solely on the basis of the lack of specific information that has rightfully not been retained based on the retention period specified in the Reliability Standard. However, in such cases, the Compliance Enforcement Authority will require the registered entity to demonstrate compliance through other means."

Section 11 addresses the minimum frequency of audits for Balancing Authorities (BA), RCs or Transmission Operators (TOP). It provides, in pertinent part:

- Section 11 Compliance Audits of BPS Owners, Operators and Users

  . . .

  11.1 For an entity registered as a Balancing Authority, RC, or TOP, the Compliance Audit will be performed at least once every three years.

Therefore, another step to the successful implementation of the Risk-Based Compliance Monitoring Initiative is for the ERO to modify the ROP CMEP to allow flexibility for establishing an appropriately scoped compliance monitoring program that is unique to each entity and to focus on current compliance activity.

Lastly, the ERO and industry must continuously evaluate if the program is achieving its goal to increase the focus on reliability and course correct as necessary.

**Summary**

This shift in the approach to compliance monitoring has two main purposes:

- To empower registered entities to be in control of monitoring their own compliance activities and to enable entities to have successful compliance activities.
- Focus ERO and industry resources on reliability.

The use of risk-based compliance monitoring with an emphasis on internal controls can provide a model for assessing compliance that:

- Is forward-looking:
  - Rather than gathering evidence for the entire audit period (backward-looking), evidence of recent activities will be used to verify effectiveness of internal controls (forward-looking).
- Appropriately scopes compliance monitoring for each entity:
  - Frequency of compliance monitoring.
  - Method of compliance monitoring.
  - Number of standards or requirements or both included in compliance monitoring.
  - Level of due diligence required during compliance monitoring activities.
- Removes issues surrounding data retention beyond what is required by the standard:
  - Although entities are encouraged to keep data, this approach removes compliance concerns for entities regarding data retention beyond what is required by the standard.

- Provides incentive for industry to take control of compliance monitoring and compliance activities as compliance monitoring is focused, as appropriate, on internal controls that are not subject to compliance:
  - Effective internal controls will detect human drift before non-compliance occurs, providing the entity an opportunity for course correction.
  - Shift from a number consideration or discussion such as whether zero tolerance is appropriate for each standard or requirement. This is not the correct consideration as the number of non-compliance actions frequently doesn't equate to risk.
  - In the event of a PV, the entity may, for lesser or minimal-risk violations, use the FFT (find, fix, and track) processing method after reporting the non-compliance to its registered entity.
- Will ensure compliance as a necessary component of reliability. The emphasis is for the entity to self-monitor and self-report any non-compliance; however, CEAs will be looking to verify that an entity's internal controls are effective. If an auditor discovers a non-compliance that wasn't self-reported, additional due diligence will be required to determine a reasonable assurance of compliance.
- Focuses on issues that provide potential for the greatest impact to the reliability of the BPS.
- Encourages focus on reliability and associated risks.

Not all registered entities are the same; each is unique in its strengths and weaknesses, and each represents different levels of potential impact to the BPS. Similarly, different acts of non-compliance (whether a PV or a Violation) represent different levels of risk to the reliability of the BPS. The ERO is challenged to evaluate the potential impacts to the reliability to the BPS with the same criteria, but address each according to the associated risk.

The Risk-Based Compliance Monitoring Initiative provides the framework for such customization and focus. Its successful implementation will enable entities to monitor their own compliance activities and be successful in those endeavors; it supports the more efficient FFT method of reporting lesser or minimal-risk violations and, in turn, will allow resources to address issues that create a higher risk to the reliability of the BPS.

# Compliance Enforcement Initiatives

## Action

Additional discussion.

## Summary

NERC continues to process violations through the streamlined Spreadsheet Notice of Penalty (SNOP) and the Find, Fix, Track and Report (FFT) informational filing. Since the initial Compliance Enforcement Initiative (CEI) filing on September 30, 2011, NERC will have made eight SNOP filings and eight FFT filings with the Federal Energy Regulatory Commission (FERC) through the end of April 2012. The Commission has issued orders of no further review on the SNOP and NOP filings submitted through the end of February.[1]

On March 15, FERC issued an order on the CEI filing. The Order provided:

- All six FFT filings, through February 2012, were accepted;
- Violations are final 60 days after submittal unless there is cause to open for review;
- Prospectively, violations must be of minimal risk to the bulk power system; this condition may be revisited after the one-year status report filing;
- Registered Entities must certify that violations are remediated;
- Registered Entities must be identified in filings, except for cases of critical infrastructure protection violations;
- FERC will conduct random surveys each year to gauge program performance; and
- NERC, Regional Entities and interested entities may propose mechanisms to identify and remove unnecessary or redundant requirements from Commission-approved reliability standards.

The March 15 Order requires NERC to make a compliance filing in addition to its six-month status report; both due on May 14, 2012. NERC's compliance filing will explain how NERC and the Regional Entities will evaluate a registered entity's compliance history when deciding if FFT treatment is warranted and will provide additional information on how NERC will continue to implement the FFT program. Extension of the ability to identify and process FFTs to compliance monitoring personnel will be a key part of the compliance filing and NERC's efforts over the next several months.

As part of its six-month status report to the Commission, NERC will describe the experience gained and the results from implementation of the CEI to date. Specifically, the six-month report will address and provide context for the CEI processing statistics, discuss the benefits obtained from the program from a broad perspective (NERC, Regional Entity and industry), and how NERC is addressing them. In preparation for this filing, NERC will be working with the Regional Entities to ensure their input is incorporated into the filing.

[1] Action on the March 30, 2012 filing is expected by April 30, 2012.

To date, the CEI has received significant support from the Regional Entities and the industry. NERC anticipates the FFT process will continue to enable better alignment with and substantially greater resources and attention to be devoted to matters that pose a more serious risk to the reliability of the bulk power system. NERC will be working collaboratively with the Regional Entity compliance and enforcement staffs as well as the industry throughout 2012 to continue to implement and improve the CEI.

Agenda Item 7a
MRC Meeting
May 8, 2012

# Status of Regional Standards Development Programs

## Action
Discussion

## Background
### Points of Agreement Among the Regions
*All Regions advocate continent-wide standards/solutions where possible*.
*No Region anticipates a large amount of new future work on regional standards.*

### When Are Regional Standards Appropriate?
Regional standards are appropriate to address reliability issues in two circumstances. First, regional standards may have more stringent requirements than those in a NERC Standard (including matters not addressed by a NERC Standard) and second regional standards may address a regional difference necessitated by a physical difference in the Bulk Power System (BPS). Below is the language from FERC Order 693:

> While uniformity is the goal with respect to Reliability Standards, we recognize that it may not be achievable overnight. Over time, we would expect that the regional differences will decline and uniform and best practices will develop. In Order No. 672, the Commission identified two instances where regional differences may be permitted, i.e., regional differences that are more stringent than continent-wide Reliability Standards (including those that address matters not addressed by a continent-wide Reliability Standard), and a regional difference necessitated by a physical difference in the Bulk Power System.

### Current Standards Activity
Regional standards, like NERC Standards are developed by stakeholders. To a certain extent, the standards activity for each Regional Entity is influenced by the regional stakeholders' interest in developing regional standards.

Florida Reliability Coordinating Council (FRCC), Reliability*First* (RFC), and Midwest Reliability Organization (MRO) have standards on hold or have suspended development, primarily to allow for NERC development of standards addressing the same reliability issue to be prepared. Once that happens, the need for a particular regional standard would be reassessed to determine the best course of action (i.e., continue regional standard development, develop a Regional Variance or terminate the project if the NERC Standard appropriately addresses the reliability risks)

SERC Reliability Corporation (SERC), Northeast Power Coordinating Council (NPCC), Southwest Power Pool, RE (SPP), Texas Reliability Entity (TRE), and Western Electricity Coordinating

Council (WECC) each have Standards under active development. As contained in the NERC 2012-2014 Reliability Standards Development Plan, the total number of regional standards is 13. Of the 13, 2 (SERC UFLS and NPCC UFLS) are already NERC approved and awaiting FERC action.

WECC also has a Regional Variance under development.

**Future Regional Standards Activity**
No future regional standards beyond those referenced above are currently proposed and no regional standards are anticipated being proposed by any Region, although WECC may seek to make minor revisions to one of its already FERC-approved regional standards.

All Regions believe their collective work with NERC should focus primarily on continent-wide standards, improving the existing standards and eliminating unneeded requirements of minimal reliability benefit. However, in some instances, regional standards are needed in addition to the continent-wide standards. These regional standards add specificity, further stringency and or augment the continent-wide standard's reliability requirements as well as enhancing reliability and facilitate compliance within the Region.

**Why are some Regions developing Regional Standards?**
Some Regions were concerned that there may be reliability gaps posed by the fill-in-the-blank standards that had to be addressed and determined the best way to address the risk was to put a regional solution in place until NERC developed a continent-wide standard. This was primarily driven by the concern that the many competing priorities NERC faces in its standards program may prevent development of necessary continent-wide standards in an acceptable time frame.

Some Regions developed regional standards in response to the fill-in-the-blank standards to improve, replace or supplement existing reliability criteria or address a lack of criteria. Other Regions were very comfortable that their existing reliability criteria adequately addressed concerns in the fill-in-the-blank standards.

Some Regions believe that it is beneficial at this time to drive higher levels of reliability initially on a "smaller" footprint. Until such time as NERC can address a methodology to consider costs as compared with the benefits of moving a more stringent reliability standard forward, it may be better for reliability to enable standards to be written to smaller portions of the system especially where critical load pockets exist. A strict adoption of a "one-size fits all" strategy may degrade reliability in some areas.

In some cases, a NERC continent-wide standard cannot be developed or the industry does not support development of a continent-wide reliability standard to address an identified reliability gap that exists in a given Region. The recourse in such circumstances is that a Region may be

forced to pursue a Regional Variance to a continent-wide reliability standard or initiate development of a regional reliability standard in order to address the reliability risk posed.

The nature of the BPS within a given Region—its load diversity and density, level of interconnectivity, size and location of critical load centers, and electrical characteristics—results in differing levels of risk to reliability and at times, a greater or lesser need for a regional standard.

**Why are some Regions not developing Regional Standards?**
Some Regions believe the primary focus of standards development, within the ERO enterprise, should be on continent-wide standards, improving the existing standards and eliminating requirements with little reliability benefit. These Regions are also concerned that the fill-in-the-blank standards, over time, could be institutionalized as regional differences potentially resulting in an additional layer of standards complexity. These Regions see the fill-in-the-blank standards as more of a compliance enforceability gap, rather than a reliability gap since Regions developed procedures to address these matters as the legacy "Regional Reliability Organizations". In addition, increased specificity in regional standards could be seen as crossing the line between the regulated and the regulator and potentially confusing the technical responsibility for reliability.

MRO staff respectfully submits supplemental thoughts to the Regions' collective response to the question: **"Why are some Regions not developing Regional Standards?"**

To begin with, MRO believes that more consistency in operating and planning the BPS is needed across North America and within the Eastern Interconnection. In this regard, Order No. 672 recognized the benefits of greater uniformity and consistency in the development of reliability standards while providing the flexibility for technical differences where necessary. Specifically, the Commission stated there "**that uniformity of reliability standards should be the goal and the practice, the rule rather than the exception.** Greater uniformity will encourage best practices, thereby enhancing reliability and benefiting consumers and the economy. Congress envisioned greater uniformity in adopting section 215 and a broad cross-section of the industry supports this goal." (Emphasis added.)

Furthermore, more uniformity, where possible, will help simplify operations and reduce compliance burdens, thus, lowering costs and, more importantly, improving reliability. This, of course, needs to be balanced with diversity of resources and technologies to ensure a robust, resilient and secure system.

As a separate matter, MRO is concerned that efforts to develop regional standards, which to date have focused in part on addressing fill-in-the-blank standards[1], will preempt or dilute

[1] As background, each Region, as the legacy Regional Reliability Organization (RRO), had procedures to address the fill-in-the-blank requirements. However, the Region could not enforce the standards under Section 215 because they pointed to the legacy RRO (which in turn pointed to "members" of the RRO.) Therefore, the fill-in-the-blank standards lacked *line of sight* enforceability to all owners, users, or operators of the bulk electric system. While some Regions began to develop regional standards in response to the fill-in-the-blank standards, each Region had existing reliability criteria to address the fill-in-the-blank standards, albeit only enforceable through voluntary means as "good utility practice".

resources on NERC's efforts to seek continent-wide solutions for those standards. Additionally, once regional standards (for the fill-in-the-blank standards) are in place under Section 215, they will be difficult to sunset and the opportunity to pursue the objective of more consistency will be diminished by institutionalizing regional differences. The unfortunate result will be an additional layer of standards and increased complexity for the Registered Entities to comply with those standards. While MRO does not object to the development of regional standards or variances, MRO believes the collective work of the Regions and NERC should focus primarily on continent-wide standards, *improving* the existing standards and *eliminating* unneeded requirements. Along these lines, as the Commission itself recently recognized in the FFTR order, we should be reviewing the application of the standards to see whether unnecessary or redundant requirements can be removed in order to improve the efficiency of compliance.

For all of these reasons, MRO has suspended its regional standards development in order to focus on improving the technical application of standards and focus its resources on continent-wide standards efforts. MRO further supports NERC's efforts to expedite the fill-in-the-blank standards into continent-wide standards, because the fill-in-the-blank standards should be replaced by continent-wide or interconnection-wide standards wherever possible.

If the MRC has questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

---

Commission Order 693-A acknowledges that an "enforceability" gap under Section 215 has resulted from these fill-in-the-blank standards, but, again, the industry and Regions have a long history of procedures in place to address these reliability matters (as "good utility practice" and enforceable via voluntary means). The Regional Entities have assumed the responsibility for maintaining the legacy fill-in-the-blank procedures until suitable standards are established under Section 215 in the United States. This is consistent with Commission Orders 693 and 693-A. as well as NERC directions.

Agenda Item 7b
MRC Meeting
May 8, 2012

# Status of Underfrequency Load Shedding (UFLS) Activities

## Action
Discussion

## Request
At the February 2012 NERC Board of Trustees (BOT) meeting, the trustees requested a summary of the status of the PRC-006 (UFLS) standard implementation in North America and, in particular, a discussion on the efforts of those Regions developing or pursuing regional UFLS standards, which support or augment the implementation of the continent-wide underfrequency load shedding PRC-006-1 standard.

## General Overview
The NERC Rules of Procedure Sections 311-312 give the Regional Entities the ability to, at their discretion, implement regional standards. The design of the PRC-006 Reliability Standard recognized the effectiveness of a number of pre-existing UFLS programs currently in place within the Regions. This is evidenced by the inclusion of variances for the Quebec Interconnection and the Western Electricity Coordinating Council (WECC) in the continent-wide standard. Other Regions have decided that developing a regional standard would provide the best approach to addressing regional UFLS programs, while others have decided to withhold standards development activity (in some cases pending FERC approval of the PRC-006-1 standard). SERC and Northeast Power Coordinating Council (NPCC) have taken the approach of developing a regional UFLS standard that is consistent with the NERC standard, but augments it with more specificity to their respective regions.

## North American Standard PRC-006-1
Reliability Standard PRC-006-1 establishes design and documentation requirements for automatic underfrequency load shedding programs to arrest declining frequency, assist recovery of frequency following under-frequency events and provide last resort system preservation measures. The standard contains BOT-approved Regional Variances for WECC and the Quebec Interconnection, which resides within the NPCC footprint. The Regional Variances preserve certain aspects of the UFLS programs within those regions. The standard improves reliability by establishing common performance characteristics that all UFLS programs must meet by assigning responsibility for the development and assessment of UFLS programs to the Planning Coordinator (PC).

In Order No. 693, FERC did not approve or remand the proposed reliability standard PRC-006-0, noting that it is a fill-in-the-blank standard requiring the then Regional Reliability Organizations (RRO) to develop the details of their UFLS programs. However, FERC directed NERC to

eliminate the use of the RRO as a responsible entity and transition these responsibilities to the Regional Entity or to one or more registered entities. The PRC-006-1 standard addresses this directive in an equally efficient and effective manner by assigning responsibility to the PC for establishing UFLS programs, consistent with the expectations for that function in the NERC Functional Model Version 5.

The drafting team also determined that in some areas, the Transmission Owners (TOs) are responsible for implementing UFLS, and their approach is consistent with the current standard. The team did not identify a meaningful way to incorporate criteria that reaches beyond Bulk Electric System (BES)-connected generators for purposes of modeling.

Because the PC, as explained in the NERC functional model, has a "wide area" view of the BES, the drafters of the PRC-006-1 Standard, with stakeholder concurrence, determined that the PC is the logical entity to replace the RRO in the NERC PRC-006-1 Standard. FERC has not yet issued an order on the PRC-006-1 standard. For Regions that only have a small number of PC's in their footprints, e.g., Reliability*First* Corporation (RFC) with two large PCs and Texas Reliability Entity (TRE) with one PC, an effort by the PCs to coordinate their UFLS programs are relatively easy to achieve. For Regions with many PCs in their footprint, the coordination of UFLS programs could possibly become difficult to achieve without direction from the Region. In those instances, the establishment of a regional standard may be appropriate.

A link to the North American standard project history and files is included here for reference: http://www.nerc.com/filez/standards/Underfrequency_Load_Shedding.html

### Florida Reliability Coordinating Council (FRCC)

The FRCC Regional Standard PRC-006-FRCC-1 FRCC Automatic Underfrequency Load Shedding Program was developed and has been approved by the FRCC Registered Ballot Body and the FRCC Board of Directors. Based on concerns identified by NERC standards staff and the pending Commission (FERC) approval of the NERC Continent-Wide Reliability Standard PRC-006-1 Automatic Underfrequency Load Shedding and associated regional variances, the regional project has been placed on "hold". FRCC has since revised regional criteria documents (FRCC Automatic Underfrequency Load Shedding Program, revision date: April 7, 2011) to ensure its procedures comply with the requirements of BOT adopted NERC Reliability Standard, PRC-006-1—Automatic Underfrequency Load Shedding. The FRCC System Protection and Controls Subcommittee (SPCS) and FRCC Standards Staff is currently comparing the NERC Board approved continent-wide standard and the FRCC Underfrequency Program to determine if further action is required in support of a Regional Reliability Standard or a regional variance to the continent-wide standard.

Project information may be found at:
https://www.frcc.com/Standards/Lists/Standard%20Announcements/DispForm.aspx?ID=52&Source=https%3A%2F%2Fwww%2Efrcc%2Ecom%2FStandards%2Fdefault%2Easpx

### Midwest Reliability Organization (MRO)

When the NERC PRC-006-1 standard is approved, MRO believes there will be no reliability gaps that need to be addressed in an MRO Regional UFLS standard and therefore does not intend to pursue one. MRO believes that because there are very few PCs in the region, no further guidance other than what is contained in the North American Standard is necessary to implement effective UFLS programs.

### Northeast Power Coordinating Council (NPCC)

UFLS requirements have been in place in NPCC for many years prior to implementation of NERC Reliability Standards. If approved by FERC, the NPCC regional UFLS standard will apply to portions of NPCC that are both synchronous and asynchronous to the Eastern Interconnection. Control areas that are asynchronous, e.g., Quebec, may develop UFLS parameters with a different technical basis, if required. Also, the Quebec Interconnection portion of NPCC has had an interconnection wide UFLS program consistent with the NPCC legacy UFLS program for many years. A variance to address the Quebec interconnection was integrated into the PRC-006-1 standard when it was developed and approved by the BOT in November 2010.

The PRC-006-NPCC Standard provides measures to automatically assure system preservation by implementing an automatic underfrequency load shedding program to respond to system underfrequency events. The Standard will also emphasize the need for coordination among the NPCC areas, including the Quebec Interconnection and those areas outside of the NPCC footprint, and provide direction for refinements of underfrequency systems already in place. In addition, the NPCC standard includes more specificity to such issues as compliance for small entities, compensatory load shedding for older generators that do not meet performance characteristics, and the clear identification of what entities must do in order to contribute to an effective UFLS program within the NPCC region.

The PRC-006-NPCC standard was approved by the NERC BOT in February 2012 and is being prepared for a second quarter filing with FERC.

Project information may be found at:
https://www.npcc.org/Standards/SitePages/DevStandardDetail.aspx?DevDocumentId=4

### Reliability*First* Corporation (RFC)

On February 23, 2012, the RFC Board of Directors suspended the current RFC UFLS standard drafting efforts indefinitely until the associated continent-wide PRC-006-1 standard is enforced and becomes effective. RFC staff will actively monitor the progress of the associated NERC standard efforts and promote them on a continent-wide basis. If RFC determines that reliability gaps arise or are identified within the RFC footprint, RFC will take appropriate action, i.e., request its board to reinstate such drafting efforts or submit a new Standards Authorization Request (SAR) to be moved through the standards process. To fill the gap in the time between when the NERC standard becomes enforceable and effective, RFC has legacy UFLS requirements which are enforceable based upon the current, FERC-approved PRC-007-0 Reliability Standard. When the NERC PRC-006-1 standard is approved by FERC and RFC determines that it addressed the reliability gaps, it is anticipated that the RFC legacy UFLS documents will be retired accordingly.

The RFC Board of Directors' decision to suspend the regional UFLS efforts was partially based on an independent RFC Staff assessment and recommendation. Based on the current NERC PRC-006-1 draft standard, RFC staff believes there are no reliability gaps. The NERC Project 2007-01-Under-frequency Load Shedding project focused on developing a NERC continent-wide UFLS Standard, which requires the PC to develop a UFLS program for their respected areas, with UFLS entities required to provide automatic tripping of load in accordance with the PCs' UFLS program design and schedule. This replaces the fill-in-the-blank requirement for the Regions to develop such UFLS program. With RFC having two large PCs spanning multiple Regions, RFC staff believes it is appropriate for the PCs to perform the analysis and develop such UFLS program for their respected areas.

Project information may be found at:
https://rsvp.rfirst.org/PRC006RFC01/default.aspx

### SERC Reliability Corporation (SERC)

The SERC UFLS Standard was approved by the BOT at its November 2011 meeting and filed with FERC in February 2012. The standard was developed to provide regional UFLS requirements to entities in SERC. UFLS requirements have been in place at a continent-wide level and within SERC for many years prior to implementation of federally mandated reliability compliance standards in 2007.

In 2008, SERC commenced work on PRC-006-SERC-01. NERC also began work on revising PRC-006-0 at a continent-wide level. The SERC standard was developed to be consistent with the NERC UFLS standard.

PRC-006-SERC-01 clearly defines the roles and responsibilities of parties to whom the standard applies. The standard identifies the PC as the entity responsible for developing UFLS schemes

within its PC area. The regional standard adds specificity not contained in the NERC standard for development and implementation of a UFLS scheme in the SERC Region. Specifically, R2 provides minimum requirements for set points, time delays and steps for underfrequency load shedding. Other requirements address implementation tolerances for both large and small (less than 100 MW) entities; and specify implementation timelines.

Project information may be found at:
http://serc.centraldesktop.com/standardhomepage/doc/10467819/w-RegionalUflsStandard

### Southwest Power Pool (SPP)

SPP is actively working on its seventh draft of the regional standard for its UFLS program. This standards development program intends to use the proven high performance characteristics of the existing SPP UFLS program and refine its requirements and coordination procedures through an open process as described in the SPP Standard Development Process Manual.

In January 2012, the SPP System Protection and Control Working Group (SPCWG), which served as the UFLS Standard Drafting Team (SDT), asked the Markets and Operations Policy Committee (MOPC) for an advisory vote on SPP UFLS Standard (PRC-006-SPP-1). The MOPC concurred with the standard with a 76.7percent roll call vote. Also in January, the SPP Members Committee endorsed the SDT's recommendation to concur with the standard. The Board of Directors did not endorse PRC-006-SPP-1.

The standard will be presented to the Regional Entity Trustees for action at their April 23, 2012 meeting. The Trustees can either 1) Recommend NERC approve the standard through the NERC process, 2) Remand PRC-006-SPP-1 to the SDT through MOPC with comments and instructions, or 3) Determine there is no need for the standard and terminate future activity.

Under the draft regional standard, UFLS program performance will be measured based on the entity's planning values and not the one-minute average of the entity's load prior to the first underfrequency relay action. This is a change from the currently used SPP Criteria.

Project information may be found at: http://www.spp.org/section.asp?pageID=101

### Texas Reliability Entity (TRE)

TRE does not intend to develop a regional UFLS standard at this time. In April of 2008 a SAR (SAR-002) was approved in TRE initiating the development of a regional UFLS standard (PRC-006-TRE-1). Based on the concurrent, continent-wide development of PRC-006-1, the TRE SDT decided to suspended active development work and to monitor the progress of the NERC UFLS Project. Upon completion of PRC-006-1, the SDT recommended terminating the regional UFLS project. On October 5, 2011, the TRE Regional Standards Committee approved the withdrawal of the SAR and disbanding the standard drafting team in view of the contents of the continent-wide UFLS standard. Note that there is only one Planning Coordinator in the ERCOT Interconnection, and there are ERCOT rules regarding UFLS that supplement the NERC standard.

Project information may be found at:
http://www.texasre.org/standards_rules/standardsdev/rsc/sar002/Pages/Default.aspx

## Western Electricity Coordinating Council (WECC)

WECC has a long standing UFLS program and has integrated its current UFLS program administration needs in the WECC region into the approved North American Standard as a regional variance.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 7c
MRC Meeting
May 8, 2012

# Status of Operating Communications Protocols

## Action
Discussion

## Discussion
Below is a report on the status of the plan related to the approval of the COM-002 interpretation by the board at its February 2012 meeting in Phoenix. The board requested an update on the activities related to COM-002 to be provided at its May 2012 meeting.

## Summary
During the discussion at the February 2012 meeting in which the board approved the COM-002 interpretation, the board recognized that better practices are needed for the communication of directed changes to the state of the Bulk Power System. With the interpretation of the COM-002 standard (which provides that the COM-002 standard only applies when a directive is issued to address a real-time emergency situation and not to routine instructions issued during normal operations) there now exists a reliability gap that must be addressed on an expedited basis.

The actions being taken in response to this need are as follows:

- Revision of the RSAW for COM-002;
- Development of a guidance document for operators, outlining best practices (should be issued by the time of the BOT meeting);
- Guidance to the regions for interim compliance decisions; and
- Expediting the development of the COM-003 standard.

The status of each of these efforts will be reported at the May 2012 meetings.

A link to the project history and files for COM-002 is included here for reference:
http://www.nerc.com/filez/standards/Project2009-22_RFI_COM-002-2_R2_IRC.html

If trustees have questions or need additional information, they may contact either Mike Moon, director of compliance operations, or Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 8
MRC Meeting
May 8, 2012

# 2012 State of Reliability Report

## Action
Information

## Background
The *2012 State of Reliability* report represents NERC's independent view of ongoing bulk power system reliability trends and objectively analyzes the state of reliability based on metrics information and provides an integrated view of reliability performance. The key findings and recommendations serve as technical input to NERC's Reliability Standards and project prioritization, compliance process improvement, event analysis, reliability assessment, and critical infrastructure protection. This analysis of bulk power system performance not only provides an industry reference for historical bulk power system reliability, it also offers analytical insights towards industry action, and enables the discovery and prioritization of specific actionable risk control steps.

The report is posted and available with the agenda materials for the NERC Board of Trustees meeting on May 9, 2012. [include link].

Agenda Item 9
MRC Meeting
May 8, 2012

# Recommendations from the 2011 Southwest Outage Inquiry

## Action
None

## Summary
The Federal Energy Regulatory Commission (FERC) and NERC are in the process of finalizing a report on the results of their joint inquiry of the September 8, 2011 Southwestern outage. This event was one of the more complex electrical events that have occurred in North America. It involved multiple entities, each with complicated communication, coordination, and institutional relationships with other entities, as well as the performance of hundreds of interconnected electrical components and systems.

The joint inquiry devoted substantial time and resources to determine and study the causes of the event and develop meaningful recommendations for the entire industry with the goal of preventing similar events in the future. The team's analysis was extensive, involving the review of high quality data from affected entities and simulations of the event using sophisticated computer models.

The joint inquiry included several teams. Drawing on the unique expertise of its members, and coordinating with the inquiry team as a whole, each team conducted a rigorous analysis of a key issue or issues involved in the event. Each team not only examined its own subject area to determine what may have contributed to the event, but considered lessons learned and potential recommendations for preventing such events in the future.

- *Sequence of Events* – developed a precise and accurate sequence of events (SOE) to provide a foundation for root cause analysis, computer model simulations, and other analytical aspects of the inquiry.
- *System Modeling and Simulation* – developed an accurate system modeling case, benchmarked the case to actual conditions at critical times, replicated system conditions leading up to and during the outage, and simulated alternate "what if" scenarios.
- *Root Cause and Human Performance Analysis* – engaged in a systematic evaluation of the root causes and contributing factors and identified areas requiring further inquiry.
- *Operations Tools, SCADA/EMS, Communications, and Operations Planning* – considered all aspects of the blackout related to operator and reliability coordinator knowledge of system conditions, actions or inactions, and communications, particularly the observability of the electric system and effectiveness of operational reliability assessment tools.

- *Frequency/ACE Analysis* – reviewed potential frequency anomalies related to the blackout, and analyzed underfrequency generator, load, and tie line tripping. *System Planning, Design, and Studies* – analyzed factors used in setting SOLs and actual limits in effect on the day of the blackout, determined whether those *limits were exceeded, and analyzed* the extent to which actual system conditions varied from the assumptions used in setting the SOLs.
- *Transmission and Generation Performance, Protection, Control, Maintenance, and Damage* – analyzed the causes of automatic facility operations and generator trips, analyzed transmission and generation facility maintenance practices, and identified equipment damage.
- *Restoration Review* – reviewed the appropriateness and effectiveness of the restoration plans implemented, as well as the effectiveness of the coordination of these plans among the impacted entities and WECC Reliability Coordinator (RC).

Described below in summary form are the primary steps the joint inquiry team took to complete its analysis.

**Data Gathering**

The inquiry team received and reviewed more than 20 gigabytes of data from approximately 500 data requests sent to entities in and around the affected areas.[1] On September 19, 2011, the inquiry team also began site visits with various entities involved in the outages, including entities with responsibility for balancing load and generation, transmission operation, and reliability coordination. During the site visits, the inquiry team toured control centers, conducted dozens of interviews and depositions, and viewed equipment involved in the event. These visits and depositions allowed the inquiry team to learn about control room operations and practices, entities' system status and conditions on the day of the event, entities' operating procedures, entities' planning, operations, and real-time tools, and entities' restoration planning and procedures. The inquiry team also conducted dozens of follow-up meetings and issued follow-up data requests.

Of particular use to the joint inquiry were phasor measurement unit (PMU) records. PMUs are complex, multi-functional, high resolution recording devices installed widely throughout the interconnections in North America. PMUs provide continuous records of system conditions, including frequency, voltage, and phase angle relations. The continuous nature of the data available through the PMUs, as well as their wide distribution throughout the power system, proved especially valuable to the joint inquiry team in forming an accurate picture of the state of the system at particular points in time.

[1] The joint inquiry is particularly grateful to CFE for its willingness to share data and information to assist the inquiry in developing the most accurate conclusions and recommendations.

**SOE Methodology**

More than 100 notable events occurred in less than 11 minutes on September 8, 2011. The joint inquiry's SOE team established a precise and accurate sequence of outage-related events to form a critical building block for the other parts of the inquiry. It provided, for example, a foundation for the root cause analysis, computer-based simulations, and other event analyses. Although entities time-stamp much of the data related to specific events, their time-stamping methodologies vary, and not all of the time-stamps were synchronized to the National Institute of Standards and Technology (NIST) standard clock in Boulder, CO. Validating the precise timing of specific events became a large, important, and sometimes difficult task. The availability of detailed time synchronized PMU data on frequency, voltage, and related angle made this task much easier than in previous inquiries.

To develop the SOE, the SOE team started by resolving discrepancies between the multiple sources of data, sign convention inconsistencies, and incorrect data. The SOE team then developed an events database starting with all known events and times. Initial sources for the development of the database included preliminary reports filed by the impacted entities as well as initial responses to data requests. The team then examined each record in the database to verify event times using available Supervisory Control and Data Acquisition (SCADA) and PMU data. As the frequency, line flow, or voltage data suggested that additional events might have occurred on the system, the team added other possible events and verified them through additional data requests.

The SOE team developed multiple iterations of an SOE narrative document based on the database and the available SCADA and PMU data. Some iterations of the SOE narrative required that more data be requested of impacted entities, and ultimately multiple data requests were sent to each entity. After the team completed the SOE narrative, the joint inquiry's Modeling and Simulation team verified the SOE. The SOE narrative is included in this report at Section III.

**Power Flow and Dynamics Analysis**

The joint inquiry's Modeling and Simulation team conducted power flow and dynamic stability analyses to simulate the event, validate the SOE, and consider "what if" scenarios. Power flow analyses study power systems under quasi-steady-state conditions by matching load and generation to obtain voltage magnitude and angle at each bus and the real and reactive power flowing through each transmission facility. Dynamic stability analyses study the impact of disturbances on frequency, voltage, and rotor angle stability, and determine whether transients in the power system are stable, thus allowing the power system to return to a quasi-steady-state operating condition following a disturbance.[2]

As the first step in performing power flow and dynamic stability analyses, the Modeling and Simulation team developed and benchmarked a modeling case of system conditions prior to the event. The inquiry team started with the Summer base case and made adjustments based on State Estimator snapshots, EMS data, actual generation and schedules, PMU data, and a base case prepared by a separate team that studied the event. The Modeling and Simulation

[2] Transient stability refers to the ability of synchronous generators to move to a new steady-state operating point while remaining in synchronism after subjecting the system to a disturbance.

team also used SCADA and PMU data to further adjust and benchmark the base case to match the system conditions for the entire event. The team devoted considerable time and efforts to resolving discrepancies between the various sources of data to best calibrate the modeling case to actual measured data.

After developing and benchmarking a valid case, the Modeling and Simulation team simulated the entire SOE using both power flow and dynamic simulations. This replication of the SOE established the validity of the model and enabled meaningful simulation of several alternative scenarios, developed to answer "what if" questions regarding the event. For example, the inquiry team considered what would have happened if some of the impacted entities had dispatched generation at certain locations during the event.

**Outreach Sessions**

After developing a list of preliminary findings and recommendations, joint inquiry team members conducted outreach meetings with various industry associations and groups, including CAISO, WECC, the American Public Power Association (APPA), the North American Transmission Forum (NATF), the Edison Electric Institute (EEI), and the National Rural Electric Cooperative Association (NRECA). Team members shared the joint inquiry's preliminary findings and recommendations on a non-public basis with members of these organizations in order to obtain feedback and, with respect to the recommendations, input as to their practicality and feasibility. The inquiry considered the feedback and input provided by these organizations and, in a number of instances, such feedback and input is reflected in the findings and recommendations included in this report.

**Final Report**

The final report is expected to be released prior to the MRC meeting. Dave Nevius, NERC senior vice president, who is representing NERC on the FERC/NERC joint inquiry, and Heather Polzin, FERC Office of Enforcement, who is representing FERC, will present and discuss with the MRC the report's principal findings and recommendations.

Agenda Item 10
MRC Meeting
May 8, 2012

# Culture of Reliability Excellence

## Action
Presentation

## Background
The Member Representatives Committee is continuing with its series of presentations on the "Culture of Reliability Excellence."

Tom Bowe, Executive Director, Reliability and Compliance, PJM Interconnection, will present on this topic.

Agenda Item 11
MRC Meeting
May 8, 2012

# Regulatory Update
# (As of April 17, 2012)

## Action
Informational

## Regulatory Matters in Canada

1. Negotiation of the second agreement among NERC, the Régie and Northeast Power Coordinating Council (NPCC) regarding implementation of mandatory standards in Québec has been tentatively concluded and the agreement is under consideration by the provincial government. The Régie has issued a preliminary decision regarding adoption of mandatory standards for Québec.
2. Adoption of NERC Reliability Standards ongoing in Alberta.
3. Implementing regulations have been adopted in Manitoba.
4. Implementing regulations being developed in British Columbia.
5. Quarterly filings to request approval of FERC approved Reliability Standards in Nova Scotia.

## FERC Orders Issued Since the Last Update

1. January 27, 2012 – FERC issued an Order stating that it would not further review, on its own motion, the following Notices of Penalty in Docket Nos. *NP12-6-000* Jersey Central Power & Light Company; *NP12-7-000* West Penn Power Company, Monongahela Power Company, and The Potomac Edison Company, formerly d/b/a Allegheny Power; *NP12-8-000* Sacramento Municipal Utility District; *NP12-9-000* Unidentified Registered Entity and *NP12-10-000* Spreadsheet Notice of Penalty.
2. January 31, 2012 - FERC issued an Order Approving Amendments to the Rules of Procedure. On November 29, 2011, NERC proposed revisions to Sections 100 through 1600 of the Rules of Procedure and Appendices 3A, 3B, 3C, 3D, 4A, 4B, 4C, 4D, 4E, 5A, 5B, 6 and 8 and a new Appendix 2. The proposed revisions included: (1) placing all definitions of defined terms used anywhere in the Rules of Procedure in a single, readily-accessible location within Appendix 2; (2) capitalizing defined terms throughout the Rules of Procedure where such terms are used within their defined meanings; and (3) lowercasing currently undefined capitalized terms in the Rules of Procedure. *Docket No. RR12-3-000*
3. February 3, 2012 – FERC issued a Final Rule in which it approves an interpretation to Requirement R1 of Commission-approved Reliability Standard PRC-005-1. FERC also directs NERC to develop modifications to the PRC-005-1 Reliability Standard through its Reliability Standards development process to address gaps in the Protection System maintenance and testing standard that were highlighted by the proposed interpretation. Docket No. RM10-5-000; Order No. 758

4. February 3, 2012 – FERC issued a letter order in which it approves NERC proposed modification to the definition of Protection System in the NERC Glossary of Terms Used in NERC Reliability Standards. Docket No. RD11-13-000
5. February 15, 2012 – FERC granted NERC a two-year extension of time to and including September 30, 2014 to complete the project pursuant to the Commission's Order No. 742 to consider whether personnel that support EMS applications should be included in mandatory training. Docket No. RM09-25-000
6. February 15, 2012 – FERC granted NERC a one-year extension of time to and including September 30, 2013 to complete the a new generator relay loadability standard, pursuant to the Commission's Order No. 733. Docket No. RM08-13-001
7. February 15, 2012 – On February 3, 2012, FERC Commissioner Philip Moeller requested comments on a set of questions and other text concerning gas-electric interdependence. For purposes of administrative convenience and facilitating public access to any submissions filed in response, FERC issues a notice assigning a docket number to this request and revises the process for filing submissions in response to this request. Docket No. AD12-12-000
8. February 23, 2012 – FERC issues a notice providing for reply comments regarding the Availability of E-Tag Information to Commission Staff. Docket No. RM11-12-000
9. March 1, 2012 – FERC issued an Order stating that it would not further review, on its own motion, the following Notices of Penalty in Docket Nos. NP12-11-000 Unidentified Registered Entity; NP12-12-000 Spreadsheet Notice of Penalty; and NP12-13-000 American Transmission Co. LLC.
10. March 1, 2012 – FERC issued a Letter Order approving NERC's November 7, 2011 Compliance Filing to restore Section 402.1.3.2 of the NERC Rules of Procedure. Docket No. RR10-11-004
11. March 15, 2012 – FERC issued an order in which it approves Reliability Standard PRC-023-2 (Transmission Relay Loadability) and also approves NERC Rules of Procedure Section 1700 – Challenges to Determinations, which provides registered entities a means to challenge determinations made by planning coordinators under Reliability Standard PRC-023. Docket No. RM11-16-000; Order No. 759
12. March 15, 2012 - FERC issued an Order Accepting with Conditions Petition Requesting Approval of New Enforcement Mechanisms and Requiring Compliance Filing. The Order approves the FFT filings and requires to submit a compliance filing within 60 days of the order and to submit two informational filings. Docket Nos. RC11-6-000, RC12-1-000, RC12-2-000, RC12-6-000, RC12-7-000 and RC12-8-000
13. March 30, 2012 – FERC issued an Order stating that it would not further review, on its own motion, the following Notices of Penalty in Docket Nos. NP12-14-000 Commonwealth Chesapeake Company, LLC; NP12-15-000 KCPL – Greater Missouri

Operations; NP12-16-000 Unidentified Registered Entity; NP12-17-000 Unidentified Registered Entity and NP12-18-000 Spreadsheet NOP.

## NERC Filings Since the Last Update

1. January 23, 2012 – Supplemental informational filing regarding the December 30, 2011 Sacramento Municipal Utility District Notice of Penalty filing. *Docket No. NP12-8-000*
2. January 25, 2012 – Petition for Approval of a Revised Definition of "Bulk Electric System" in the NERC Glossary of Terms Used in Reliability Standards. *Docket No. RM12-6-000*
3. January 25, 2012 – Petition for Approval of revisions to NERC's Rules of Procedure ("ROP") for the purpose of adopting a procedure for requesting and receiving exceptions from the NERC definition of Bulk Electric System ("BES Exception Procedure"), as directed by the Commission in Order No. 743.2. *Docket No. RM12-7-000*
4. January 31, 2012 – Notices of Penalty regarding the following entities in *Docket Nos. NP12-11-000* Unidentified Registered Entity; *NP12-12-000* Spreadsheet Notice of Penalty; and *NP12-13-000* American Transmission Co. LLC.
5. January 31, 2012 – January Find, Fix and Track report filing. *Docket No. RC12-7-000*
6. January 31, 2012 – Informational report on the analysis of NERC Standards Process Results for the Fourth Quarter 2011 in compliance with an order issued by FERC on January 18, 2007 and a subsequent order on September 16, 2010. *Docket Nos. RR06-1-000 and RR09-7-000*
7. February 1, 2012 – Petition for Approval of proposed Regional Reliability Standard, PRC-006-SERC-01 – Automatic Underfrequency Load Shedding Requirements. This standard provides regional underfrequency load shedding ("UFLS") requirements for registered entities in the SERC Region. *Docket No. RD12-2-000*
8. February 1, 2012 – Petition for Approval of Regional Reliability Standard IRO-006-TRE-1 IROL and SOL Mitigation in the ERCOT Interconnection. This standard was developed to provide and execute transmission loading relief procedures that can be used to avoid and mitigate System Operating Limits ("SOL") or Interconnection Reliability Operating Limits ("IROL") exceedences for the purpose of maintaining the reliable operation of the bulk electric system in the ERCOT region. *Docket No. RD12-1-000*
9. February 22, 2012 – Petition for Approval of proposed amendments to NERC's Delegation Agreement with the Florida Reliability Coordinating Council (FRCC) including approval of amendments to FRCC's Bylaws (included in Exhibit B to the Delegation Agreement) as a "Regional Entity Rule." *Docket No. RR12-4-000*
10. February 27, 2012 –Notice of Proposed Rulemaking Comments in response to FERC's December 16, 2011 NOPR regarding the Filing of Privileged Materials and Answers to Motions. *Docket No. RM12-2-000*

11. February 29, 2012 – Comments on behalf of itself and the eight Regional Entities on the Staff White Paper on the Commission's Role Regarding Environmental Protection Agency's Mercury and Air Toxics Standards ("MATS"). *Docket No. AD12-1-000*
12. February 29, 2012 – Quarterly informational filing regarding the timeframe to restore power to the auxiliary power systems of U.S. nuclear power plants following a blackout as determined during simulations and drills of system restoration plans. This filing contains the referenced material pertaining to the Fourth Quarter 2011. *Docket No. RM06-16-000*
13. February 29, 2012 – Notices of Penalty regarding the following entities in *Docket Nos. NP12-14-000* Commonwealth Chesapeake Company; *NP12-15-000* KCPL – Greater Missouri Operations; *NP12-16-000* Unidentified Registered Entity; *NP12-17-000* Unidentified Registered Entity; and *NP12-18-000* Spreadsheet Notice of Penalty.
14. February 29, 2012 – February Find, Fix and Track report filing. *Docket No. RC12-8-000*
15. March 15, 2012 – Petition for Approval of Amendments to SERC Reliability Corporation's Delegation Agreement, specifically to the SERC's Bylaws and Regional Standards Development Procedure. *Docket No. RR12-5-000*
16. March 15, 2012 – Informational Filing in response to Order No. 754 that includes a report on the reliability issues concerning system protection associated with the Commission-approved interpretation of Requirement R1.3.10 of Reliability Standard TPL-002-0. *Docket No. RM10-6-000*
17. March 16, 2012 – Errata filing changing the term "Cascading Outages" in the FERC-approved NERC Glossary of Terms definition of Interconnection Reliability Operating Limit (IROL) to "Cascading outages." *Docket No. RM06-16-000*
18. March 23, 2012 –Comments in response to the Notice of Proposed Rulemaking on Standards for Business Practices for Interstate Natural Gas Pipelines and in support of the modified Wholesale Gas Quandrant's ("WGQ") Standard 0.3.14, which changes the parties to whom pipelines are required to provide notification of operational flow orders and other critical notices. *Docket No. RM96-1-037*
19. March 30, 2012 – Motion for an Extension of Time to comply with directives from Order No. 693 with respect to BAL-003 (Resource and Demand Balancing Reliability Standard on Frequency Response and Frequency Bias). *Docket No. RM06-16-000*
20. March 30, 2012 – Comments in response to FERC's Notice Assigning Docket No. and Requesting Comments on the Coordination Between Natural Gas and Electricity Markets and FERC Commissioner Philip Moeller's request for comments on a set of questions concerning gas-electric interdependence. *Docket No. AD12-12-000*
21. March 30, 2012 – Second Annual Standards Report, Status, and Timetable for Addressing Regulatory Directives summarizing the progress made and plans for addressing the standards-related directives. *Docket Nos. RR12-6-000* and *RR09-6-003*

22. March 30, 2012 – Notices of Penalty regarding the following entities in *Docket Nos. NP12-19-000* American Electric Power Service Corp. as agent for Public Svc. Co. of Oklahoma & SW Electric Power Co.; *NP12-20-000* Unidentified Registered Entity; *NP12-21-000* Sunflower Electric Power Corporation; and *NP12-22-000* Spreadsheet Notice of Penalty.
23. March 30, 2012 – March Find, Fix and Track report filing. *Docket No. RC12-10-000*
24. April 12, 2012 – Informational Filing in Response to FERC Order No. 758. NERC submitted a schedule regarding the development of certain technical documents including the identification of devices that are designed to sense or take action against any abnormal system condition that will affect reliable operation and a schedule for the development of the changes to the standard that NERC stated it would propose as a result of the above-referenced documents. *Docket No. RM10-5-000*
25. April 16, 2012 – Limited Request for Clarification, or in the alternative Rehearing of the March 15, 2012 Order issued by FERC regarding the Find, Fix, and Track report filings. *Docket No. RC11-6-001*

## Anticipated NERC Filings

1. April 30, 2012 – NERC must submit quarterly reports within 30 days of the end of each quarterly period, beginning with the fourth quarter of 2010, through and including the fourth quarter of 2013, on voting results in the Reliability Standards Development Process (*see* P 85 of the September 16, 2010 Order on the Three-Year Performance Assessment) *Docket Nos. RR09-7-000 and AD10-14-000*
2. May 2012 – NERC must submit a revised BAL-003 Standard (*See* October 25, 2010 NERC Filing). *Docket No. RM06-16-011*
3. May 1, 2012 – Comments due in response to Non-RTO/ISO Performance Metrics – Commission Staff Request Comments on Performance Metrics for Regions Outside of RTOs and ISOs. *Docket No. AD12-8-000*
4. May 14, 2012 – Compliance Filing in response to the FFT Order that was issued on March 15, 2012. *Docket Nos. RC11-6-000, et al.*
5. May 14, 2012 – Six Month report to FERC on the Compliance Enforcement Initiative Experience
6. May 16, 2012 – Reply Comments due in response to May 1, 2012 Comments that were submitted in response to the Non-RTO/ISO Performance Metrics – Commission Staff Request Comments on Performance Metrics for Regions Outside of RTOs and ISOs. *Docket No. AD12-8-000*
7. May 22, 2012 –NERC and WECC will submit a revised Standard that includes the Violation Severity Levels associated with each requirement of the revised BAL-004-WECC-1 Standard (*See* May 21, 2009 Order) (*See* November 22, 2010 NERC submittal). *Docket No. RM08-12-000*

8. May 31, 2012 – NERC's true-up filing for the business plans and budgets.
9. May 31, 2012 – Quarterly NUC filing in response to Paragraph 629 of Order No. 693. *Docket No. RM06-16-000.*
10. July 30, 2012 – Compliance Filing in response to P 27 of Order No. 758, a status report on PRC-005-2 including project schedule for addressing reclosing relays in PRC-005-3. . *Docket No. RM10-5-000*
11. July 31, 2012 – NERC must submit quarterly reports within 30 days of the end of each quarterly period, beginning with the fourth quarter of 2010, through and including the fourth quarter of 2013, on voting results in the Reliability Standards Development Process (*see* P 85 of the September 16, 2010 Order on the Three-Year Performance Assessment) *Docket Nos. RR09-7-000 and AD10-14-000*
12. August 23, 2012 – NERC must address Order No. 693 Directives to consider if Energy Management System application support personnel should be included in training Reliability Standard. *Docket No. RM09-25-000*
13. August 31, 2012 – Quarterly NUC filing in response to Paragraph 629 of Order No. 693. *Docket No. RM06-16-000.*
14. September 15, 2012 – Six Month Report in response to the FFT Order that was issued on March 15, 2012. *Docket Nos. RC11-6-000, et al.*
15. October 1, 2012 – One Year report to FERC on the Compliance Enforcement Initiative Experience
16. October 31, 2012 – NERC must submit quarterly reports within 30 days of the end of each quarterly period, beginning with the fourth quarter of 2010, through and including the fourth quarter of 2013, on voting results in the Reliability Standards Development Process (*see* P 85 of the September 16, 2010 Order on the Three-Year Performance Assessment) *Docket Nos. RR09-7-000 and AD10-14-000*
17. November 30, 2012 – Quarterly NUC filing in response to Paragraph 629 of Order No. 693. *Docket No. RM06-16-000.*

Agenda Item 12
MRC Meeting
May 8, 2012

# Recommendations of the Standards Process Input Group

## Action

Discuss and provide input on the SPIG's recommendations.

## Background

In February 2012, the MRC was asked to commence a working group to provide policy input and recommendations for specific improvements to the existing NERC reliability standards development process. The Standards Process Input Group (SPIG) commenced in March and sought industry input and feedback on a variety of issues which included:

- Quality of standards, to include process and product
- Timeliness
- Efficiency and effectiveness
- Importance and significance of meeting ANSI requirements

The SPIG gathered valuable input and insight on a number of significant issues related to standards development and compiled a report consisting of five recommendations. The MRC followed by the Standards Oversight and Technology Committee (SOTC) plan to discuss, May 8, these recommendations at their respective meetings to determine:

- Which have merit and which need additional refinement;
- If concerns relative to production, efficiency and quality, raised by stakeholders and regulators, have been addressed;
- Whether additional changes to the governance of the standards development process are needed to supplement the SPIG's report; and
- What oversight the SOTC and Board of Trustees will want to see over how implementation issues are analyzed and ultimately proposed for endorsement, acceptance, or approval.

Once the SPIG has received the MRC's and SOTC's input it will finalize a proposal for the implementation of the recommendations before providing a package to the Board of Trustees for their endorsement and action at a later date. In some cases, changes to the Rules of Procedure may be required for final implementation, which will take additional time to develop and gain approval.

Attachment 2

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Recommendations To Improve the NERC Standards Development Process

## Member Representatives Committee (MRC)
## Standards Process Input Group (SPIG)

Draft — April 2012

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Preface

## Formation of the Standards Process Input Group

At its February 9, 2012 meeting, the NERC Board of Trustees (BOT) requested the assistance of the NERC Member Representatives Committee (MRC) to provide policy input, and a proposed framework, for specific improvements needed to the standards development process. The MRC Chair and Vice Chair invited several members of the MRC, two NERC Board of Trustees members, the NERC CEO, and the Standards Committee (SC) Chair to join with them as participants in the Standards Process Input Group (SPIG) in developing recommendations to improve the standards development process in the following areas:

- Clarity on the reliability objectives, technical parameters, scope, and the relative priority of the standards project.
- The drafting process (developing the specific technical content of the standard).
- Standards project management and workflow.
- Formal balloting and commenting.

To help ensure that the SPIG focused its efforts on the best areas for improvement, they began their process by gathering input from subject matter experts (SMEs), including the regions, MRC, Standard Drafting Team leaders, NERC staff, and other stakeholders by asking the following:

- What are the issues that are keeping the process from improving the reliability benefits of the standards?
- What are the impediments to improving the efficiency of completing a new standard or standard revision?
- Are stakeholder resources being used efficiently? If not, then why?

### SPIG Timeline for Input

- Trades input was provided to NERC BOT in January 2012
- Outreach Survey comments received from 105 stakeholders in late February
- SPIG conference call with FERC staff and initial SPIG planning meeting conducted in early March
- SPIG provides preliminary report to MRC for input in early April
- Input from MRC received by April 13
- Additional SPIG planning meeting to consider MRC input conducted April 19-20
- Report revised, finalized, and posted with MRC agenda on April 25
- MRC discussion at MRC meeting on May 8
- Final report to NERC BOT in late May

# Table of Contents

Preface ..... i

Executive Summary ..... 1

Introduction ..... 3

Recommendations from the SPIG ..... 5

Recommendation 1: American National Standards Institute ..... 5

Recommendation 2: Reliability Issues Steering Committee (RISC) ..... 6

Recommendation 3: Interface with Regulatory and Governmental Authorities ..... 10

Recommendation 4: Standards Product ..... 12

Recommendation 5: Standards Development Process and Resources ..... 14

# Executive Summary

The Standards Process Input Group (SPIG) organized by the NERC Member Representatives Committee (MRC) is proposing in this report a number of changes to the way NERC develops Reliability Standards and other solutions intended to improve the priority, product and process of standards development. Inherent in these proposed changes is an effort to better understand, articulate and incorporate, into the standards development process, the appropriate accountabilities for standards development.

For example, Section 215 of the Federal Power Act creates accountability for the Federal Energy Regulatory Commission (FERC), first to certify an Electric Reliability Organization (ERO) for the purpose of establishing and enforcing reliability standards for the bulk power system, and then to approve the standards developed by the ERO. As such, FERC is accountable to the U.S. Congress, which passed the law that created Section 215.

Section 215 also creates accountability for NERC by requiring that the ERO, certified by FERC, have a demonstrated ability to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system. This accountability extends to the NERC management to see that high quality standards are developed in an efficient and effective way and to the NERC Board of Trustees (Board) that must approve those standards before they are filed with governmental regulatory authorities in the U.S. and Canada.

Finally, the stakeholders, whose technical expertise is essential to the development of the standards, have a shared accountability with NERC and with each other to see that the right standards are developed in a fair, open, balanced and inclusive way.

One of the principal recommendations of the SPIG, is the creation of a Reliability Issues Steering Committee (RISC) that is intended to address these issues of accountability by ensuring that NERC develops the right standards, in the right way, and in a timely and efficient manner. To accomplish this, the RISC will conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

In addition to recommending the creation of the RISC, the SPIG also recommends that Reliability Standards Audit Worksheets (RSAWs) be developed concurrent with their associated standards and posted along with those standards for comment. The purpose here is to make sure that the RSAWs are aligned with the intent and wording of the standards to reduce the need for Interpretations and Compliance Application Notices.

Lastly, the SPIG is recommending a redesign of the composition and process used by Standards Drafting Teams to make more efficient and effective use of the subject matter expertise resident in the industry, and to provide those experts with additional support resources in terms of project management and facilitation, legal expertise, and technical writing support.

The recommendations also aim to strengthen consensus building, first on the need for a standard and then on the requirements themselves.

Collectively, these recommendations suggest a major revision of how decisions to develop standards are determined in the first place and, once the decision is made that a new or revised standard is needed, to see that it is developed in the most efficient, effective, and timely way, taking into account throughout the process the costs, benefits and justification for all standards.

# Introduction

*Priority, product and process* are the three main focus areas addressed by the recommendations of the SPIG regarding their review and analysis of the NERC standards development process.

The SPIG provides five recommendations designed for action and for discussion. The analysis of feedback received throughout this project indicates that more discussion should occur around the variety of the changes, improvements, and implementation being proposed in these recommendations, as listed below and described in more detail in this report.

**Recommendation 1: American National Standards Institute** — NERC should continue to meet the minimum requirements of the American National Standards Institute (ANSI) process to preserve ANSI accreditation.

**Recommendation 2: Reliability Issues Steering Committee** — The NERC Board is encouraged to form a Reliability Issues Steering Committee (RSIC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

**Recommendation 3: Interface with Regulatory and Governmental Authorities** — The NERC Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.

**Recommendation 4: Standards Product Issues** — The NERC board is encouraged to require that the standards development process address:

- The use of results–based standards (RBS);
- Cost effectiveness of standards and standards development;
- Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and
- The retirement of standards no longer needed to meet an adequate level of reliability.

**Recommendation 5: Standards Development Process and Resource Issues** — The NERC Board is encouraged to require the standards development process to be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:

- Formal and consistent project management; and
- Efficient formation and composition of Standard Drafting Teams (SDTs).

These recommendations were derived from a synthesis of stakeholder responses categorized into the following three concentrated areas:

*I. ANSI: Accreditation*

- Preserve ANSI accreditation in order to ensure openness, transparency, consensus building, balance of interests and due process
- Ensure checks and balances of the ANSI process
- Limit application of requirements that can hinder progress
- Limit negative ballots without comment
- Consider other options if ANSI prevents efficiency gains

*II. PRODUCT: Quality of Standards*

- Consider the cost effectiveness (limited value justification)
- Improve clarity in terms of the reliability objective and benefit
- Ensure auditability
- Improve supporting documentation or administrative records
- Improve registered entity and auditor understanding
- Involve industry, NERC and FERC in the quality review earlier in the standards development process
- Seek clarity and technical justification upfront
- Be sensitive not to gear towards compliance risk rather than reliability risk

*III. PROCESS: Efficiency, Timeliness and Effectiveness*

- Address the SDT composition (need expertise in legal, technical writing, compliance, etc.)
- Improve timeliness and effectiveness in terms of commenting/balloting (need to consider the manual effort and timing associated with posting, grouping and responding)
- Manage the number of standards coming through the process at the same time (to ensure the right number can be processed efficiently)
- Seek convergence on consensus (to avoid taking too long to achieve)
- Improve efficiencies (to avoid taking too long)
- Implement a project manager and facilitator (need within the SDT and the back office of NERC)
- Improve communications and coordination between industry, NERC and FERC staff; especially in terms of the compliance/enforcement process

# Recommendations from the SPIG

## Recommendation 1: American National Standards Institute

### Issue

Should NERC continue using the American National Standards Institute (ANSI) process for developing standards?

### Recommendation

***NERC should continue to meet the minimum requirements of the ANSI process to preserve ANSI accreditation.***

### Background

The SPIG's initial survey of the industry asked "How important are ANSI accreditation and ANSI principles (openness, transparency, consensus-building, fair balance of interests, and due process) to the NERC standards development process?" The majority of responses agreed that NERC standards development process should continue to at least meet the minimum ANSI requirements (Figure 1).

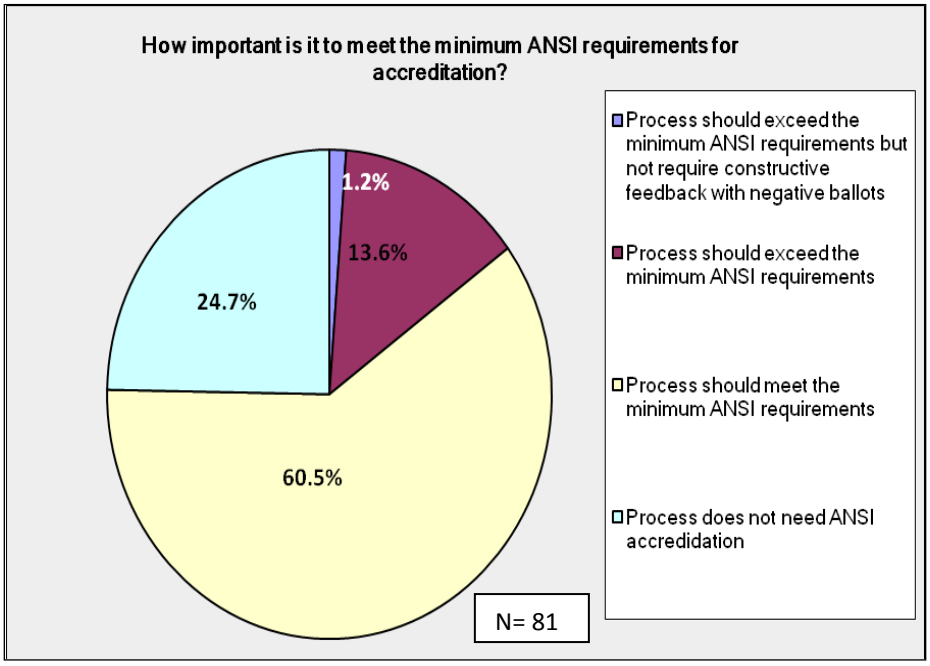



Figure 1: Results from SPIG survey of the Industry, April 2012

According to ANSI, accreditation signifies the standards developer is committed to an open, fair and time-tested consensus process that benefits stakeholders. Developers are accredited to the requirements contained in the *ANSI Essential Requirements: Due Process Requirements for American National Standards*. NERC staff confirms that the current standards process meets and in some cases exceeds the ANSI Essential Requirements.

## Recommendation 2: Reliability Issues Steering Committee (RISC)

### Issue

How should NERC determine:

- What actions are needed to address identified risks to reliability?
- Whether the development of a standard is necessary and its cost/benefit to reliability is justified?
- What should be the priority and timeline for standards development?

### Recommendation

***The Board is encouraged to form a Reliability Issues Steering Committee (RISC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.***

**Proposed Details**

The RISC would:

- Be comprised of stakeholders including, but not limited to:
  - Chairs and vice chairs of the technical committees;
  - Select MRC members and other stakeholders;
  - Chair, approved by the Board; and
  - NERC Senior Staff member.
- Utilize a broad range of industry and other expertise.
- Analyze performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
- Advise the Board on key initiatives and priorities; recommends standards projects or alternatives (Figure 2).
- Report directly to Board (and not the MRC).
- Require Board review and approval of any significant new ERO initiatives or reordering of ERO strategic priorities.
- Not supersede the role of Standards Committee.
- Set milestones and timelines for standards projects.
- Conform to NERC Bylaws and Rules of Procedure.

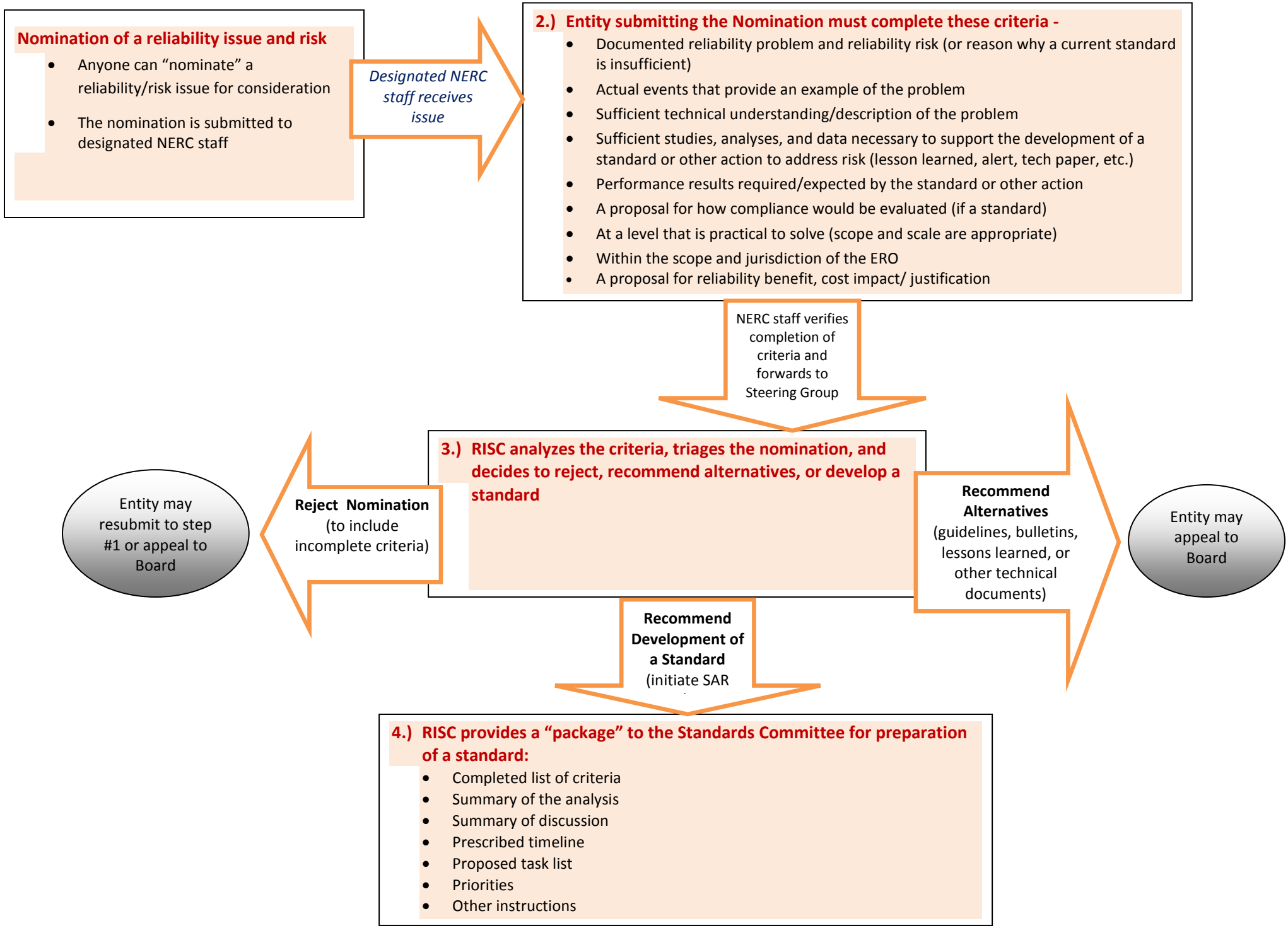
**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Role of the RISC in three-year reliability SDP.
- Modification to existing standards including elimination of duplicative or low value standards.
- Role of RISC with respect to FERC directives.
- Communication between the RISC, Standards Committee (SC), Standards Oversight and Technology Committee, MRC and Board and its technical committees.
- Relationship with governmental authorities.

### Explanation of Figure 2: Proposed Front-End Process Flow Chart

- Anyone can "nominate" a reliability/risk issue, via designated NERC staff, for consideration by the RISC. Upon verification and satisfactory completion of the nomination criteria, the RISC may decide to:
  1. Reject the nomination;
  2. Recommend alternative action other than standards; or,
  3. Develop a standard.
- If the nomination is rejected by the RISC, an appeals process will be available.
- Recommended alternatives to standards may include the development of guidelines, bulletins, alerts, lessons learned, best practices, technical documents, etc. If a standard is recommended, a project management "package" will be prepared by the RISC for the SC, including (as appropriate):
  - The completed list of criteria
  - Analysis of performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
  - Discussion
  - Timeline
  - Task list
  - Priorities
  - Other instructions
- The RISC may refer a "package" to the SC with instructions to prepare a standard. The RISC should also inform the MRC and Board of its actions.

## Figure 2: Proposed Front-End Process Flowchart (pathway for the Reliability Issues Steering Committee – RISC)



# Recommendation 3: Interface with Regulatory and Governmental Authorities

### Issue

How can NERC improve the communication and awareness of NERC's strategic initiatives on major risks to reliability to increase alignment of NERC with the concerns of state, federal, and provincial authorities?

### Recommendation

***The Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.***

**Proposed Details**

- Interface with governmental authorities to align priorities and timing of reliability initiatives. Establish and align priorities early on during the nomination of the reliability issue.
- Develop methods to effectively communicate progress and manage expectations.
- Promote effective rules of engagement of state, federal, and provincial regulatory staff in accordance with jurisdictional requirements.
- Following successful ballot of standard and approval by the Board, pre-filing meetings will be held with FERC staff and individual Commissioners to help ensure FERC approval without conditions; and similar efforts will apply with governmental authorities in Canada.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Responsibility for managing the details above, concerning progress and expectations.
- Encourage regulatory authorities to permit staff to submit written comments to the drafting team during informal and formal comment periods.

### Background

The SPIG provides as additional reference and guidance the *Roles and Responsibilities: Standards Drafting Team Activities*, approved by the SC in July 2011, includes the following policy guidance, approved by the NERC Board at its October 29, 2008 meeting, to guide standard drafting teams' responses to regulatory authority staff involvement in standard drafting activities:

a. The standard drafting team has sole responsibility for drafting and approving the language in the proposed standards that are presented to the SC for ballot.

b. NERC and the SC support the involvement of regulatory authority staff in all standards drafting team activities, where permitted by law.

c. NERC recognizes that regulatory authority staff does not speak for the regulatory authority itself and, as such, the input they provide is considered advice.

d. In the event regulatory authority staff does choose to participate in drafting team activities, they should be treated as any non-voting observer or participant.

e. Standard drafting team members should seek out the opinion of regulatory authority staff, consider the regulatory staff input on its technical merits, and respond to written comments offered during a public posting period as it would seek opinions from, consider the technical merits of, and respond to comments offered by other industry stakeholders.

f. To the extent that regulatory authority staff advice is offered to the drafting team (or members thereof) in a forum that is not public and open to all industry participants, the standard drafting team should consider the input as advice.

g. If the team chooses to act on regulatory authority staff advice offered in a non public forum, the standard drafting team chair should either:

   - Request the regulatory authority staff to provide the advice during an open meeting or conference call of the drafting team; or,
   - Document his/her understanding of the issues or advice presented, and include the information in an open industry comment period with the accompanying changes to the proposed standards.

# Recommendation 4: Standards Product

### Issue

How will standards be developed to effectively achieve reliability objectives through clear, high quality Results-Based Standards (RBS) requirements in a cost effective manner?

### Recommendation:

***The Board is encouraged to require that the standards development process address:***

- ***The use of RBS;***
- ***Cost effectiveness of standards and standards development;***
- ***Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and***
- ***The retirement of standards that are no longer needed to meet an adequate level of reliability.***

**Proposed Details**

- Utilize RBS model as the basis for all standards.
  i. Evaluate all existing standards and revise to meet format of RBS.
  ii. Retire any existing standards that are not chosen to be modified into a RBS format per Board approval.
  iii. Develop all new standards in RBS format.
- Ensure cost effectiveness of standards through documentation of alternatives analysis.
- Include cost impact/reliability benefit analysis in the final standards package posted for ballot.
- Ensure clarity on reliability objectives and compliance obligations.
  i. SDT is responsible for the development of the standard including requirements and measures.
  ii. Compliance staff will develop RSAWs (that will be used in the auditing of compliance) in conjunction and coincident with the development of the standard.
  iii. Post entire package for stakeholder comment, including standards and RSAWs (RSAWs are not balloted).
  iv. Changes to RSAWS after the ballot body develops measure/standard require Board approval.
- Revise Essential Elements of the Standards Template to eliminate redundancies such as Violation Severity Levels (VSLs).
- Consider “applicability” provisions and criteria for those most impacted by implementing a standard.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Establish process to consider elimination of standards and standards requirements that have minimal value.
    i. The recent FERC Find, Fix, Track and Report (FFTR) Order encourages the reduction of unnecessary requirements and a structured process needs to be developed to achieve this.
    ii. Additional options may include a task to the RISC, Operating Committee, or Planning Committee, as determined by the Board.

# Recommendation 5: Standards Development Process and Resources

### Issue

How can the existing standards development process be improved upon and streamlined and how can resources be better utilized to ensure effective, efficient, and expeditious standards development?

### Recommendation

***The Board is encouraged to require the standards development process be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:***

- ***Formal and consistent project management***
- ***Efficient formation and composition of SDTs***

#### Proposed Details

- The drafting team will post responses to each comment received during the *final,* formal comment period prior to the recirculation ballot. For other postings, there is no ANSI requirement to post responses to the comments.
- Modify the comment process to:
  i. Bundle responses to comments.
  ii. SDT will post draft standard for informal comment period of 30 days, but not be required to respond to comments.
  iii. Promote an automated system for managing comments.
  iv. Conduct industry webinars between successive ballots to enhance understanding of issues and facilitate consensus.
  v. Facilitate consensus by encouraging industry collaboration and submittal of coordinated comments through Regional Entities and trade groups.
- Ballot process shall:
  i. Use all votes cast by ballot pool member to establish quorum.
  ii. Provide options for voting "No" with guiding choices for the answer with a comment section on the ballot.
- Formalize the use of formal, rigorous project management (i.e., trained leaders, facilitators, scribes, etc.) within SDTs to ensure greater efficiency and effectiveness of the SDTs.
- Revise formation and composition of SDTs model.
  i. Incorporate the support of technical writers, legal, compliance and rigorous and highly trained facilitation support.

ii. Ensure adequate representation and competencies based on complexity of the issue.

- Promote efficiency and timeliness by setting milestones and progress reports.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Reinforce mechanisms to add during the commenting process.

i. Locked list of answer options (e.g., "risk to reliability," "cost concerns," etc.).

ii. "Other" option for the No vote list with a comment section that requires explanation that this approach will balance input to empower the SC to conduct a more thorough balloting process.

iii. Consider bolding of text instructions on all ballots that emphasize the importance of clarity.

iv. Consider the advantage/disadvantage to establishing voting record for each participant/entity.

**From:** Eleanor Crouch
**To:** Eleanor Crouch
**Subject:** NERC ANNOUNCEMENT: Member Representatives Committee (MRC) and Board of Trustees (BOT) Meetings-May 8-9, 2012 | Arlington, VA
**Date:** Friday, March 09, 2012 12:41:34 PM

# Meeting Announcement

## Member Representatives Committee (MRC)
## Board of Trustees (BOT)

May 8-9, 2012 | Arlington, VA

**Click Here for:** Meeting Registration

**Click Here for:** Meeting Details

When making your hotel reservation, please be sure to mention "NERC" to get the preferred rate and ensure your reservation is credited to the NERC room block. The hotel will charge NERC a penalty if the total rooms blocked for this event are not picked up. Also, if you use a travel agency for your travel plans, please make sure the agency mentions NERC. For more information or assistance, please contact Eleanor Crouch at eleanor.crouch@nerc.net or (404) 446-2572.

For more information or assistance, please contact Eleanor Crouch at eleanor.crouch@nerc.net

**3353 Peachtree Road NE**
**Suite 600, North Tower**
**Atlanta, GA 30326**
**404-446-2560 | www.nerc.com**

---
You have received this email because you are a registered representative in the Registered Ballot Body.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# DRAFT Agenda
# Member Representatives Committee Informational Session Conference Call and Webinar

May 1, 2012 | 11:00 a.m. Eastern

**Dial-In: 800-381-7839**
No passcode necessary

**Click Here: Webinar Registration and Web Access**

**Introductions and Chair's Remarks**

**NERC Antitrust Compliance Guidelines and Public Meeting Notice**

**Agenda**

1. **Recommendations from the Standards Process Input Group (SPIG)***
2. **Progress Reports and Informational Updates***
   a. Bulk Electric System (BES) Definition, Phase 2
   b. Definition of Adequate Level of Reliability (ALR)
   c. Risk-Based Compliance Monitoring and Entity Assessments
   d. Compliance Enforcement Initiatives
3. **2011 Demand Response Availability Report from webDADS*** – Jessica Bian
4. **2012 Summer Assessment Preliminary Conclusions*** – Mark Lauby (John Moura)

*Background materials included.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Antitrust Compliance Guidelines

## I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

## II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

## III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.

Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

Agenda Item 1
MRC Informational Session
May 1, 2012

# Recommendations from the Standards Process Input Group (SPIG)

## Action
Information

## Background
In February 2012, the MRC was asked to commence a working group to provide policy input and recommendations for specific improvements to the existing NERC reliability standards development process. The Standards Process Input Group (SPIG) commenced in March and sought industry input and feedback on a variety of issues which included:

- Quality of standards, to include process and product
- Timeliness
- Efficiency and effectiveness
- Importance and significance of meeting ANSI requirements

The SPIG gathered valuable input and insight on a number of significant issues related to standards development and compiled a report consisting of five recommendations. The MRC followed by the Standards Oversight and Technology Committee (SOTC) plan to discuss, May 8, these recommendations at their respective meetings to determine:

- Which have merit and which need additional refinement;
- If concerns relative to production, efficiency and quality, raised by stakeholders and regulators, have been addressed;
- Whether additional changes to the governance of the standards development process are needed to supplement the SPIG's report; and
- What oversight the SOTC and Board of Trustees will want to see over how implementation issues are analyzed and ultimately proposed for endorsement, acceptance, or approval.

Once the SPIG has received the MRC's and SOTC's input it will finalize a proposal for the implementation of the recommendations before providing a package to the Board of Trustees for their endorsement and action at a later date. In some cases, changes to the Rules of Procedure may be required for final implementation, which will take additional time to develop and gain approval.

Attachment 2

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Recommendations To Improve the NERC Standards Development Process

## Member Representatives Committee (MRC)
## Standards Process Input Group (SPIG)

Draft — April 2012

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Preface

## Formation of the Standards Process Input Group

At its February 9, 2012 meeting, the NERC Board of Trustees (BOT) requested the assistance of the NERC Member Representatives Committee (MRC) to provide policy input, and a proposed framework, for specific improvements needed to the standards development process. The MRC Chair and Vice Chair invited several members of the MRC, two NERC Board of Trustees members, the NERC CEO, and the Standards Committee (SC) Chair to join with them as participants in the Standards Process Input Group (SPIG) in developing recommendations to improve the standards development process in the following areas:

- Clarity on the reliability objectives, technical parameters, scope, and the relative priority of the standards project.
- The drafting process (developing the specific technical content of the standard).
- Standards project management and workflow.
- Formal balloting and commenting.

To help ensure that the SPIG focused its efforts on the best areas for improvement, they began their process by gathering input from subject matter experts (SMEs), including the regions, MRC, Standard Drafting Team leaders, NERC staff, and other stakeholders by asking the following:

- What are the issues that are keeping the process from improving the reliability benefits of the standards?
- What are the impediments to improving the efficiency of completing a new standard or standard revision?
- Are stakeholder resources being used efficiently? If not, then why?

### SPIG Timeline for Input

- Trades input was provided to NERC BOT in January 2012
- Outreach Survey comments received from 105 stakeholders in late February
- SPIG conference call with FERC staff and initial SPIG planning meeting conducted in early March
- SPIG provides preliminary report to MRC for input in early April
- Input from MRC received by April 13
- Additional SPIG planning meeting to consider MRC input conducted April 19-20
- Report revised, finalized, and posted with MRC agenda on April 25
- MRC discussion at MRC meeting on May 8
- Final report to NERC BOT in late May

# Table of Contents

Preface ..... i

Executive Summary ..... 1

Introduction ..... 3

Recommendations from the SPIG ..... 5

Recommendation 1: American National Standards Institute ..... 5

Recommendation 2: Reliability Issues Steering Committee (RISC) ..... 6

Recommendation 3: Interface with Regulatory and Governmental Authorities ..... 10

Recommendation 4: Standards Product ..... 12

Recommendation 5: Standards Development Process and Resources ..... 14

# Executive Summary

The Standards Process Input Group (SPIG) organized by the NERC Member Representatives Committee (MRC) is proposing in this report a number of changes to the way NERC develops Reliability Standards and other solutions intended to improve the priority, product and process of standards development. Inherent in these proposed changes is an effort to better understand, articulate and incorporate, into the standards development process, the appropriate accountabilities for standards development.

For example, Section 215 of the Federal Power Act creates accountability for the Federal Energy Regulatory Commission (FERC), first to certify an Electric Reliability Organization (ERO) for the purpose of establishing and enforcing reliability standards for the bulk power system, and then to approve the standards developed by the ERO. As such, FERC is accountable to the U.S. Congress, which passed the law that created Section 215.

Section 215 also creates accountability for NERC by requiring that the ERO, certified by FERC, have a demonstrated ability to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system. This accountability extends to the NERC management to see that high quality standards are developed in an efficient and effective way and to the NERC Board of Trustees (Board) that must approve those standards before they are filed with governmental regulatory authorities in the U.S. and Canada.

Finally, the stakeholders, whose technical expertise is essential to the development of the standards, have a shared accountability with NERC and with each other to see that the right standards are developed in a fair, open, balanced and inclusive way.

One of the principal recommendations of the SPIG, is the creation of a Reliability Issues Steering Committee (RISC) that is intended to address these issues of accountability by ensuring that NERC develops the right standards, in the right way, and in a timely and efficient manner. To accomplish this, the RISC will conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

In addition to recommending the creation of the RISC, the SPIG also recommends that Reliability Standards Audit Worksheets (RSAWs) be developed concurrent with their associated standards and posted along with those standards for comment. The purpose here is to make sure that the RSAWs are aligned with the intent and wording of the standards to reduce the need for Interpretations and Compliance Application Notices.

Lastly, the SPIG is recommending a redesign of the composition and process used by Standards Drafting Teams to make more efficient and effective use of the subject matter expertise resident in the industry, and to provide those experts with additional support resources in terms of project management and facilitation, legal expertise, and technical writing support.

The recommendations also aim to strengthen consensus building, first on the need for a standard and then on the requirements themselves.

Collectively, these recommendations suggest a major revision of how decisions to develop standards are determined in the first place and, once the decision is made that a new or revised standard is needed, to see that it is developed in the most efficient, effective, and timely way, taking into account throughout the process the costs, benefits and justification for all standards.

# Introduction

*Priority, product and process* are the three main focus areas addressed by the recommendations of the SPIG regarding their review and analysis of the NERC standards development process.

The SPIG provides five recommendations designed for action and for discussion. The analysis of feedback received throughout this project indicates that more discussion should occur around the variety of the changes, improvements, and implementation being proposed in these recommendations, as listed below and described in more detail in this report.

**Recommendation 1: American National Standards Institute** — NERC should continue to meet the minimum requirements of the American National Standards Institute (ANSI) process to preserve ANSI accreditation.

**Recommendation 2: Reliability Issues Steering Committee** — The NERC Board is encouraged to form a Reliability Issues Steering Committee (RSIC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

**Recommendation 3: Interface with Regulatory and Governmental Authorities** — The NERC Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.

**Recommendation 4: Standards Product Issues** — The NERC board is encouraged to require that the standards development process address:

- The use of results–based standards (RBS);
- Cost effectiveness of standards and standards development;
- Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and
- The retirement of standards no longer needed to meet an adequate level of reliability.

**Recommendation 5: Standards Development Process and Resource Issues** — The NERC Board is encouraged to require the standards development process to be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:

- Formal and consistent project management; and
- Efficient formation and composition of Standard Drafting Teams (SDTs).

These recommendations were derived from a synthesis of stakeholder responses categorized into the following three concentrated areas:

*I. ANSI: Accreditation*

- Preserve ANSI accreditation in order to ensure openness, transparency, consensus building, balance of interests and due process
- Ensure checks and balances of the ANSI process
- Limit application of requirements that can hinder progress
- Limit negative ballots without comment
- Consider other options if ANSI prevents efficiency gains

*II. PRODUCT: Quality of Standards*

- Consider the cost effectiveness (limited value justification)
- Improve clarity in terms of the reliability objective and benefit
- Ensure auditability
- Improve supporting documentation or administrative records
- Improve registered entity and auditor understanding
- Involve industry, NERC and FERC in the quality review earlier in the standards development process
- Seek clarity and technical justification upfront
- Be sensitive not to gear towards compliance risk rather than reliability risk

*III. PROCESS: Efficiency, Timeliness and Effectiveness*

- Address the SDT composition (need expertise in legal, technical writing, compliance, etc.)
- Improve timeliness and effectiveness in terms of commenting/balloting (need to consider the manual effort and timing associated with posting, grouping and responding)
- Manage the number of standards coming through the process at the same time (to ensure the right number can be processed efficiently)
- Seek convergence on consensus (to avoid taking too long to achieve)
- Improve efficiencies (to avoid taking too long)
- Implement a project manager and facilitator (need within the SDT and the back office of NERC)
- Improve communications and coordination between industry, NERC and FERC staff; especially in terms of the compliance/enforcement process

# Recommendations from the SPIG

## Recommendation 1: American National Standards Institute

### Issue

Should NERC continue using the American National Standards Institute (ANSI) process for developing standards?

### Recommendation

***NERC should continue to meet the minimum requirements of the ANSI process to preserve ANSI accreditation.***

### Background

The SPIG's initial survey of the industry asked "How important are ANSI accreditation and ANSI principles (openness, transparency, consensus-building, fair balance of interests, and due process) to the NERC standards development process?" The majority of responses agreed that NERC standards development process should continue to at least meet the minimum ANSI requirements (Figure 1).

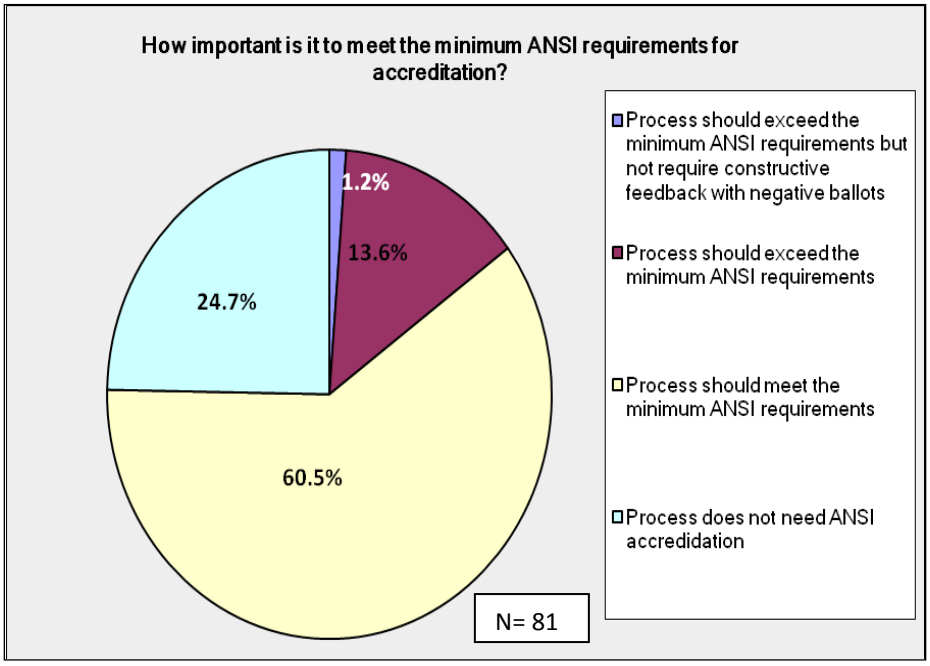



Figure 1: Results from SPIG survey of the Industry, April 2012

According to ANSI, accreditation signifies the standards developer is committed to an open, fair and time-tested consensus process that benefits stakeholders. Developers are accredited to the requirements contained in the *ANSI Essential Requirements: Due Process Requirements for American National Standards*. NERC staff confirms that the current standards process meets and in some cases exceeds the ANSI Essential Requirements.

## Recommendation 2: Reliability Issues Steering Committee (RISC)

### Issue

How should NERC determine:

- What actions are needed to address identified risks to reliability?
- Whether the development of a standard is necessary and its cost/benefit to reliability is justified?
- What should be the priority and timeline for standards development?

### Recommendation

***The Board is encouraged to form a Reliability Issues Steering Committee (RISC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.***

**Proposed Details**

The RISC would:

- Be comprised of stakeholders including, but not limited to:
  - Chairs and vice chairs of the technical committees;
  - Select MRC members and other stakeholders;
  - Chair, approved by the Board; and
  - NERC Senior Staff member.
- Utilize a broad range of industry and other expertise.
- Analyze performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
- Advise the Board on key initiatives and priorities; recommends standards projects or alternatives (Figure 2).
- Report directly to Board (and not the MRC).
- Require Board review and approval of any significant new ERO initiatives or reordering of ERO strategic priorities.
- Not supersede the role of Standards Committee.
- Set milestones and timelines for standards projects.
- Conform to NERC Bylaws and Rules of Procedure.

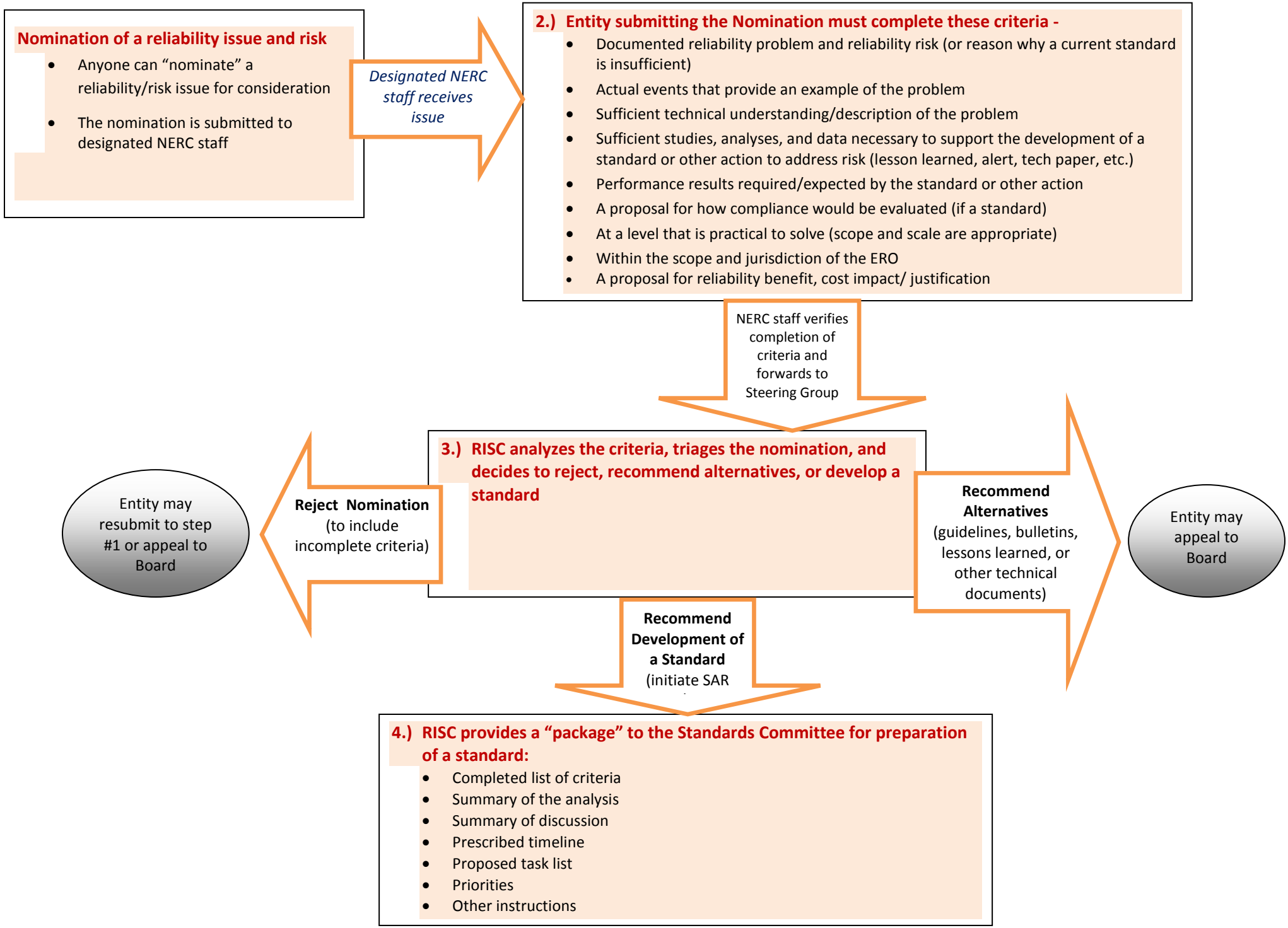
**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Role of the RISC in three-year reliability SDP.
- Modification to existing standards including elimination of duplicative or low value standards.
- Role of RISC with respect to FERC directives.
- Communication between the RISC, Standards Committee (SC), Standards Oversight and Technology Committee, MRC and Board and its technical committees.
- Relationship with governmental authorities.

### Explanation of Figure 2: Proposed Front-End Process Flow Chart

- Anyone can "nominate" a reliability/risk issue, via designated NERC staff, for consideration by the RISC. Upon verification and satisfactory completion of the nomination criteria, the RISC may decide to:
  1. Reject the nomination;
  2. Recommend alternative action other than standards; or,
  3. Develop a standard.
- If the nomination is rejected by the RISC, an appeals process will be available.
- Recommended alternatives to standards may include the development of guidelines, bulletins, alerts, lessons learned, best practices, technical documents, etc. If a standard is recommended, a project management "package" will be prepared by the RISC for the SC, including (as appropriate):
  - The completed list of criteria
  - Analysis of performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
  - Discussion
  - Timeline
  - Task list
  - Priorities
  - Other instructions
- The RISC may refer a "package" to the SC with instructions to prepare a standard. The RISC should also inform the MRC and Board of its actions.

## Figure 2: Proposed Front-End Process Flowchart (pathway for the Reliability Issues Steering Committee – RISC)



# Recommendation 3: Interface with Regulatory and Governmental Authorities

### Issue

How can NERC improve the communication and awareness of NERC's strategic initiatives on major risks to reliability to increase alignment of NERC with the concerns of state, federal, and provincial authorities?

### Recommendation

***The Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.***

**Proposed Details**

- Interface with governmental authorities to align priorities and timing of reliability initiatives. Establish and align priorities early on during the nomination of the reliability issue.
- Develop methods to effectively communicate progress and manage expectations.
- Promote effective rules of engagement of state, federal, and provincial regulatory staff in accordance with jurisdictional requirements.
- Following successful ballot of standard and approval by the Board, pre-filing meetings will be held with FERC staff and individual Commissioners to help ensure FERC approval without conditions; and similar efforts will apply with governmental authorities in Canada.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Responsibility for managing the details above, concerning progress and expectations.
- Encourage regulatory authorities to permit staff to submit written comments to the drafting team during informal and formal comment periods.

### Background

The SPIG provides as additional reference and guidance the *Roles and Responsibilities: Standards Drafting Team Activities*, approved by the SC in July 2011, includes the following policy guidance, approved by the NERC Board at its October 29, 2008 meeting, to guide standard drafting teams' responses to regulatory authority staff involvement in standard drafting activities:

a. The standard drafting team has sole responsibility for drafting and approving the language in the proposed standards that are presented to the SC for ballot.

b. NERC and the SC support the involvement of regulatory authority staff in all standards drafting team activities, where permitted by law.

c. NERC recognizes that regulatory authority staff does not speak for the regulatory authority itself and, as such, the input they provide is considered advice.

d. In the event regulatory authority staff does choose to participate in drafting team activities, they should be treated as any non-voting observer or participant.

e. Standard drafting team members should seek out the opinion of regulatory authority staff, consider the regulatory staff input on its technical merits, and respond to written comments offered during a public posting period as it would seek opinions from, consider the technical merits of, and respond to comments offered by other industry stakeholders.

f. To the extent that regulatory authority staff advice is offered to the drafting team (or members thereof) in a forum that is not public and open to all industry participants, the standard drafting team should consider the input as advice.

g. If the team chooses to act on regulatory authority staff advice offered in a non public forum, the standard drafting team chair should either:

   - Request the regulatory authority staff to provide the advice during an open meeting or conference call of the drafting team; or,
   - Document his/her understanding of the issues or advice presented, and include the information in an open industry comment period with the accompanying changes to the proposed standards.

# Recommendation 4: Standards Product

### Issue

How will standards be developed to effectively achieve reliability objectives through clear, high quality Results-Based Standards (RBS) requirements in a cost effective manner?

### Recommendation:

***The Board is encouraged to require that the standards development process address:***

- ***The use of RBS;***
- ***Cost effectiveness of standards and standards development;***
- ***Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and***
- ***The retirement of standards that are no longer needed to meet an adequate level of reliability.***

**Proposed Details**

- Utilize RBS model as the basis for all standards.
  i. Evaluate all existing standards and revise to meet format of RBS.
  ii. Retire any existing standards that are not chosen to be modified into a RBS format per Board approval.
  iii. Develop all new standards in RBS format.
- Ensure cost effectiveness of standards through documentation of alternatives analysis.
- Include cost impact/reliability benefit analysis in the final standards package posted for ballot.
- Ensure clarity on reliability objectives and compliance obligations.
  i. SDT is responsible for the development of the standard including requirements and measures.
  ii. Compliance staff will develop RSAWs (that will be used in the auditing of compliance) in conjunction and coincident with the development of the standard.
  iii. Post entire package for stakeholder comment, including standards and RSAWs (RSAWs are not balloted).
  iv. Changes to RSAWS after the ballot body develops measure/standard require Board approval.
- Revise Essential Elements of the Standards Template to eliminate redundancies such as Violation Severity Levels (VSLs).
- Consider “applicability” provisions and criteria for those most impacted by implementing a standard.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Establish process to consider elimination of standards and standards requirements that have minimal value.
    i. The recent FERC Find, Fix, Track and Report (FFTR) Order encourages the reduction of unnecessary requirements and a structured process needs to be developed to achieve this.
    ii. Additional options may include a task to the RISC, Operating Committee, or Planning Committee, as determined by the Board.

# Recommendation 5: Standards Development Process and Resources

### Issue

How can the existing standards development process be improved upon and streamlined and how can resources be better utilized to ensure effective, efficient, and expeditious standards development?

### Recommendation

***The Board is encouraged to require the standards development process be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:***

- ***Formal and consistent project management***
- ***Efficient formation and composition of SDTs***

#### Proposed Details

- The drafting team will post responses to each comment received during the *final,* formal comment period prior to the recirculation ballot. For other postings, there is no ANSI requirement to post responses to the comments.
- Modify the comment process to:
  i. Bundle responses to comments.
  ii. SDT will post draft standard for informal comment period of 30 days, but not be required to respond to comments.
  iii. Promote an automated system for managing comments.
  iv. Conduct industry webinars between successive ballots to enhance understanding of issues and facilitate consensus.
  v. Facilitate consensus by encouraging industry collaboration and submittal of coordinated comments through Regional Entities and trade groups.
- Ballot process shall:
  i. Use all votes cast by ballot pool member to establish quorum.
  ii. Provide options for voting "No" with guiding choices for the answer with a comment section on the ballot.
- Formalize the use of formal, rigorous project management (i.e., trained leaders, facilitators, scribes, etc.) within SDTs to ensure greater efficiency and effectiveness of the SDTs.
- Revise formation and composition of SDTs model.
  i. Incorporate the support of technical writers, legal, compliance and rigorous and highly trained facilitation support.

ii. Ensure adequate representation and competencies based on complexity of the issue.

- Promote efficiency and timeliness by setting milestones and progress reports.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Reinforce mechanisms to add during the commenting process.

i. Locked list of answer options (e.g., "risk to reliability," "cost concerns," etc.).

ii. "Other" option for the No vote list with a comment section that requires explanation that this approach will balance input to empower the SC to conduct a more thorough balloting process.

iii. Consider bolding of text instructions on all ballots that emphasize the importance of clarity.

iv. Consider the advantage/disadvantage to establishing voting record for each participant/entity.

Agenda Item 2a
MRC Informational Session
May 1, 2012

# Bulk Electric System (BES) Definition, Phase 2

## Action
Information

## Background
Phase 1 of Project 2010-17, Definition of Bulk Electric System (DBES), concluded on November 21, 2011 with stakeholder approval of a revised definition of BES and an application form titled "*Detailed Information to Support an Exception Request"* referenced in the Rules of Procedure Exception Process. The Board of Trustees unanimously adopted in January 2012 the Definition, Exception Process, and Rules of Procedure modifications, which has been filed with FERC for approval.

Phase 2 of the project is being initiated to develop appropriate technical justification to support refinements to the definition that were suggested by stakeholders during Phase 1. The DBES Standard Drafting Team is actively working with the NERC Technical Committees (Operating and Planning Committees) to collect and analyze information needed to support revisions to the DBES developed in Phase 1 of this project. The goal is to provide a technically justifiable definition that identifies the appropriate electrical components necessary for the reliable operation of the interconnected transmission network. The development may include other improvements to the definition as deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing a high quality and technically sound DBES.

If the MRC has questions or need additional information, they may contact Pete Heidrich, manager of reliability standards, FRCC and chair of the DBES SDT at pheidrich@frcc.com or Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 2b
MRC Informational Session
May 1, 2012

# Definition of Adequate Level of Reliability (ALR)

## Action
Information

## Background
The Adequate Level of Reliability Task Force (ALRTF) was formed in May 2011 under the auspices of the NERC Standing Committees Coordinating Group (SCCG), which comprises the chairs and vice chairs of NERC's standing committees[1], to address concerns expressed by the NERC Board of Trustees (BOT), the Member Representatives Committee (MRC), and stakeholders that NERC's current definition of Adequate Level of Reliability (ALR) needs reassessment to ensure that the definition supports and helps to define NERC's mission to ensure reliable operation of the bulk power system.

At the end of April 2012, the ALRTF completed a draft definition document, a draft technical document, a discussion paper on risk tolerance, and a mapping document that compares the proposed ALR objectives with NERC's reliability principles. These documents are posted and available for a 60-day industry comment period (http://www.nerc.com/filez/alrtf.html). The ALRTF will meet at the end of June to review comments and make corresponding changes, with the goal of presenting a definition and supporting documents to the BOT by the end of the calendar year.

Allen Mosher, chair of the ALRTF and chair of the NERC Standards Committee, will present and discuss the status of this initiative.

[1] Operating Committee, Planning Committee, Critical Infrastructure Protection Committee, Standards Committee, and Compliance and Certification Committee.

Agenda Item 2c
MRC Informational Session
May 1, 2012

# Risk-Based Compliance Monitoring and Entity Assessments

## Action

Information

## Background

The purpose of this update is to provide a comprehensive overview for the Risk-Based Compliance Monitoring Initiative (CEI). The webinar slide presentation will address NERC's purpose for the initiative, what success would look like, and the NERC projects that support the initiative. A discussion paper, Risk-Based Reliability Compliance Monitoring, is attached (Attachment 1).

The initiative, which is being implemented through the projects listed below, integrates the concept of risk, to a greater degree, into ERO compliance and enforcement activities. Identification of risk allows for resources of the ERO, Regional Entities, and registered entities to be focused on those issues that pose the greatest potential risk to the reliability of the bulk power system (BPS). The initiative also provides for a paradigm shift from one of backward-looking compliance monitoring to one of empowering registered entities to be forward-looking and more successful in their compliance assurance activities.

This initiative integrates the evaluation of risk throughout the process at the program level, the registered entity level and in the enforcement processing level, as follows:

**Program Level**

- Annual Implementation Plan
- Actively Monitored List

**Registered Entity Level**

- Entity Assessment – The assessment (or evaluation) will, among other objectives, determine scope and frequency of compliance monitoring for each registered entity
- Compliance Monitoring - Integration of verification of internal controls into the compliance monitoring to determine the due diligence a Compliance Enforcement Authority (CEA) is to use (the amount of evidence to review) to obtain reasonable assurance the registered entity is compliant

**Enforcement Processing Level**

- Resolution of non-compliance based on risk (CEI)
  - Find, Fix and Track - Lower Risk Possible Violations
  - Notice of Penalty

## Summary

This initiative is designed to:

- Allow for focus of resources on reliability issues
- Empower registered entities to be forward-looking and successful in their compliance activities

The major change elements of this initiative are assessing the frequency and scope of an entity's compliance monitoring based on the individual entity's potential impact on the reliability of the BPS, the integration of formal audit principles into compliance monitoring, including assessing internal controls, and the implementation of CEI Phase Two, where discretion is applied in the field.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment 1

# Risk-Based Reliability Compliance Monitoring

April 20, 2012

As the Electric Reliability Organization (ERO) continues to evolve, greater emphasis has been placed on incorporating risk-based concepts in all endeavors to more efficiently utilize resources and focus on the significant risks of the electrical sector. From the ERO Enterprise Strategic Plan 2012-2015 approved in February of 2012, the following vision is detailed:

> "To be the trusted leadership that ensures and continuously improves the reliability of the North American bulk power system (BPS) by implementing relevant standards; promoting effective collaboration, cooperation, and communication around important risks to reliability; and utilizing expertise from the industry to produce outcomes that improve reliability."

Within the strategic plan, the four Pillars for Success clearly articulate the critical components that will be emphasized to achieve this vision:

- ***Reliability*** – to address events and identifiable risks, thereby improving the reliability of the BPS.
- ***Assurance*** – to provide assurance to the public, industry, and government for the reliable performance of the BPS.
- ***Learning*** – to promote learning and continuous improvement of operations and adapt to lessons learned for improvement of BPS reliability.
- ***Risk-Based Approach*** – to focus attention, resources and actions on issues most important to BPS reliability.

The purpose of this paper is to provide a comprehensive overview of the Risk-Based Compliance Monitoring Initiative and its components; the initiative's background; the necessity of making compliance a tool that supports reliability; an articulation of success; and the criticality of greater consideration of internal controls; as well as to identify potential Rules of Procedure (ROP) changes. The NERC corporate goals for 2012 firmly direct these efforts, specifically within Goal No. 1 for Standards and Compliance, performance objective c: *Promote a culture of compliance with mandatory reliability standards across the industry.* Successful implementation of the performance objective will be, in part, determined by the following measures:

- 11 – Educate industry on effective compliance programs and effective reliability risk controls.
- 12 – Develop risk-based compliance monitoring approaches to maximize reliability benefits and improve efficiencies, and to encourage effective internal controls at registered entities.

Additionally, the ERO will support the industry by identifying procedures, practices and controls to address reliability risks resulting from noncompliance.

**Overview**

In late 2010 and early 2011, industry and NERC staff began discussions of risk-based compliance monitoring with a goal of refining compliance and enforcement efforts to support reliability efforts. Initial efforts between industry and NERC staff included greater analysis to support development of the Annual Implementation Plan and Actively Monitored List (AML); discussion of refined compliance monitoring concepts to include appropriately scoped audits and spot checks; a white paper developed by Tom Burgess; and the NERC Compliance and Certification Committee (CCC) Work Group's effort to refine issues and develop options for future direction.

Ultimately success for both the ERO and the industry will be based on a clear set of concepts that include an emphasis on reliability and less compliance bureaucracy; compliance programs designed to support reliability on a forward-looking basis with greater reliance on internal controls; an industry that monitors, finds, fixes, tracks, and reports (FFT) issues; and refocused resources to allow us to address high-risk reliability issues. The Risk-Based Compliance Monitoring Initiative will manifest these concepts in:

- Registered entities that are empowered to be in control of monitoring their own compliance activities and have successful compliance programs.
- ERO and industry resources being focused on reliability.
- The successful implementation of a risk-based approach to compliance monitoring.

There must be greater emphasis on reliability and less on compliance and enforcement bureaucracy. While the requirements are enforceable, shifting to greater consideration of the intent and purpose of the standard will provide greater opportunity for industry collaboration and information sharing to meet reliability obligations.

The ERO compliance monitoring program and registered entities' compliance programs should be designed to support reliability on a forward-looking basis with greater consideration and reliance on internal controls. The current construct is focused on the rearward-looking process of reviewing potentially significant amounts of evidence over the entire audit period. Further, all violations, regardless of the risk created to the reliability of the BPS or when the violation occurred, must be processed. This rearward-looking approach to compliance monitoring provides little to no confidence that the entities have the ability to make judgments about their future state of reliability.

An emphasis on internal controls and how an entity manages its own compliance programs is forward-looking. Internal controls are proactive and, coupled with a solid internal compliance program, will

demonstrate an entity's commitment to manage compliance with a focus on reliability until the next compliance monitoring effort. The industry has already demonstrated a commitment to compliance as evidenced by the high numbers of self-identified possible violations (PVs); 69 percent in 2011 and 68 percent over the entire enforceable period (2007-present). Self-identified violations include four of the eight compliance monitoring program discovery methods: self reports, self certifications, data submittals and exception reporting. This is a significant factor in the reasoning for the Compliance Enforcement Initiative (CEI) and the FFT mechanism. The industry has demonstrated that it does indeed monitor, FFT compliance issues and PVs.

With this proactive and responsible compliance mentality, both the ERO and industry can focus more resources on high-risk reliability issues and less on compliance. Registered entities will be able to deploy and utilize resources to improve reliability as opposed to managing compliance risk and the volumes of data required to demonstrate compliance on a rearward-looking basis.

Consideration of internal controls and internal compliance programs are basic auditing concepts and principles designed to be forward-looking. These concepts are articulated in detail in the "Yellow Book" or Government Auditing Standards, which were most recently revised in December 2011.[1] Other auditing organizations and references include the Committee of Sponsoring Organizations (COSO) of the Treadway Commission Framework[2,3] and the Public Company Accounting Oversight Board (PCAOB)[4]

Key components of auditing include rigorous planning and preparation, appropriate field work, and reporting to communicate the audit team's results. Planning and preparation must include an assessment of the organization to be audited and a consideration of the internal controls. The finding of the audit must be based on the auditor's professional judgment in obtaining reasonable assurance of compliance. Based on the level of the performed audit, an auditor may not have sufficient knowledge to determine that an entity is compliant; only that there was not a finding of non-compliance. Finally, reporting must communicate the results for the intended purpose of the program.

Reasonable Assurance as discussed in the International Federation of Accountants (IFAC) / The International Auditing and Assurance Standards Board (IAASB)'s International Standards on Auditing #200[5], Introduction is:

> *"Reasonable assurance is a high level of assurance. It is obtained when the auditor has obtained sufficient appropriate audit evidence to reduce audit risk . . . to an acceptably low level. However, reasonable assurance is not an absolute level of assurance, because there are inherent limitations of an audit which result in most of the audit evidence on*

[1] Available at: http://www.gao.gov/products/GAO-12-331G, April 2012.
[2] http://www.coso.org/
[3] Members include American Accounting Association, American Institute of CPAs, Financial Executives International, The Association for Accountants and Financial Professionals in Business, and the Institute of Internal Auditors
[4] http://pcaobus.org/Pages/default.aspx
[5] Available at: http://www.ifac.org/sites/default/files/downloads/a008-2010-iaasb-handbook-isa-200.pdf, April 2012.

*which the auditor draws conclusions and bases the auditor's opinion being persuasive rather than conclusive."*

Professional Judgment from GAGAS Section 6.03 is detailed as:

> *"Objectives for performance audits range from narrow to broad and involve varying types and quality of evidence. In some engagements, sufficient, appropriate evidence is available, but in others, information may have limitations.* ***Professional judgment*** *assists auditors in determining the audit scope and methodology needed to address the audit objectives, and in evaluating whether sufficient, appropriate evidence has been obtained to address the audit objectives."* [emphasis added]

## Components of the Risk-Based Compliance Monitoring Initiative

As NERC moves towards greater consideration and utilization of risk-based concepts and methods in the Compliance Monitoring and Enforcement Program (CMEP)[6], the following levels have been identified for focus: the program level, specifically the Annual Implementation Plan and AML; the registered entity level, where development of the entity assessment is critical; and the compliance issue or violation level.

### *The Program Level*

At the program level the Risk-Based Compliance Monitoring Initiative focuses in two areas: the development of the AML and communication of compliance assessment approaches, specifically through the Reliability Standard Audit Worksheets (RSAWs).

### *The AML*

The AML will identify the highest priority standards for compliance monitoring. These standards will establish the baseline or starting point for the Regional Entity (RE) in developing an appropriate scope of compliance monitoring for an individual registered entity, based upon the results of the Entity Impact Evaluation (see discussion on appropriately scoping compliance monitoring below). The highest priority Reliability Standards and associated Requirements populating this list are determined annually through a review of the following:

- ERO High-Risk Priorities
- FERC Orders and Guidance
- Compliance History and Culture
- Input from NERC Staff including Compliance Operations, Critical Infrastructure Protection, Enforcement, Events Analysis and Investigations, Legal, Reliability Assessments and Performance Analysis, and Standards

[6] Available at: http://www.nerc.com/files/Appendix4C_Uniform_CMEP_20110101.pdf

- Future Considerations

### *Communication of Compliance Assessment Approaches through the RSAWs*

To clearly communicate compliance assessment approaches, NERC has begun to update the RSAWs by integrating the standard drafting team's intent, obtaining broader industry input and resolving compliance monitoring approaches. The objective of obtaining this input is to reduce any gap between the drafting team's intent for the standard and compliance expectations. Compliance and enforcement will continue to own the RSAWs to ensure Compliance Enforcement Authorities (CEAs) appropriately and consistently monitor compliance; however it is expected that this integration effort will, as RSAWs are modified, prevent spikes in the number of violations when standards become enforceable and prevent unnecessary violations for existing standards. Further, this effort will, to the extent possible, consolidate compliance guidance documents into one location, where CEAs and registered entities can easily access all relevant information. It is anticipated that the improved understanding that comes along with the updated RSAWs will reduce the number of requests for standard interpretations and compliance application notices (CANs).

NERC is also beginning to introduce formal auditing principles[7], including the assessment of internal controls, into the RSAWs.[8] As discussed above, this widely accepted auditing practice provides auditors an opportunity to assess whether a registered entity has control over its own compliance activities and the ability to use that assessment to determine the level of due diligence that will be required during the audit. Using this method, the auditor has the ability to monitor the entity's internal controls, which are not subject to compliance, and use the entity's evidence of compliance activities to verify the effectiveness of the internal controls. The updated RSAWs introduce these concepts with a discussion of the purpose for assessing internal controls during an audit and a reminder for an entity to provide an auditor or CEA with its internal controls (see discussion on incorporating internal controls into compliance monitoring below).

### *The Entity Level*

At the entity level the Risk-Based Compliance Monitoring Initiative focuses on two areas: the implementation of Entity Impact Evaluations, and inclusion of auditing principles, specifically internal controls, into compliance monitoring.

### *Entity Impact Evaluations*

An open and transparent Entity Impact Evaluation will provide a consistent method for Regional Entities (Res) to determine appropriately scoped, or customized, compliance monitoring for each registered entity. The Entity Impact Evaluation will be a non-public evaluation that, in the successful

[7] Utilized in Generally Accepted Government Auditing Standards (GAGAS) and outlined in the Committee of Sponsoring Organizations of the Treadway Commission's (COSO) model; members of COSO include the American Accounting Association, American Institute of CPAs, Financial Executives International, The Association for Accountants and Financial Professionals in Business, and the Institute of Internal Auditors.

[8] The location of internal control information will be determined based on industry preference, but may be located either in each individual RSAW or in an overarching RSAW document that may also contain other information pertaining to multiple RSAWs.

implementation of the Risk-Based Compliance Monitoring Initiative, will be initially performed by the registered entity and completed in collaboration with the RE.

The results of an entity's Entity Impact Evaluation will determine the frequency of future compliance monitoring, the methods of compliance monitoring, and the number of standards that will be included in a registered entity's appropriately scoped compliance monitoring. The Entity Impact Evaluation will consist of four elements:

- The entity's internal controls, Internal Compliance Program and regional considerations;
- The entity's technical factual information (such as the number of transmission miles, etc);
- The entity's performance in each of its registered functions; and
- The entity's compliance history story.

All entities will have the ability, and are encouraged, to influence the amount of compliance monitoring that it will receive by managing their above four elements. An entity may not be able to change its technical facts; however an entity may have the ability to alter its performance metrics, the story behind its compliance history or its internal controls and internal compliance program. In the vision of success, the majority, if not all, entities will manage the four elements of their Entity Impact Evaluation and will qualify for less compliance monitoring.

There criteria to be considered in a review of the entity's internal controls and internal compliance program are interwoven. The internal compliance program elements are outlined in a series of FERC orders[9] and include the original 13 questions as well as the four hallmarks. The COSO model[10] is used as a guideline for evaluating the internal controls; it provides a framework consisting of five elements. Three of the five elements are considered in the Entity Impact Evaluation – the Control Environment, the Risk Assessment, and Information and Communication. The remaining two elements, Internal Control Activities and Monitoring Internal Controls, are verified during compliance monitoring. Internal controls are not subject to compliance but will affect the level of due diligence an auditor will conduct for evidence that is subject to compliance.

For example, an entity that may have more impact to the BPS from a technical perspective may have demonstrated good performance, a positive story behind its compliance history and strong internal

[9] Policy Statement on Enforcement *(13 questions) Docket No. PL06-1-000, 113 FERC ¶ 61,068 (October 20, 2005;* Revised Policy Statement on Enforcement *Docket No. PL08-3-000, 123 FERC ¶ 61,156 (May 18, 2008);* Policy Statement on Compliance *(4 Hallmarks) Docket No. PL09-1-000,125 FERC ¶ 61,058 (October 16, 2008;* Policy Statement on Penalty Guidelines *Docket No. PL10-4-000, 130 FERC ¶ 61,220 (March 18, 2010); suspended on April 15, 2010;* Revised Policy Statement on Penalty Guidelines *(Additional criteria during a FERC 1.b investigation) Docket No. PL10-4-000,132 FERC ¶ 61,216 (September 17, 2010)*

[10] This procedure is based on the *Internal Control – Integrated Framework (1992)* COSO model and subsequent *Guidance on Monitoring Internal Control Systems (2009),* which emphasizes the monitoring element of the 1992 model.

controls. The positive elements of the Entity Impact Evaluation may offset the potential high impact to the grid, qualifying the entity for less compliance monitoring.

In another example, a registered entity may have effective internal controls and an effective internal compliance program, non-impactful technical factual information, a good compliance history story and perform well in all its registered functions, except one. That entity may qualify for less compliance monitoring with some spot checking in the area with a need for improvement.

There are currently activities for the development of the Entity Impact Evaluation template underway — one is a broad-based working group under the CCC, and the second is a series of focus groups that will provide feedback to the CCC working group. The focus groups will provide input regarding performance metrics that would provide a fair and accurate representation of a specific function within one entity. These two efforts, along with input from the REs, will be combined into one draft and will be posted for industry comment in early summer 2012. It is a NERC goal to have the completed template posted on the NERC website for use by the end of 2012. The REs may begin using the Entity Impact Evaluation template in 2013; however it is anticipated that the Entity Impact Evaluation will be implemented slowly over the next few years.

### *Inclusion of Auditing Principles, Specifically Internal Controls, into Compliance Monitoring*

The inclusion of internal controls into compliance monitoring represents a paradigm shift from rearward-looking monitoring of compliance over the entire audit period to forward-looking monitoring of an entity's internal controls, which will determine the amount of due diligence required for an auditor to assess compliance – i.e., the amount of evidence that is necessary to review.

The amount of due diligence required will be based on whether the entity's internal controls are effective. In this context, being effective means that the registered entity's internal controls are finding any human drift in performance or any non-compliance at potential failure points in their compliance activities; the entity is fixing the drift or non-compliance; the entity is tracking the mitigation of the drift or non-compliance as well as any future occurrences; and if the entity determines there has been a PV, it is reporting the PV to the applicable RE. Under this method, the entity may assess and remediate issues using the FFT mechanism so lesser or minimal-risk issues do not detract from moderate and high-risk issues.

Where an entity has effective internal controls, a CEA will pull a reduced sampling from recent activity to verify that the entity's internal controls are working. If the sampling demonstrates that the entity's internal controls are working, the CEA will determine there is reasonable assurance of compliance. This provides a forward-looking approach to compliance monitoring, as effective internal controls is an indication of future compliance performance. If the sampling demonstrates that the entity's internal controls are not working, the CEA will be required to conduct more due diligence to determine if the entity has any non-compliance. In either case the CEA will sample recent activity and will not seek to

verify whether there has been any historical non-compliance over the entire audit period, unless there are specific concerns or reasons to do so. The results of this verification of the entity's internal controls will be used to update the Entity Impact Evaluation.

COM-002, specifically three-part communication, may be used as an example of internal controls. For this example, the compliance activity is the act of conducting the three-part communication. The internal controls for the entity consists of its supervisor pulling and reviewing 30 minutes of recorded tapes each week, plus listening to several live conversations per week. This allows the supervisor to identify any human drift away from compliance with reliability standards before a PV occurs.

Another entity separates their internal controls for this same standard into two categories: preventative controls and detective controls. Its preventive controls are comprised of processes, procedures, tools and signage, including its: Accident Prevention Manual; Annual Directive Training (Energy Control Center (ECC) Operators); Reliability Coordinator (RC) Directive Format (ECC Document); Guideline for Proper Communications (ECC Procedure); Safety Stand Down Presentations (Fossil Plants); Module in the "Conduct of Shift Operations & Maintenance Training" (Fossil Plants); Fossil Plant training "3-Way Communication Human Performance Tool"; and three-way communication signs in control rooms of fossil power plants. This entity's detective controls include random monitoring of calls by ECC Supervisors and supervisors on the floor in the ECC observations.

In summary, implementing auditing principles, including Internal Controls, offers many benefits:

- Internal controls are not enforceable, so provide an opportunity for entities to demonstrate forward-looking capabilities without being subject to compliance.
- Internal controls provide the maximum flexibility for entities to demonstrate their control over compliance activities.
- Internal controls provide an opportunity for entities to FFT any non-compliance or identify and correct human drift prior to having a PV.
- Provides an opportunity for additional auditor training to assess internal controls and emphasize as a means for greater reliability benefit.
- Provides less emphasis on auditors reviewing mountains of evidence.
- Provides greater emphasis on forward-looking compliance monitoring.

## The Enforcement Processing Risk Level

### *The FFT Violation Processing Methodology*

In 2011, the ERO began processing lesser- and minimal-risk violations through the FFT process. The process was designed to expedite processing for lesser or minimal risk PVs by making a rapid determination of the risk, verifying that the non-compliance had been mitigated, and then resolving the

issue without the need for extensive evidence and paperwork. The process has been met with great success and, with some stipulations, approval from FERC in the March 15, 2012 order. Front-end work to determine whether a PV qualifies for FFT treatment will diminish as the process matures, auditors are trained, and FFT determinations are made in the field.

### How Do We Get There?

It bears repeating that success for both the ERO and the industry ultimately will be based on a clear set of concepts that include an emphasis on reliability with less compliance bureaucracy; compliance programs designed to support reliability on a forward-looking basis with greater reliance on internal controls; an industry that monitors, FFTs issues; and refocused resources to allow industry and the ERO to address high-risk reliability issues. The Risk-Based Compliance Monitoring Initiative will manifest these concepts in:

- Registered entities that are empowered to be in control of monitoring their own compliance activities and that have successful compliance activities.
- ERO and industry resources being focused on reliability.
- The successful implementation of a risk-based approach to compliance monitoring.

Getting there will require a paradigm change in the ERO and industry's approach to compliance monitoring and enforcement. "Consistency" will take on a new meaning; rather than all registered entities being monitored for compliance in the same manner, consistency will mean that registered entities' impact to the bulk power system will be evaluated in the same manner. This evaluation will result in each registered entity having an appropriately scoped compliance monitoring program that has been customized with the frequency, methods, scope (number of standards) and depth (level of due diligence) of compliance monitoring adjusted in totality or in specific functional areas.

The ERO's path to this end goal involves several processes, as defined below.

#### *The Program Risk Level – the AML and RSAWs*

The AML will continue to exist in order to provide a basic framework of standards as a starting point for a REs determination for appropriately scoped compliance monitoring for a specific entity. RSAWs will evolve as they become aligned with the standards drafting teams' intentions and are communicated to FERC, or the appropriate regulatory body, during the standard's regulatory approval. This evolution will occur as the RSAWs are developed for new or changing standards, or as the RSAWs are revised for currently existing standards.

The AMLs will be created each year based on risk profiling, and the RSAWs will begin to be aligned with the standard drafting teams' intent for compliance monitoring.

### *The First Entity Risk Level – Entity Impact Evaluation*

Entities will have the ability to influence the amount of compliance monitoring that they will receive based on the factors considered in the Entity Impact Evaluation. In a successful implementation of the Risk-based Compliance Monitoring Initiative, entities would conduct their own Entity Impact Evaluation using the four criteria:

- The entity's internal controls, Internal Compliance Program and regional considerations;
- The entity's technical factual information (such as the number of transmission miles, etc);
- The entity's performance in each of its registered functions; and
- The entity's compliance history story.

Further, a registered entity will provide their self-conducted Entity Impact Evaluation with their RE and collaborate on the evaluation. In the vision of success, the majority, if not all entities will manage their Entity Impact Evaluation and will qualify for less compliance monitoring.

Thus, another step to a successful implementation of the Risk-Based Compliance Monitoring Initiative is for registered entities to conduct their own Entity Impact Evaluations, assume control of monitoring their compliance activities using internal controls and work with their RE.

### *The Second Entity Risk Level – Internal Controls in Compliance Monitoring*

The second level of risk assessment at the entity level occurs during the compliance monitoring, with the implementation of generally accepted auditing principles. Two aspects of internal controls, Internal Control Activities and Monitoring Internal Controls, are verified during compliance monitoring and will determine the level of due diligence a CEA will be required to perform to obtain reasonable assurance that there isn't any non-compliance, as discussed above. This verification of the entity's internal controls will be included in the next update of the Entity Impact Evaluation.

Thus, another step toward successful implementation of the Risk-Based Compliance Monitoring Initiative is for registered entities to create or identify internal controls that may be evaluated, but are not subject to compliance, during compliance monitoring activities. In the event that a registered entity does not have internal controls, traditional or status quo compliance monitoring will be conducted unless the CEA determines that increased due diligence is required.

### *The Enforcement Processing Risk Level – the Find, Fix and Track (FFT) Violation Processing Methodology*

As discussed above, this processing method has been met with great success and, with some stipulations, approval from FERC in the March 15, 2012 order. However, there are still advancements for efficiency that can and should be made to complete the successful implementation of risk-based compliance monitoring.

These advancements include:

- Identifying criteria for a lesser or minimal risk PV (FERC restricted FFT candidates to lesser or minimal-risk PVs for the foreseeable future);
- Train auditors to readily identify FFT violations in the field in order to gain efficiencies on the front end of the processing cycle;
- Provide auditors with the authority to determine whether a non-compliance or PV qualifies for FFT processing;
- Obtain consistency in application across RE enforcement and auditing staff;;
- Pursue regulatory approval for the REs to track the FFT PVs without submission to the applicable regulatory body; and
- Obtain regulatory approval for moderate-risk PVs to be considered in the FFT process.

### *Changes to the ROP*

While the ERO has the authority to implement the Risk-Based Compliance Monitoring Initiative under the current ROP, there are two sections that may require removal or modification to provide flexibility for establishing an appropriately scoped compliance monitoring program. The two sections in the Compliance Monitoring and Enforcement Program (CMEP) are:

- Section 3.1.4.2, Period Covered; and
- Section 11 Compliance Audits of BPS Owners, Operators, and Users.

Section 3.1.4.2 addresses the CEA requiring evidence of compliance over the entire audit period. It provides, in pertinent part:

- Section 3.1.4.2, Period Covered

  > "…However, if a Reliability Standard specifies a document retention period that does not cover the entire period described above, the registered entity will not be found in non-compliance solely on the basis of the lack of specific information that has rightfully not been retained based on the retention period specified in the Reliability Standard. However, in such cases, the Compliance Enforcement Authority will require the registered entity to demonstrate compliance through other means."

Section 11 addresses the minimum frequency of audits for Balancing Authorities (BA), RCs or Transmission Operators (TOP). It provides, in pertinent part:

- Section 11 Compliance Audits of BPS Owners, Operators and Users

  . . .

  11.1 For an entity registered as a Balancing Authority, RC, or TOP, the Compliance Audit will be performed at least once every three years.

Therefore, another step to the successful implementation of the Risk-Based Compliance Monitoring Initiative is for the ERO to modify the ROP CMEP to allow flexibility for establishing an appropriately scoped compliance monitoring program that is unique to each entity and to focus on current compliance activity.

Lastly, the ERO and industry must continuously evaluate if the program is achieving its goal to increase the focus on reliability and course correct as necessary.

**Summary**

This shift in the approach to compliance monitoring has two main purposes:

- To empower registered entities to be in control of monitoring their own compliance activities and to enable entities to have successful compliance activities.
- Focus ERO and industry resources on reliability.

The use of risk-based compliance monitoring with an emphasis on internal controls can provide a model for assessing compliance that:

- Is forward-looking:
  - Rather than gathering evidence for the entire audit period (backward-looking), evidence of recent activities will be used to verify effectiveness of internal controls (forward-looking).
- Appropriately scopes compliance monitoring for each entity:
  - Frequency of compliance monitoring.
  - Method of compliance monitoring.
  - Number of standards or requirements or both included in compliance monitoring.
  - Level of due diligence required during compliance monitoring activities.
- Removes issues surrounding data retention beyond what is required by the standard:
  - Although entities are encouraged to keep data, this approach removes compliance concerns for entities regarding data retention beyond what is required by the standard.

- Provides incentive for industry to take control of compliance monitoring and compliance activities as compliance monitoring is focused, as appropriate, on internal controls that are not subject to compliance:
  - Effective internal controls will detect human drift before non-compliance occurs, providing the entity an opportunity for course correction.
  - Shift from a number consideration or discussion such as whether zero tolerance is appropriate for each standard or requirement. This is not the correct consideration as the number of non-compliance actions frequently doesn't equate to risk.
  - In the event of a PV, the entity may, for lesser or minimal-risk violations, use the FFT (find, fix, and track) processing method after reporting the non-compliance to its registered entity.
- Will ensure compliance as a necessary component of reliability. The emphasis is for the entity to self-monitor and self-report any non-compliance; however, CEAs will be looking to verify that an entity's internal controls are effective. If an auditor discovers a non-compliance that wasn't self-reported, additional due diligence will be required to determine a reasonable assurance of compliance.
- Focuses on issues that provide potential for the greatest impact to the reliability of the BPS.
- Encourages focus on reliability and associated risks.

Not all registered entities are the same; each is unique in its strengths and weaknesses, and each represents different levels of potential impact to the BPS. Similarly, different acts of non-compliance (whether a PV or a Violation) represent different levels of risk to the reliability of the BPS. The ERO is challenged to evaluate the potential impacts to the reliability to the BPS with the same criteria, but address each according to the associated risk.

The Risk-Based Compliance Monitoring Initiative provides the framework for such customization and focus. Its successful implementation will enable entities to monitor their own compliance activities and be successful in those endeavors; it supports the more efficient FFT method of reporting lesser or minimal-risk violations and, in turn, will allow resources to address issues that create a higher risk to the reliability of the BPS.

Agenda Item 6d
MRC Agenda
May 8, 2012

# Compliance Enforcement Initiatives

## Action
Information

## Summary
NERC continues to process violations through the streamlined Spreadsheet Notice of Penalty (SNOP) and the Find, Fix, Track and Report (FFT) informational filing. Since the initial Compliance Enforcement Initiative (CEI) filing on September 30, 2011, NERC will have made eight SNOP filings and eight FFT filings with the Federal Energy Regulatory Commission (FERC) through the end of April 2012. The Commission has issued orders of no further review on the SNOP and NOP filings submitted through the end of February.[1]

On March 15, FERC issued an order on the CEI filing. The Order provided:

- All six FFT filings, through February 2012, were accepted;
- Violations are final 60 days after submittal unless there is cause to open for review;
- Prospectively, violations must be of minimal risk to the bulk power system; this condition may be revisited after the one-year status report filing;
- Registered Entities must certify that violations are remediated;
- Registered Entities must be identified in filings, except for cases of critical infrastructure protection violations;
- FERC will conduct random surveys each year to gauge program performance; and
- NERC, Regional Entities and interested entities may propose mechanisms to identify and remove unnecessary or redundant requirements from Commission-approved reliability standards.

The March 15 Order requires NERC to make a compliance filing in addition to its six-month status report; both due on May 14, 2012. NERC's compliance filing will explain how NERC and the Regional Entities will evaluate a registered entity's compliance history when deciding if FFT treatment is warranted and will provide additional information on how NERC will continue to implement the FFT program. Extension of the ability to identify and process FFTs to compliance monitoring personnel will be a key part of the compliance filing and NERC's efforts over the next several months.

As part of its six-month status report to the Commission, NERC will describe the experience gained and the results from implementation of the CEI to date. Specifically, the six-month report will address and provide context for the CEI processing statistics, discuss the benefits obtained from the program from a broad perspective (NERC, Regional Entity and industry), and how NERC is addressing them. In preparation for this filing, NERC will be working with the Regional Entities to ensure their input is incorporated into the filing.

[1] Action on the March 30, 2012 filing is expected by April 30, 2012.

To date, the CEI has received significant support from the Regional Entities and the industry. NERC anticipates the FFT process will continue to enable better alignment with and substantially greater resources and attention to be devoted to matters that pose a more serious risk to the reliability of the bulk power system. NERC will be working collaboratively with the Regional Entity compliance and enforcement staffs as well as the industry throughout 2012 to continue to implement and improve the CEI.

Agenda Item 3
MRC Informational Session
May 1, 2012

# 2011 Demand Response Availability Report from webDADS

## Action
Information

## Background
In 2011, NERC collected the first ever reliability related demand response (DR) information across 133 entities within North America. This included enrollment of resources, their MW capacity and actual performance data from April 1, 2011 to September 30, 2011. With the second warmest North American summer on record at an average temperature of 74.5°F[1]; the months of June, July, and August had the largest number of DR events called and enrolled resources and capacity. August had the largest enrollment out of the six months with a total of 7,360,605 resources and 56,601 MW, close to 5 percent of 2011 summer generation capacity.

There were 664 deployments during April through September 2011 with July (247 events, 16,283 MWs, 70 percent realization rate[2]) and August (153 deployments, 10,896 MWs, 77 percent realization rate) being the most active. The summary table below provides the basic information from the data collected.

| Demand Response Enrollment and Event Information for 2011 Summer Reporting Period (April – September 2011) | |
|---|---|
| Total number of entities reported | 133 |
| Average enrolled resources each month | 6,914,798 |
| Total maximum enrolled resources (in August) | 7,360,605 |
| Average enrolled capacity (MW) each month | 53,005 |
| Total maximum enrolled capacity (MW) (in August) | 56,601 |
| Total number of deployment events (April to September) | 664 |
| Total deployment (MW) from April to September | 49,721 |
| Total realized demand reduction rate | 65 percent (32,305 MW) |
| Average sustained response period | 2 hours 51 minutes |

The Demand Response Availability Data System Working Group, under the direction of the Performance Analysis Subcommittee of the Planning Committee, is developing metrics to measure DR's performance, benefits and impacts on reliability.

[1] http://www.ncdc.noaa.gov/sotc/national/2011/8
[2] Realization Rate is defined as actual MW achieved / MW requested for the event

# 2012 Summer Assessment Preliminary Conclusions

## Action Required
None

## Background
NERC will issue its *2012 Summer Reliability Assessment* before May 31, 2012. The report will cover adequacy and reliability considerations identified by NERC and the Regional Entities for the 2012 summer months (June through September). The following are anticipated high level findings expected for this report:

- Resources are projected to be adequate for almost all Assessment Areas during the summer peak, despite a NERC-wide reduction of approximately 2,340 MW in available Capacity Resources (Existing-Certain and Future-Planned) , compared to the 2011 summer forecast. However, the reserve capacity for the ERCOT and the WECC-CA-MX (U.S.) Assessment Areas may be short during peaking conditions.
- Regional Entities have not reported any significant fuel supply or delivery issues for the summer months, although NERC will continue to monitor the disruption of key fuel delivery infrastructure and coordinate potential impacts and subsequent mitigation efforts with all stakeholders. Fuel supply constraints are less likely due to ample coal pile reserves and stable natural gas supplies, including unprecedented storage, spurred from shale resources and the recent mild winter. While delivery issues remain a concern, given the increase in gas-fired generation and associated interdependency issues, these risks are generally more prominent during the winter seasons, when gas pipeline and electric system winter demand can peak during the same period.
- Pockets of reduced demand due to economic conditions were detected in NERC's *2012 Summer Reliability Assessment*, with the aggregate forecast peak demand remaining relatively flat compared to last year. Overall, NERC-wide peak demand will decrease by approximately 8 GW, a .94 percent reduction, compared to the 2011 summer forecast. The Assessment Areas with the largest growth in peak demand since the 2011 summer include ERCOT and WECC-NWPP (U.S.), while SERC-N, WECC CA-MX (U.S.) and WECC-RMRG areas will experience decreases. Membership shifts from MISO to PJM account for a majority of the demand changes between these two areas.
- Variable generation continues to increase in most Assessment Areas. Specifically, MISO, ERCOT, and New England have reported significant increases in nameplate wind capacity. Solar and other renewables have not significantly increased since last year.
- Operational issues may challenge the industry during the upcoming summer requiring increased flexibility to manage reliability impacts, such as weather (extended bouts of high temperatures), long-term unavailability of key capacity, drought, and environmental restrictions and regulations (for cooling water). For example:

- In ERCOT, approximately 900 MW of new generation has come online since 2011, while projected demand will increase by over 1,100 MW. Additional capacity concerns involve a large thermal generation unit (1,375 MW) that is currently out of service on an extended maintenance outage, but is expected to return to service prior to the summer peak. Drought is expected to persist or intensify with above normal temperatures projected throughout the summer. Planning Reserve Margins for ERCOT are below the NERC Reference Margin Level (i.e., below ERCOT criteria). The drought conditions in the southeast and Texas continues to persist and are expected to continue into the summer. While recent rainfall has helped the situation, conditionals are not optimal and ongoing monitoring of resource capabilities will be needed.
- In California, the San Onofre nuclear plant (2,250 MW) will remain out of service throughout the summer due to premature wear in the steam tubes of the plant's two units. The Anticipated Planning Reserve Margin for the peak month is 15.2 percent, only 0.1 percent above the area's target. Due to the unavailability of this plant, a continuation of drought conditions, accompanied with a stretch of high temperatures, could result in emergency load shedding in the San Diego and Los Angeles Basin to maintain reliability.

Reliability Assessment Subcommittee (RAS) set the draft schedule below for the *2012 Summer Reliability Assessment*:

| | |
|---|---|
| Friday, May 4 | Final draft sent to PC/OC/MRC |
| Tuesday, May 15 | PC webinar review and approval |
| Friday, May 18 | Final draft sent to NERC Board of Trustees |
| Thursday, May 24 | NERC Board of Trustees webinar review and approval |
| Thursday, May 31 | Target release |

| | |
|---|---|
| **From:** | Clermont.Sylvain@hydro.qc.ca |
| **To:** | rscmembers |
| **Subject:** | MRC: Draft Preliminary SPIG Report |
| **Date:** | Thursday, April 12, 2012 6:51:55 PM |
| **Attachments:** | SPIG draft report and recommendations for MRC 03.30.12.doc |

Dear RSC members,

As you know, the NERC Board of Trustees (BOT) requested the MRC provide policy input and recommendations for the specific improvements needed to the existing NERC reliability standards development process. In response to this request, Scott Helyer and Carol Chinn, Chair and Vice-Chair, respectively, assembled the Standards Process Input Group (SPIG) and sought Industry input and feedback on a variety of issues which included:

- Quality of Standards – improving the standards development process
- Timeliness – to include negative impact
- Efficiency and Effectiveness
- Importance and significance of meeting ANSI requirements

To date, the SPIG has gathered valuable insight, including responses from a formal survey tool, on a number of significant issues related to standards development and has compiled a preliminary report of its findings.

The attached is a working draft that may be shared with Industry partners. However, at this point, only MRC members can submit comments.

However, if you want to share any comments with me, please feel free. There will be ample opportunities for comments by stakeholders in the coming steps. Maybe you can have a first discussion at the coming meeting. I will not be attending this meeting, but I may be able to attend on the phone for this topic, if you choose to have a conversation about this.

Hydro Québec TransÉnergie

**Sylvain Clermont, ing. M.Ing.**
Chef Commercialisation des services de transport / Manager Transmission Services
Tél. : 514 879-4648
Cell. : 514 710-8736
**www.hydroquebec.com**

Preliminary Report from the Standards Process Input Group (SPIG)
Submitted to the Member Representatives Committee (MRC)
MRC FEEDBACK DUE by 4/13/12 (MRC.SPIGComments@nerc.net)

March 30, 2012

The NERC Board of Trustees (BOT) requested the Member Representatives Committee (MRC) provide policy input and recommendations for the specific improvements needed to the existing NERC reliability standards development process. In response to this request, Scott Helyer and Carol Chinn, Chair and Vice-Chair, respectively, assembled the Standards Process Input Group (SPIG) and sought Industry input and feedback on a variety of issues which included:

- Quality of Standards – improving the standards development process
- Timeliness – to include negative impact
- Efficiency and Effectiveness
- Importance and significance of meeting ANSI requirements

To date, the SPIG has gathered valuable insight, including responses from a formal survey tool, on a number of significant issues related to standards development and has compiled a preliminary report of its findings. The SPIG respectfully requests the MRC's review of this preliminary draft and feedback regarding any adjustments that may be required or suggested for the presentation of a formal report during the MRC's quarterly meeting on May 8.

**Please note that all substantive comments from the MRC must be submitted to MRC.SPIGComments@nerc.net by close of business on Friday, April 13.**

**The attached is a working draft that may be shared with Industry partners.**

Any questions regarding this report or the SPIG's preliminary findings and recommendations can be directed to Holly Mann, Secretary to the MRC at holly.mann@nerc.net.

DRAFT

## STANDARDS PROCESS INPUT GROUP (SPIG)

## MRC FEEDBACK DUE by 4/13/12 (MRC.SPIGComments@nerc.net)

### Executive Summary

*[To be completed for final report to MRC and BOT during May delivery]*

### Major issues addressed by SPIG for NERC Standards Development

I. ANSI : Accreditation
II. PRODUCT : Quality of Standards
III. PROCESS : Efficiency, Timeliness and Effectiveness

### High Level SPIG Recommendations

**I. ANSI: Accreditation**

- Continue to meet minimum ANSI Essential Requirements in order to preserve accreditation

**II. PRODUCT: Quality of Standards**

- Form Technical Issues Steering Group (TISG) to conduct high-level "triage analysis" of emerging reliability issues and performance gaps and to direct the initiation of a standards project or other activities; include analysis of cost effectiveness/justification
- Utilize Results-Based Standards Model as the basis for all future standards
- Assess and revise Essential Elements of the Standards Template to provide clarity with regard to compliance obligations; consider development of draft Reliability Standards Audit Worksheets (RSAWs) in standards process in lieu of other compliance elements
- Perform cost effectiveness evaluation during standard development to ensure appropriate scope and benefits are achieved at acceptable costs
- Establish process to consider elimination of standards and specific requirements that have minimal value

**III. PROCESS: Efficiency, Timeliness and Effectiveness**

- Revise formation and composition of Standard Drafting Teams (SDTs) – smaller core drafting teams with technical writers, legal ,compliance and facilitation support along with enhanced project management; larger group of SMEs used to review draft standard before posting
- Simplify/streamline balloting and comment process without jeopardizing ANSI accreditation
- Establish expected development timelines for different categories of standards; reset process after 24 months without a completed standard to reevaluate whether on right track
- Interface with FERC and governmental authorities in Canada earlier in the process (triage stage) and throughout the development process

# Standards Process Input Group (SPIG)
## Description and Discussion of effort and initial recommendations

**Formation of the SPIG**

In February 2012, the NERC Board of Trustees (BOT) requested the Member Representatives Committee (MRC) to provide the BOT with policy input on how to improve the existing standards development process. The MRC formed a small group to gather input from stakeholders and develop a draft of the policy input for the full MRC to consider during its quarterly meeting in May.

**Group members**

The composition of the SPIG consists of MRC Leadership, MRC members, NERC Board of Trustees, NERC President and CEO, and the Standards Committee Chair:

| | |
|---|---|
| Scott Helyer | Ken Peterson |
| Carol Chinn | Paul Barber |
| Gerry Cauley | Allen Mosher |
| John A. Anderson | John DiStasio |
| Lorne Midford | Bob Schaffeld |

**Major SPIG Objective(s)**

Identify and gain support for standards process improvements that will:

- Accomplish NERC's mission of ensuring reliable interconnected operations
- Improve quality and clarity of NERC's existing body of reliability standards
- Reduce time and resources required to achieve stakeholder consensus in support of new or revised reliability standards.

**SPIG Timeline for Input**

- Trades input was provided to NERC BOT in January (Attachment 1)
- Outreach Survey comments received from 105 stakeholders in late February (Attachment 2)
- SPIG conference call with FERC staff and initial SPIG planning meeting conducted in early March
- SPIG provides preliminary report to MRC for input in early April
- Input from MRC received by April 13
- Additional SPIG planning meeting to consider MRC input conducted April 19-20
- Report revised, finalized, and posted with MRC on April 25
- MRC discussion at MRC meeting on May 8
- Final report to NERC BOT in late May

**Major issues by SPIG for NERC Reliability Standards Development**

I. ANSI : Accreditation
II. PRODUCT : Quality of Standards
III. PROCESS : Efficiency, Timeliness and Effectiveness

**High Level SPIG Recommendations**

**I. ANSI: Accreditation**

a. Continue to meet minimum ANSI Essential Requirements in order to preserve accreditation



DRAFT

i. ANSI recently re-accredited NERC's process; accreditation is good for five years
ii. Utilize flexibility provided by ANSI and streamline Standards Process Manual requirements

**II. PRODUCT: Quality of Standards**

a. Form Technical Issues Steering Group (TISG) to conduct high-level "triage analysis" of emerging reliability issues and performance gaps and to direct the initiation of a standards project or other activities; will include analysis of cost effectiveness/justification.
   i. TISG will facilitate the evaluation of reliability need/benefit, providing clarity on the standard's scope, and consider other (non standards) solutions as needed
   ii. TISG will be comprised primarily of stakeholders with support from NERC staff
   iii. TISG responsibility will include prioritization of NERC projects; TISG input will be considered in the development and implementation of the Three-Year Reliability Standards Development Plan
   iv. TISG may recommend other (non standards) activities such as alerts, technical bulletins, guidelines, etc. instead of proposals to create new or modify existing standards
   v. Board of Trustees should review and approve TISG recommendations that entail any significant new ERO initiatives or reordering of ERO strategic priorities

b. Utilize Results-Based Standards Model as the basis for all future standards.
   i. Evaluate all existing standards and revise to meet format of Results Based standards
   ii. Retire any existing standards that are not Results Based or are not chosen to be modified into a Results Based standard format per Board approval

c. Assess and revise the Essential Elements of the Standards Template to ensure clarity on reliability objectives and compliance obligations; consider development of draft Reliability Standards Audit Worksheets (RSAWs) in standards process in lieu of other compliance elements.
   i. New Standard Template to be developed with a reassessment of all elements required, to ensure clarity, simplify standard development and ease compliance, and be consistent with Results-Based Standards model
   ii. RSAWs are widely used by both registered entities and Regional Entities to demonstrate compliance, to provide clarity with regard to compliance obligations, consider development of draft RSAWs during standards process in lieu of other compliance elements such as VSLs and Measures
   iii. Post entire package for stakeholder comment, including RSAWs
   iv. Formally ballot Standards Applicability and Requirements; conduct straw ballot of RSAWS, as now done for VRFs and VSLs

d. Perform cost effectiveness evaluation to ensure appropriate scope and benefits are achieved at acceptable costs.
   i. Adopt a process to assess potential needs, costs and benefits of proposed reliability standards projects prior to project initiation as part of TSIG responsibility. Seek industry technical consensus in support of this cost-benefit assessment prior to project initiation

ii. During standards project development, the SDT should seek industry, NERC, regional entity and regulatory input on cost-effectiveness of the proposed standard and associated compliance obligations as a means of accomplishing reliability objectives.

e. Establish process to consider elimination of Standards and Standards Requirements that have minimal value.
   i. The recent FERC FFTR Order encourages the reduction of unnecessary requirements and a structured process needs to be developed to achieve this

**III. PROCESS: Efficiency, Timeliness and Effectiveness**

a. Revise formation and composition of Standard Drafting Teams (SDTs) – smaller core drafting teams with technical writers, legal ,compliance and facilitation support along with enhanced project management; larger group of SMEs used to review draft standard before posting.
***Suggested*** elements include:
   - A smaller core drafting team of Subject Matter Experts (SMEs), determined by subject matter of standard, with a heavy time commitment to the project
   - The core drafting team must have expertise in and/or access to project leadership, technical writing, legal support, compliance support, and a consensus facilitator (one person may fill more than one of these roles)
   - A larger, diverse group of SMEs acting as the project resource team will help to identify project goals and objectives and to review draft standard before posting.
   - Smaller draft group will draft project objectives and develop initial draft of the standard.
   - Training on roles and responsibilities (i.e. leaders, facilitators, scribes, etc.) plus improved and formalized project management will be required to improve the efficiency and effectiveness of the SDTs
   - All project members are expected to be available as needed to allow work to progress efficiently and effectively

b. Simplify/streamline balloting and comment process without jeopardizing ANSI accreditation.
***Suggested*** process streamlining options:
   - SDT will post draft standard for informal comment period of 30 days, but not be required to respond to comments
   - It is not a requirement to be consistent with ANSI Essential Requirements for an SDT to post draft standards for multiple formal periods
   - Current process for posting standard for formal comment and balloting will be used including Successive ballots and Recirculation ballots. Drafting teams may post responses to comments during any ballot periods if SDT believes it will help improve consensus support for standard. The drafting team is only required, by ANSI, to post responses to each comment received during the *final* formal comment period prior to the recirculation ballot and to each comment received during the recirculation ballot
   - All votes cast by ballot pool member will be used to establish quorum
   - Any “No” votes without a “comment” shall not be used to determine whether a standard passes or fails

- All comments submitted in conjunction with a "No" vote shall include an explanation as to why the change is needed and specific language changes to standard that would make the standard acceptable.

c. Establish expected development timelines for different categories of standards; reset process after 24 months without a completed standard to reevaluate whether on right track.
***Suggested*** time line expectations for Standards Development:
   - 6 months for Rapid Development/Urgent Standards
   - 12 months for relatively straightforward standards
   - 18 to 24 months for complicated standards with multiple overlaps

   i. Interface with FERC and governmental authorities in Canada earlier in process (triage stage) and throughout development process
   ii. Coordination discussions with FERC and governmental authorities in Canada begin when steering group first engages a reliability issue and continue as scope and objectives of standard are developed and throughout the actual drafting process.
   iii. Following successful ballot of standard and approval by board, pre-filing meetings will be held with FERC Staff and individual Commissioners to help ensure FERC approval without conditions; and similar efforts will apply with governmental authorities in Canada.
   iv. SPIG encourage regulatory authorities to permit staff to submit written comments to the drafting team during informal and formal comment periods.

DRAFT

**Attachment 1**
**Trades Policy Input**
**Received February 2012**

**NERC Standards Development Process Improvement**
**General Principles and Recommendations**

NERC and its core program areas should seek continuous improvement. There is a growing recognition that the standards development process is time-consuming, cumbersome and resource-intensive in ways that are not necessary to ensure clear and effective standards that account for the wide diversity among registered entities and how the bulk electric system (BES) is operated and planned. Significant discussion has taken place at FERC, NERC and with industry over the past year around ways to make such process improvements. As a result of those discussions, the Trade Associations have developed the following principles and recommendations to support an initiative to make significant improvements to the standards development process.

The Trade Associations supporting these principles and recommendations include the American Public Power Association, Edison Electric Institute, Electric Power Supply Association, Electricity Consumers Resource Council, Large Public Power Council, National Rural Electric Cooperative Association, and Transmission Access Policy Study Group.

1. **Areas for Improvement: The standards development process should be improved in four specific areas:**
   - Clarity on the reliability objectives, technical parameters, scope and the relative priority of the standards project
   - The drafting process (developing the specific technical content of the standard)
   - Standards project management and workflow
   - Formal balloting and commenting

2. **Policy Leadership: The NERC Member Representatives Committee should organize a small group of senior level industry leadership representing a range of stakeholders to meet with the NERC CEO, the chair of NERC Standards Oversight and Technology Committee and the chair of the stakeholder Standards Committee to decide on the approach for making improvements to the four process areas.**
   Standards development process improvements need to be strongly aligned with problems experienced to date. The NERC Member Representatives Committee (MRC) should serve as the group to organize such meetings and ensure their success. Decisions will be made by April 1, 2012. These meetings will provide hi-level goals, priorities and expectations to the NERC process subcommittee of the NERC Standards Committee for timely, specific action.

3. **Due Process: As required by the FERC-approved process, standards development process changes must be balloted by stakeholders and approved by the Board. Our goal is final NERC Board of Trustees approval at the November 2012 meeting.**
   The Board of Trustees and the MRC will be provided detailed status reports at both the May and August meetings. Work should be planned and ballots scheduled to ensure that the Board of Trustees has a package for approval at the November meeting.

4. **Technical Excellence: Control of the drafting and technical content of reliability standards should be the responsibility of experienced industry technical experts.**
   Both the complexity of planning and operating the BES, and the broad diversity of how the BES is planned and operated across the interconnected network, demand that industry subject matter experts hold this critical responsibility.
   NERC and regulatory staff are welcome to contribute subject-matter expertise on the same basis as other experts. Technical writers and legal/compliance expertise have a pivotal role in the standards development process to ensure process efficiencies, clarity and enforceability.

5. **Balloting and Commenting: The standards development process should be closely reviewed to determine areas where it can be condensed to increase efficiency without jeopardizing technical excellence and consensus.**
   The current formal comment and ballot process can be significantly improved; however, the balloting process must ensure that individual entities can actively participate, vote and ensure their concerns are addressed. Efficiency gains can be captured without sacrificing ANSI Principles of openness, transparency, balance of interests, or due process.

6. **Compliance and Enforcement: In tandem with this initiative, both NERC and FERC *must* continue to focus on changing the policies and practices of the compliance and enforcement program area.**
   FERC policy and case decisions and the program practices at NERC and each Regional Entity need to continue to pursue reliability risk-based approaches to monitoring and enforcement.
   Despite recent initiatives, the costs of paperwork and documentation are high and rising, do not support BES reliability, and their costs in no way correspond to the levels of risks addressed by entities that plan and operate the BES.

DRAFT

**Attachment 2**
**Summary of Stakeholder Survey Responses**

105 Survey respondents included:

- Standard Drafting Team Chairs/Vice Chairs/Members
- Registered Entities
- Regional Entity Staff
- Trade Association
- NERC Staff
- MRC Members
- Regulator
- Other

The SPIG reviewed stakeholder responses and categorized them into three concentrated areas:

1. **ANSI : Accreditation**
   - Preserve ANSI accreditation in order to assure openness, transparency, consensus building, balance of interests and due process
   - Checks and balances of ANSI process are important
   - Application of requirements can hinder progress
   - Negative Ballots without comment are problematic
   - Other options besides ANSI should be considered if ANSI prevents efficiency gains

2. **PRODUCT: Quality of Standards**
   - Not cost effective (limited value justification)
   - Unclear in terms of the reliability objective and benefit
   - Not auditable
   - Limited in terms of supporting documentation or administrative records
   - Limited in terms of registered entity and auditor understanding
   - Quality review needs to involve Industry, NERC and FERC and take place earlier in standards development process
   - Lacking clarity and technical justification upfront
   - Geared towards compliance risk rather than reliability risk

3. **PROCESS: Efficiency, Timeliness and Effectiveness**
   - Impacted by the SDT composition (need expertise in legal, technical writing, compliance, etc.).
   - Not timely or effective in terms of commenting/balloting (need to consider the manual effort and timing associated with posting, grouping and responding).
   - Restricted due to the number of standards coming through the process at the same time (too many to process efficiently)
   - Lacking the convergence on consensus (taking too long to achieve).
   - Criticized for inefficiencies (taking too long)
   - Lacking a project manager and facilitator (need within the SDT and the back office of NERC)
   - Influenced by the treatment of Industry (by FERC staff and NERC staff) in the compliance/enforcement process.

Agenda Item 3
SOTC Meeting
May 8, 2012

# MRC Standards Process Input Group (SPIG) Recommendations

## Action

Discussion of Member Representatives Committee (MRC) input.

## Background

In February 2012, the MRC was asked to commence a working group to provide policy input and recommendations for specific improvements to the existing NERC reliability standards development process. The Standards Process Input Group (SPIG) commenced in March and sought industry input and feedback on a variety of issues which included:

- Quality of standards, to include process and product
- Timeliness
- Efficiency and effectiveness
- Importance and significance of meeting ANSI requirements

The SPIG gathered valuable input and insight on a number of significant issues related to standards development and compiled a report consisting of five recommendations. The MRC followed by the Standards Oversight and Technology Committee (SOTC) plan to discuss, during May 8, these recommendations to determine:

- Which have merit and which need additional refinement;
- If concerns relative to production, efficiency and quality, raised by stakeholders and regulators, have been addressed;
- Whether additional changes to the governance of the standards development process are needed to supplement the SPIG's report; and
- What oversight the SOTC and Board of Trustees will want to see over how implementation issues are analyzed and ultimately proposed for endorsement, acceptance, or approval.

The MRC plans to discuss, during its May 8 meeting, these recommendations to determine which have merit and which need additional refinement. Once the SPIG has received the MRC's input it will finalize a proposal for the implementation of the recommendations before providing a package to the Board of Trustees for their endorsement and action at a later date. In some cases, changes to the Rules of Procedure may be required for final implementation, which will take additional time to develop and gain approval.

The SPIG will present the draft report and its recommendations to the MRC and Board of Trustees for additional discussion and targets the final report and recommendations for Board of Trustees approval in late May 2012.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Recommendations To Improve the NERC Standards Development Process

## Member Representatives Committee (MRC)
## Standards Process Input Group (SPIG)

Draft — April 2012

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Preface

## Formation of the Standards Process Input Group

At its February 9, 2012 meeting, the NERC Board of Trustees (BOT) requested the assistance of the NERC Member Representatives Committee (MRC) to provide policy input, and a proposed framework, for specific improvements needed to the standards development process. The MRC Chair and Vice Chair invited several members of the MRC, two NERC Board of Trustees members, the NERC CEO, and the Standards Committee (SC) Chair to join with them as participants in the Standards Process Input Group (SPIG) in developing recommendations to improve the standards development process in the following areas:

- Clarity on the reliability objectives, technical parameters, scope, and the relative priority of the standards project.
- The drafting process (developing the specific technical content of the standard).
- Standards project management and workflow.
- Formal balloting and commenting.

To help ensure that the SPIG focused its efforts on the best areas for improvement, they began their process by gathering input from subject matter experts (SMEs), including the regions, MRC, Standard Drafting Team leaders, NERC staff, and other stakeholders by asking the following:

- What are the issues that are keeping the process from improving the reliability benefits of the standards?
- What are the impediments to improving the efficiency of completing a new standard or standard revision?
- Are stakeholder resources being used efficiently? If not, then why?

### SPIG Timeline for Input

- Trades input was provided to NERC BOT in January 2012
- Outreach Survey comments received from 105 stakeholders in late February
- SPIG conference call with FERC staff and initial SPIG planning meeting conducted in early March
- SPIG provides preliminary report to MRC for input in early April
- Input from MRC received by April 13
- Additional SPIG planning meeting to consider MRC input conducted April 19-20
- Report revised, finalized, and posted with MRC agenda on April 25
- MRC discussion at MRC meeting on May 8
- Final report to NERC BOT in late May

# Table of Contents

Preface ..... i

Executive Summary ..... 1

Introduction ..... 3

Recommendations from the SPIG ..... 5

Recommendation 1: American National Standards Institute ..... 5

Recommendation 2: Reliability Issues Steering Committee (RISC) ..... 6

Recommendation 3: Interface with Regulatory and Governmental Authorities ..... 10

Recommendation 4: Standards Product ..... 12

Recommendation 5: Standards Development Process and Resources ..... 14

# Executive Summary

The Standards Process Input Group (SPIG) organized by the NERC Member Representatives Committee (MRC) is proposing in this report a number of changes to the way NERC develops Reliability Standards and other solutions intended to improve the priority, product and process of standards development. Inherent in these proposed changes is an effort to better understand, articulate and incorporate, into the standards development process, the appropriate accountabilities for standards development.

For example, Section 215 of the Federal Power Act creates accountability for the Federal Energy Regulatory Commission (FERC), first to certify an Electric Reliability Organization (ERO) for the purpose of establishing and enforcing reliability standards for the bulk power system, and then to approve the standards developed by the ERO. As such, FERC is accountable to the U.S. Congress, which passed the law that created Section 215.

Section 215 also creates accountability for NERC by requiring that the ERO, certified by FERC, have a demonstrated ability to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system. This accountability extends to the NERC management to see that high quality standards are developed in an efficient and effective way and to the NERC Board of Trustees (Board) that must approve those standards before they are filed with governmental regulatory authorities in the U.S. and Canada.

Finally, the stakeholders, whose technical expertise is essential to the development of the standards, have a shared accountability with NERC and with each other to see that the right standards are developed in a fair, open, balanced and inclusive way.

One of the principal recommendations of the SPIG, is the creation of a Reliability Issues Steering Committee (RISC) that is intended to address these issues of accountability by ensuring that NERC develops the right standards, in the right way, and in a timely and efficient manner. To accomplish this, the RISC will conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

In addition to recommending the creation of the RISC, the SPIG also recommends that Reliability Standards Audit Worksheets (RSAWs) be developed concurrent with their associated standards and posted along with those standards for comment. The purpose here is to make sure that the RSAWs are aligned with the intent and wording of the standards to reduce the need for Interpretations and Compliance Application Notices.

Lastly, the SPIG is recommending a redesign of the composition and process used by Standards Drafting Teams to make more efficient and effective use of the subject matter expertise resident in the industry, and to provide those experts with additional support resources in terms of project management and facilitation, legal expertise, and technical writing support.

The recommendations also aim to strengthen consensus building, first on the need for a standard and then on the requirements themselves.

Collectively, these recommendations suggest a major revision of how decisions to develop standards are determined in the first place and, once the decision is made that a new or revised standard is needed, to see that it is developed in the most efficient, effective, and timely way, taking into account throughout the process the costs, benefits and justification for all standards.

# Introduction

*Priority, product and process* are the three main focus areas addressed by the recommendations of the SPIG regarding their review and analysis of the NERC standards development process.

The SPIG provides five recommendations designed for action and for discussion. The analysis of feedback received throughout this project indicates that more discussion should occur around the variety of the changes, improvements, and implementation being proposed in these recommendations, as listed below and described in more detail in this report.

**Recommendation 1: American National Standards Institute** — NERC should continue to meet the minimum requirements of the American National Standards Institute (ANSI) process to preserve ANSI accreditation.

**Recommendation 2: Reliability Issues Steering Committee** — The NERC Board is encouraged to form a Reliability Issues Steering Committee (RISC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

**Recommendation 3: Interface with Regulatory and Governmental Authorities** — The NERC Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.

**Recommendation 4: Standards Product Issues** — The NERC board is encouraged to require that the standards development process address:

- The use of results–based standards (RBS);
- Cost effectiveness of standards and standards development;
- Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and
- The retirement of standards no longer needed to meet an adequate level of reliability.

**Recommendation 5: Standards Development Process and Resource Issues** — The NERC Board is encouraged to require the standards development process to be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:

- Formal and consistent project management; and
- Efficient formation and composition of Standard Drafting Teams (SDTs).

These recommendations were derived from a synthesis of stakeholder responses categorized into the following three concentrated areas:

*I. ANSI: Accreditation*

- Preserve ANSI accreditation in order to ensure openness, transparency, consensus building, balance of interests and due process
- Ensure checks and balances of the ANSI process
- Limit application of requirements that can hinder progress
- Limit negative ballots without comment
- Consider other options if ANSI prevents efficiency gains

*II. PRODUCT: Quality of Standards*

- Consider the cost effectiveness (limited value justification)
- Improve clarity in terms of the reliability objective and benefit
- Ensure auditability
- Improve supporting documentation or administrative records
- Improve registered entity and auditor understanding
- Involve industry, NERC and FERC in the quality review earlier in the standards development process
- Seek clarity and technical justification upfront
- Be sensitive not to gear towards compliance risk rather than reliability risk

*III. PROCESS: Efficiency, Timeliness and Effectiveness*

- Address the SDT composition (need expertise in legal, technical writing, compliance, etc.)
- Improve timeliness and effectiveness in terms of commenting/balloting (need to consider the manual effort and timing associated with posting, grouping and responding)
- Manage the number of standards coming through the process at the same time (to ensure the right number can be processed efficiently)
- Seek convergence on consensus (to avoid taking too long to achieve)
- Improve efficiencies (to avoid taking too long)
- Implement a project manager and facilitator (need within the SDT and the back office of NERC)
- Improve communications and coordination between industry, NERC and FERC staff; especially in terms of the compliance/enforcement process

# Recommendations from the SPIG

## Recommendation 1: American National Standards Institute

### Issue

Should NERC continue using the American National Standards Institute (ANSI) process for developing standards?

### Recommendation

***NERC should continue to meet the minimum requirements of the ANSI process to preserve ANSI accreditation.***

### Background

The SPIG's initial survey of the industry asked "How important are ANSI accreditation and ANSI principles (openness, transparency, consensus-building, fair balance of interests, and due process) to the NERC standards development process?" The majority of responses agreed that NERC standards development process should continue to at least meet the minimum ANSI requirements (Figure 1).

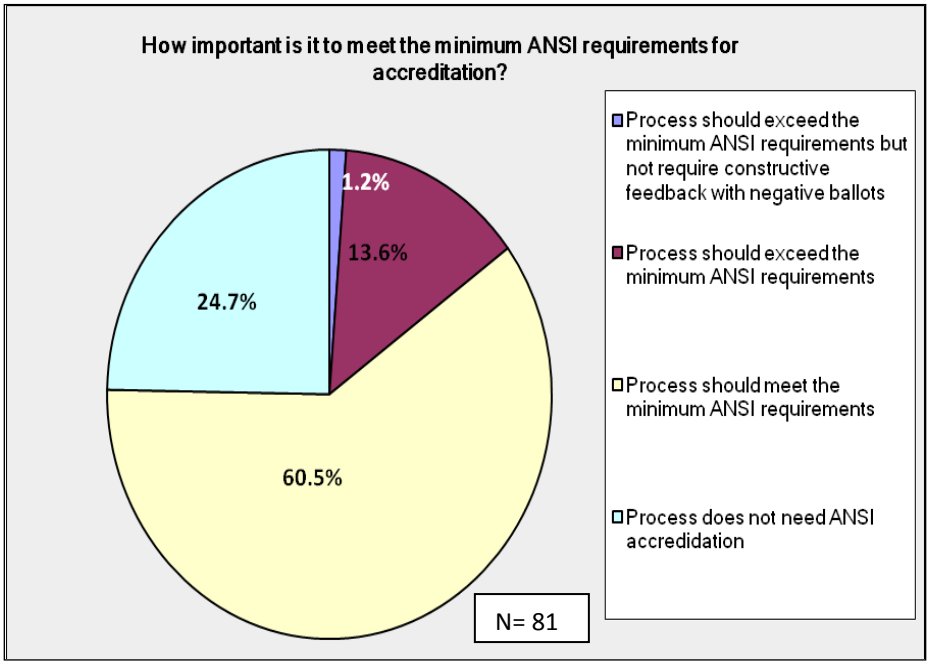



Figure 1: Results from SPIG survey of the Industry, April 2012

According to ANSI, accreditation signifies the standards developer is committed to an open, fair and time-tested consensus process that benefits stakeholders. Developers are accredited to the requirements contained in the *ANSI Essential Requirements: Due Process Requirements for American National Standards*. NERC staff confirms that the current standards process meets and in some cases exceeds the ANSI Essential Requirements.

## Recommendation 2: Reliability Issues Steering Committee (RISC)

### Issue

How should NERC determine:

- What actions are needed to address identified risks to reliability?
- Whether the development of a standard is necessary and its cost/benefit to reliability is justified?
- What should be the priority and timeline for standards development?

### Recommendation

***The Board is encouraged to form a Reliability Issues Steering Committee (RISC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.***

**Proposed Details**

The RISC would:

- Be comprised of stakeholders including, but not limited to:
  - Chairs and vice chairs of the technical committees;
  - Select MRC members and other stakeholders;
  - Chair, approved by the Board; and
  - NERC Senior Staff member.
- Utilize a broad range of industry and other expertise.
- Analyze performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
- Advise the Board on key initiatives and priorities; recommends standards projects or alternatives (Figure 2).
- Report directly to Board (and not the MRC).
- Require Board review and approval of any significant new ERO initiatives or reordering of ERO strategic priorities.
- Not supersede the role of Standards Committee.
- Set milestones and timelines for standards projects.
- Conform to NERC Bylaws and Rules of Procedure.

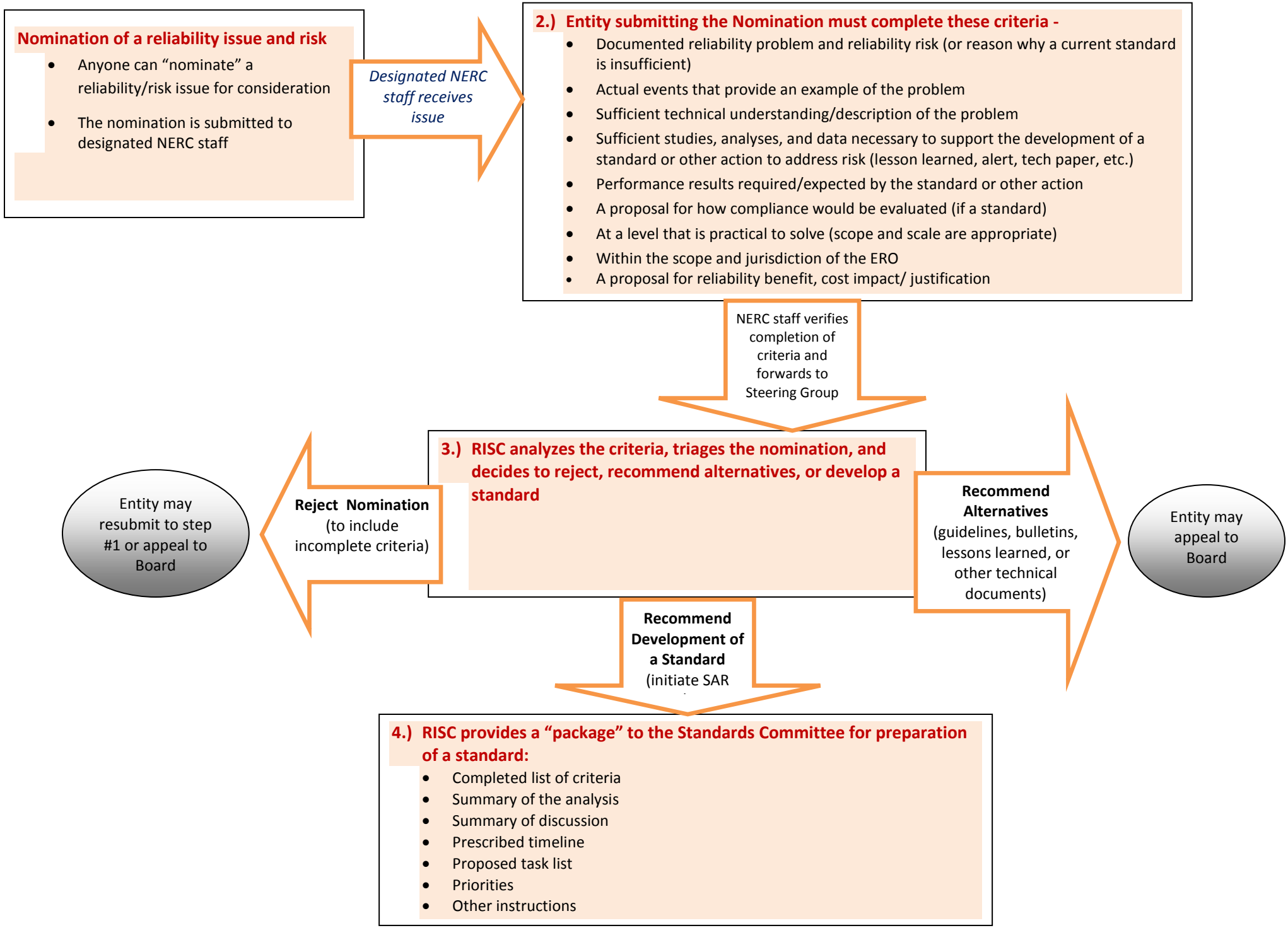
**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Role of the RISC in three-year reliability SDP.
- Modification to existing standards including elimination of duplicative or low value standards.
- Role of RISC with respect to FERC directives.
- Communication between the RISC, Standards Committee (SC), Standards Oversight and Technology Committee, MRC and Board and its technical committees.
- Relationship with governmental authorities.

### Explanation of Figure 2: Proposed Front-End Process Flow Chart

- Anyone can "nominate" a reliability/risk issue, via designated NERC staff, for consideration by the RISC. Upon verification and satisfactory completion of the nomination criteria, the RISC may decide to:
  1. Reject the nomination;
  2. Recommend alternative action other than standards; or,
  3. Develop a standard.
- If the nomination is rejected by the RISC, an appeals process will be available.
- Recommended alternatives to standards may include the development of guidelines, bulletins, alerts, lessons learned, best practices, technical documents, etc. If a standard is recommended, a project management "package" will be prepared by the RISC for the SC, including (as appropriate):
  - The completed list of criteria
  - Analysis of performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
  - Discussion
  - Timeline
  - Task list
  - Priorities
  - Other instructions
- The RISC may refer a "package" to the SC with instructions to prepare a standard. The RISC should also inform the MRC and Board of its actions.

## Figure 2: Proposed Front-End Process Flowchart (pathway for the Reliability Issues Steering Committee – RISC)



# Recommendation 3: Interface with Regulatory and Governmental Authorities

### Issue

How can NERC improve the communication and awareness of NERC's strategic initiatives on major risks to reliability to increase alignment of NERC with the concerns of state, federal, and provincial authorities?

### Recommendation

***The Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.***

**Proposed Details**

- Interface with governmental authorities to align priorities and timing of reliability initiatives. Establish and align priorities early on during the nomination of the reliability issue.
- Develop methods to effectively communicate progress and manage expectations.
- Promote effective rules of engagement of state, federal, and provincial regulatory staff in accordance with jurisdictional requirements.
- Following successful ballot of standard and approval by the Board, pre-filing meetings will be held with FERC staff and individual Commissioners to help ensure FERC approval without conditions; and similar efforts will apply with governmental authorities in Canada.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Responsibility for managing the details above, concerning progress and expectations.
- Encourage regulatory authorities to permit staff to submit written comments to the drafting team during informal and formal comment periods.

### Background

The SPIG provides as additional reference and guidance the *Roles and Responsibilities: Standards Drafting Team Activities*, approved by the SC in July 2011, includes the following policy guidance, approved by the NERC Board at its October 29, 2008 meeting, to guide standard drafting teams' responses to regulatory authority staff involvement in standard drafting activities:

a. The standard drafting team has sole responsibility for drafting and approving the language in the proposed standards that are presented to the SC for ballot.

b. NERC and the SC support the involvement of regulatory authority staff in all standards drafting team activities, where permitted by law.

c. NERC recognizes that regulatory authority staff does not speak for the regulatory authority itself and, as such, the input they provide is considered advice.

d. In the event regulatory authority staff does choose to participate in drafting team activities, they should be treated as any non-voting observer or participant.

e. Standard drafting team members should seek out the opinion of regulatory authority staff, consider the regulatory staff input on its technical merits, and respond to written comments offered during a public posting period as it would seek opinions from, consider the technical merits of, and respond to comments offered by other industry stakeholders.

f. To the extent that regulatory authority staff advice is offered to the drafting team (or members thereof) in a forum that is not public and open to all industry participants, the standard drafting team should consider the input as advice.

g. If the team chooses to act on regulatory authority staff advice offered in a non public forum, the standard drafting team chair should either:

   - Request the regulatory authority staff to provide the advice during an open meeting or conference call of the drafting team; or,
   - Document his/her understanding of the issues or advice presented, and include the information in an open industry comment period with the accompanying changes to the proposed standards.

# Recommendation 4: Standards Product

### Issue

How will standards be developed to effectively achieve reliability objectives through clear, high quality Results-Based Standards (RBS) requirements in a cost effective manner?

### Recommendation:

***The Board is encouraged to require that the standards development process address:***

- ***The use of RBS;***
- ***Cost effectiveness of standards and standards development;***
- ***Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and***
- ***The retirement of standards that are no longer needed to meet an adequate level of reliability.***

**Proposed Details**

- Utilize RBS model as the basis for all standards.
  i. Evaluate all existing standards and revise to meet format of RBS.
  ii. Retire any existing standards that are not chosen to be modified into a RBS format per Board approval.
  iii. Develop all new standards in RBS format.
- Ensure cost effectiveness of standards through documentation of alternatives analysis.
- Include cost impact/reliability benefit analysis in the final standards package posted for ballot.
- Ensure clarity on reliability objectives and compliance obligations.
  i. SDT is responsible for the development of the standard including requirements and measures.
  ii. Compliance staff will develop RSAWs (that will be used in the auditing of compliance) in conjunction and coincident with the development of the standard.
  iii. Post entire package for stakeholder comment, including standards and RSAWs (RSAWs are not balloted).
  iv. Changes to RSAWS after the ballot body develops measure/standard require Board approval.
- Revise Essential Elements of the Standards Template to eliminate redundancies such as Violation Severity Levels (VSLs).
- Consider “applicability” provisions and criteria for those most impacted by implementing a standard.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Establish process to consider elimination of standards and standards requirements that have minimal value.
    i. The recent FERC Find, Fix, Track and Report (FFTR) Order encourages the reduction of unnecessary requirements and a structured process needs to be developed to achieve this.
    ii. Additional options may include a task to the RISC, Operating Committee, or Planning Committee, as determined by the Board.

# Recommendation 5: Standards Development Process and Resources

### Issue

How can the existing standards development process be improved upon and streamlined and how can resources be better utilized to ensure effective, efficient, and expeditious standards development?

### Recommendation

***The Board is encouraged to require the standards development process be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:***

- ***Formal and consistent project management***
- ***Efficient formation and composition of SDTs***

#### Proposed Details

- The drafting team will post responses to each comment received during the *final,* formal comment period prior to the recirculation ballot. For other postings, there is no ANSI requirement to post responses to the comments.
- Modify the comment process to:
  i. Bundle responses to comments.
  ii. SDT will post draft standard for informal comment period of 30 days, but not be required to respond to comments.
  iii. Promote an automated system for managing comments.
  iv. Conduct industry webinars between successive ballots to enhance understanding of issues and facilitate consensus.
  v. Facilitate consensus by encouraging industry collaboration and submittal of coordinated comments through Regional Entities and trade groups.
- Ballot process shall:
  i. Use all votes cast by ballot pool member to establish quorum.
  ii. Provide options for voting "No" with guiding choices for the answer with a comment section on the ballot.
- Formalize the use of formal, rigorous project management (i.e., trained leaders, facilitators, scribes, etc.) within SDTs to ensure greater efficiency and effectiveness of the SDTs.
- Revise formation and composition of SDTs model.
  i. Incorporate the support of technical writers, legal, compliance and rigorous and highly trained facilitation support.

ii. Ensure adequate representation and competencies based on complexity of the issue.

- Promote efficiency and timeliness by setting milestones and progress reports.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Reinforce mechanisms to add during the commenting process.

i. Locked list of answer options (e.g., "risk to reliability," "cost concerns," etc.).

ii. "Other" option for the No vote list with a comment section that requires explanation that this approach will balance input to empower the SC to conduct a more thorough balloting process.

iii. Consider bolding of text instructions on all ballots that emphasize the importance of clarity.

iv. Consider the advantage/disadvantage to establishing voting record for each participant/entity.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Draft Notes
# Regional Standards Group Monthly Meeting

March 12, 2012 | 1:00–3:00 p.m. ET
Dial-In: 866-740-1260 | Access Code: 4391390 | Security Code: 091125

1. Welcome–**Herb Schrayshuen**
   - Herb Schrayshuen welcomed the members of the RSG and participants
2. Establish Attendance of Regional Standards Group (RSG)–**Herb Schrayshuen**
   - The attendees were:
     - Gerry Dunbar, NPCC
     - Carter B. Edge, SERC
     - Nick Hennery, FERC
     - Patrick Huntley, SERC
     - Anthony Jablonski, RFC
     - Steve Myers, ERCOT
     - Lee Pedowicz, NPCC
     - Emily Pennel, SPP
     - Steven Rueckert, WECC
     - Guy Zito, NPCC
     - Howard Gugel, NERC
     - Al McMeekin, NERC
     - Barbara Nutter, NERC
     - Suzanne Smith-Wigfall, NERC

3. Review NERC Antitrust Guidelines and Open Meeting Reminder–**Herb Schrayshuen**
   - Herb Schrayshuen delivered the Antitrust Guidelines and Open Meeting Reminder to all members and participants. There were no questions raised.
4. Review Current Agenda–**Herb Schrayshuen**
   - Herb Schrayshuen reviewed current agenda and asked that two (2) additional items be added after Item 8-Charter Update and Fill-in-the-Blank Draft Report. All agreed.
5. February 21, 2012 Notes–(Approve)–**Herb Schrayshuen**
   - The notes for the February 21 meeting were unanimously approved with one (1) change from Don Jones.
6. Review Action Items (AI)–**Herb Schrayshuen**
   - The action items were reviewed and statuses were updated.
7. Update-Rapid Development Project 2010-05.1–Protection Systems Misoperations–**Al McMeekin**
   - Al McMeekin advised team has met and finished their initial draft. There will be a 45-day comment period. Draft should be posted first week of April. Guy Zito suggested this item be dropped from the Action Item list and all agreed.
8. Whitepaper–**Herb Schrayshuen**
   - The status of the regional standards and variances whitepaper was discussed in the course of the action items. It was revealed that the regional executives have requested an opportunity to comment.
9. Charter Update–**Herb Schrayshuen**
   - Guy Zito advised that a redline copy has been produced. Carter Edge shared that comments by the Regional Standards manager are due by March 23, 2012. Additionally, he informed members that there will be a conference call, without NERC, on March 23, 2012.
10. Fill-in-the Blank Draft Report–**Herb Schrayshuen**
    - Herb will send out the draft report for comments today after the meeting. *AI
11. RSG Future Meetings
    - 04/12/2012–Face-2-Face-Tampa, FL (FRCC-10th Floor, Small Conference Room) 3:00-6:00 p.m.
      - Advise Suzanne if there will be any food and beverage needs
      - Suzanne will forward webinar information by Friday, March
    - 05/14/2012–Teleconference

- 06/11/2012-Teleconference

12. Round Table

- A discussion was held on the NERC cost-effective analysis and will be presented at the April 12, 2012 meeting
- Herb reported briefly on SPIG

*(AI)-Action Item

# Regional Standards Group
# 2011-2012 Action Items

| Action Item # | Meeting Date | Description | Owner | Next Step | Due Date | Comments | Status |
|---|---|---|---|---|---|---|---|
| **08.15.2011.30** | 08/15/2011 | Create a white paper explaining regional variances | Howard | Waiting for comments from Regional executives; comment period closes 3/15 | 04/12/2012 | | Open |
| **01.12.2012.34** | 01/12/2012 | Regional Definitions | Howard | Regions to review list Howard sent out on 3/12/2012; classify definitions as follows: BOT Approved, Used by Region, In-Development | 04/2/2012 | | Open |
| **02.21.2012.37** | 02/21/2012 | Investigate VSL for VAR-002 Rapid Revision | Herb | Review status of VSLs as filed to determine if an Errata is necessary | 04/12/2012 | | Open |
| **02.21.2012.39** | 02/21/2012 | Philosophy of Each Region on Regional Standards | Tony | Still compiling replies, one (1) region outstanding | 04/12/2012 | | Open |
| **02.21.2012.40** | 02/21/2012 | Prepare UFLS report | Herb | A draft of the report will be issued for review by the RSG | 3/19/2012 | | Open |
| **03.12.2012.41** | 03/12/2012 | Regions to Comment on Fill-in-the Blank Status Report | Herb | Herb will send out report to the RSG_plus list; Comments due back by 3/19 | 03/19/2012 | | Open |

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# ERO EMG Regional Standards Group (RSG) D R A F T Charter

**3-14-2012–approved template**
**4-10-2012-draft**

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Table of Contents

Revision History ..... ii

Membership ..... 1

Purpose ..... 1

Key Objectives ..... 1

Meetings ..... 3

Costs ..... 3

Voting ..... 4

Minutes and Agendas ..... 4

Proxy Representatives ..... 4

Savings Clause ..... 4

Rules of Conduct ..... 4

# Revision History

| Rev. | Date | Reviewers | Revision Description |
|---|---|---|---|
| 0 | 12-3-2010 | RSG members & EMG Executives | Original RSG Charter as approved by the EMG |
| 1 | 4-10-2012 | TBD | Conform RSG Charter rev 0 to new EMG template 3-14-2012 |

# Purpose

The purpose of the Regional Standards Group (RSG) is to provide process and policy recommendations in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure, as well as develop recommended strategies to enhance efficiency and effectiveness. The recommendations pertain to executing the Regional Standards development procedures, and processes being conducted by the Regional Entities and the NERC Regional Reliability Standards Evaluation Procedure.

~~-~~The overarching objective is to coordinate the development of Regional and Continent-wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system (BES) users, owners, and operators. A primary ~~initiative~~objective of the RSG is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the electric reliability organization (ERO) enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards developing authority.

The RSG carries out its objectives within the confines of the ERO's Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines as set forth therein.

# Key Objectives

1. Provide a forum for active communication and information exchange between the Regional Entities and NERC as it pertains to standards.
2. Identify opportunities for the inclusion of Regional Entity variances and criteria within the NERC Reliability Standards and to improve ~~for furthering Regional Entity standards procedures and processes for~~ for consistency ~~in~~for the Regional Entity's standards in results, policies, procedures, and business practices.
3. Provide a forum for promulgating ~~the most recent~~standards related FERC and ERO information such as training, guidelines, directives, and mandates to effectively and efficiently disseminate information to and amongst the ERO and Regional Entities.
4. Address concerns expressed by registered entities and as expressed in the various performance assessments pertaining to inconsistent implementation of the North American and Regional Standards development processes, giving due deference to regional differences that do not adversely affect system performance.
5. Provide oversight of NERC's internal processes and provide input for the ERO's project management schedule for review of regional standards to ensure coordination~~e~~ of timely reviews ~~consistent~~ with the regions' approval processes.

6. Report progress, proposed prioritization, and status of high-priority RSG activities to the ERO EMG.
7. Provide information and support for the execution of the regional reliability standards activities in the NERC Three-Year Standards Development Work Plan.
8. Review NERC reliability standard requirements and recommend those requirements that should be developed by the Regional Entities as regional standards, and filed through the ERO.
9. Identify potential assignments or projects for sub-RSG, NERC, or Regional Entity led working groups dealing in the standards development area.
10. Promote best practices and provide a forum to share lessons learned.
11. Promote ERO-wide team concept and working environment.
12. Promote resource planning, efficiency, and budget coordination across the ERO (both NERC and the Regional Entities), including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long term ERO and regional entity business plan and budget processes.
13. Identify potential new draft fill-in-the-blank standards and requirements being developed by the ERO and provide notification to the standard drafting team.
14. Assist the compliance staff of NERC and the Regional Entities in understanding the application of the NERC Reliability Standards and the types of evidence needed to demonstrate compliance.
15. Identify pools of subject matter experts in the industry to assist in the development of guidance documents and to provide insights into specific continent-wide standards being developed by NERC.
16. Review trends in compliance violations to determine if there are any common areas which requiring additional guidance in clarifying the requirements to the NERC Reliability Standard.
17. Draft Standards Authorization request (SAR) based on historical analysis or identification of technical "gaps" in standards resulting from lessons learned from System Event Analysis, compliance violation trends, mitigation and enforcement actions, which could result in the modification of continent-wide standards. Including, the retirement of duplicative and/or unneeded reliability standards.
18. Assist NERC and Regional Entity Staff to provide education and training to stakeholders on effectively demonstrating compliance through webinars, emails, conference calls, presentations, workshops, etc..

# Membership

The RSG is comprised of the NERC standards program area lead and the standards program area leads from each of the eight Regional Entities (the Members). The workload of the RSG shall focus on the initiatives assigned and approved by the EMG. The ERO EMG will appoint a Chair and Vice Chair, ~~who's~~whose term is to be for two years and may be extended by one year.

A NERC staff representative shall serve as the documenting secretary, unless otherwise agreed to by the ERO EMG. The RSG shall advise and recommend solutions to the EMG on issues that could have an impact on the development of both existing and emerging NERC Reliability Standards, including subgroups.

## Meetings

Meetings of the RSG are open to attendance by NERC and Regional Entity staff having an interest in the topics being addressed. The RSG may meet in executive session, as called upon by the ~~c~~Chair or ~~v~~Vice-~~c~~Chair. All RSG ~~M~~meetings are closed to the public. The RSG will conduct in-person meetings as schedules allow, and in conjunction with standards related meetings attended by RSG members (i.e. Standards Committee or Process Subcommittee), to minimize travel costs and conduct conference calls on a periodic basis and as deemed necessary by the Chair and Vice-Chair.

## Working Group and Task Forces

Working groups,~~ and~~ task forces, and ad hoc groups proposed to report~~ing~~ to the RSG may only be established with the explicit approval of the ERO EMG. Any ~~P~~proposed ~~working~~ groups ~~and task forces~~ must have charters/scopes, work plans, deliverables, and a designated life expectancy. Any ~~working~~ groups ~~and task forces~~ approved by the ERO EMG will be evaluated (including their charters/scopes etc.) by ERO EMG on a periodic basis not to exceed one year. The RSG will prioritize working group and task force tasks and will be responsible for regular, periodic reports of activities of these working groups and task forces to ERO EMG.

## Costs

Each Member shall bear his or her own costs for participation.

## Voting

The RSG will not conduct ballots, but will seek consensus in every instance. Decisions of the RSG are non-binding. Policy issues will be passed to the ERO EMG with a paper outlining the issue, recommendation and any differing positions.

## Minutes and Agendas

Agendas will be prepared by the ~~c~~Chair and ~~v~~Vice-~~c~~Chair and issued to each member no later than five~~two~~ business days prior to a meeting. Non-public notes and action items will be prepared after each meeting by the ~~chair~~documenting secretary and distributed to the members no later than two business days after a meeting or conference call. Additionally, the Chair, with assistance of the documenting secretary, will be responsible for preparing written, quarterly reports to be supplied to the ~~R~~EMG Chair for inclusion into a formal report to the NERC Board of Trustees at each meeting. These reports shall cover, at a minimum, activities since the last report, issues/tasks completed, key planned activities, recommendations and ~~barriers~~ challenges as they exist.

## Proxy Representatives [gvz1]

While use of proxies is discouraged, a member may assign a proxy to participate in a meeting in rare circumstances. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order. Abuse of the use of proxies shall be noted by the Chair and brought to the attention of the ERO EMG.

## Savings Clause

Nothing in this charter is intended to alter or replace the rights and obligations of the members under the Regional Delegation Agreements, as they are now in effect or may be amended from time to time. Each member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

## Rules of Conduct

Members may discuss specific confidential information or procedures consistent with NERC's Rules of Procedure. Members agree to maintain confidentially of any matters considered "confidential information". The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Guidelines.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# ERO EMG Regional Standards Group (RSG) D R A F T Charter

**3-14-2012–approved template**
**4-10-2012-draft**

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Table of Contents

Revision History ..... ii

Membership ..... 1

Purpose ..... 1

Key Objectives ..... 1

Meetings ..... 3

Costs ..... 3

Voting ..... 4

Minutes and Agendas ..... 4

Proxy Representatives ..... 4

Savings Clause ..... 4

Rules of Conduct ..... 4

# Revision History

| Rev. | Date | Reviewers | Revision Description |
|---|---|---|---|
| 0 | 12-3-2010 | RSG members & EMG Executives | Original RSG Charter as approved by the EMG |
| 1 | 4-10-2012 | TBD | Conform RSG Charter rev 0 to new EMG template 3-14-2012 |

# Purpose

T~~The purpose of t~~he Regional Standards Group (RSG) ~~is to~~ provides process and policy recommendations in the execution [SPP RE1] of the Regional Entity delegation agreements and the NERC Rules of Procedure, as well as develops recommended strategies to enhance efficiency and effectiveness. The recommendations pertain to executing [SPP RE2] the Regional Standards development procedures,~~, and processes being conducted by the~~ Regional ~~Entities~~ Entity standards processes, and the ~~the~~ NERC Regional Reliability Standards Evaluation Procedure. [SPP RE3]

~~-~~The overarching objective is to coordinate the development of Regional and Continent-wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system (BES) users, owners, and operators. One of the RSG's ~~A~~ primary ~~initiative~~objectives ~~e of the RSG~~ is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the electric reliability organization (ERO) enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the ERO's statutory responsibilities ~~of the ERO~~ as the reliability standards developing authority.

The RSG carries out its objectives within the confines of the ERO's Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines as set forth therein.

# Key Objectives

1. Provide a forum for active standards-related communication and information exchange between the Regional Entities and NERC ~~as it pertains to standards~~.
2. Identify opportunities for ~~the~~ including ~~sion of~~ Regional Entity variances and criteria ~~with~~in ~~the~~ NERC Reliability Standards ~~-~~and ~~to~~ improving ~~e for furthering Regional Entity standards procedures and processes for for~~ consistency ~~in for the Regional Entity's standards~~ in results, policies, procedures, and business practices.
3. Provide a forum for promulgating ~~the most recent~~ standards ~~-~~related FERC and ERO information such as training, guidelines, directives, and mandates to effectively and efficiently disseminate information to and amongst the ERO and Regional Entities.
4. Address concerns expressed by ~~registered~~ Registered ~~entities~~ Entities [SPP RE4] and ~~as expressed~~ in ~~the various~~ performance assessments pertaining to inconsistent implementation of the North American and Regional Standards development processes, giving due deference to regional differences that do not adversely affect system performance.
5. ~~Provide oversight of NERC's internal processes and~~ [SPP RE5] P~~p~~rovide input to ~~for~~ the ERO's project management schedule for ~~review of~~ R~~r~~egional S~~s~~tandards review ~~-~~to ensure coordination~~e~~ of timely reviews ~~consistent~~ with the regions' approval processes.

6. Report progress, proposed prioritization, and status of high-priority RSG activities to the ERO EMG.
7. Provide information and support for ~~the~~ execution of [SPP RE6] ~~the~~ R~~r~~egional ~~reliability~~ S~~s~~tandards activities in the NERC Three-Year Standards Development Work Plan.
8. Review NERC R~~r~~eliability S~~s~~tandard requirements and recommend ~~those requirements~~those that Regional Entities should ~~be~~ develop~~ed by the Regional Entities~~ as regional standards~~,~~ and file~~d~~ through the ERO.
9. Identify potential assignments or projects for sub-RSG, NERC, or Regional Entity-~~-~~led working groups ~~dealing~~ in the standards development area.
10. Promote best practices and provide a forum to share lessons learned.
11. Promote ERO-wide team concept and working environment.
12. Promote resource planning, efficiency, and budget coordination across the ERO ~~(both NERC and the Regional Entities)~~, [SPP RE7] including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long-~~-~~term ERO and R~~r~~egional E~~e~~ntity business plan and budget processes.
13. Identify potential new draft fill-in-the-blank standards and requirements the ERO is ~~being developed by the ERO~~developing and provide notification to the standard drafting team. [SPP RE8]

~~14. Assist the compliance staff of NERC and the Regional Entities in understanding the application of the NERC Reliability Standards and the types of evidence needed to demonstrate compliance.~~

~~15. Identify pools of subject matter experts in the industry to assist in the development of guidance documents and to provide insights into specific continent-wide standards being developed by NERC.~~

~~16. Review trends in compliance violations to determine if there are any common areas which requiring additional guidance in clarifying the requirements to the NERC Reliability Standard.~~

~~17. Draft Standards Authorization request (SAR) based on historical analysis or identification of technical "gaps" in standards resulting from lessons learned from System Event Analysis, compliance violation trends, mitigation and enforcement actions, which could result in the modification of continent-wide standards. Including, the retirement of duplicative and/or unneeded reliability standards.~~

~~18. Assist NERC and Regional Entity Staff to provide education and training to stakeholders on effectively demonstrating compliance through webinars, emails, conference calls, presentations, workshops, etc..~~

# Membership

The RSG is comprised of the NERC standards program area lead and the standards program area leads from each of the eight Regional Entities (the Members). ~~The workload of the RSG shall focus on the initiatives assigned and approved by the EMG.~~ The ERO EMG will appoint a Chair and Vice Chair for one-~~=~~year terms, with the officers rotating among the Regional Entity members.~~, who'swhose term is to be for two years and may be extended by one year.~~ A NERC staff representative shall serve as the documenting secretary, unless otherwise agreed to by the ERO EMG. ~~=~~The RSG shall advise and recommend solutions to the EMG on issues that could have an impact on the development of both existing and emerging NERC Reliability Standards, including subgroups.

# Meetings

~~Meetings of the~~ RSG meetings are open to ~~attendance by~~ NERC and Regional Entity staff ~~having~~ who are ~~an~~ interested in the topics being addressed. The RSG may meet in executive session, as called ~~up~~on by the ~~c~~Chair or ~~v~~Vice-~~c~~Chair. All RSG ~~M~~meetings are closed to the public. [SPP RE9][ALTERNATIVE: All RSG meetings are open to the public, however, the Chair may designate all or part of a meeting as a closed session.] The RSG will conduct in-person meetings, possibly ~~as schedules allow, and~~ in conjunction with standards-~~=~~related meetings attended[SPP RE10] by RSG ~~m~~Members~~ (i.e. Standards Committee or Process Subcommittee)~~, to minimize travel costs. T~~, and t~~he RSG will~~ and~~ periodically conduct conference calls ~~on a periodic basis and~~ as deemed ~~necessary~~appropriate by the Chair and Vice-Chair.

# Working Group and Task Forces

Only the ERO EMG may establish w~~W~~orking groups,~~ and~~ task forces, and ad hoc groups ~~proposed to~~that report~~ing~~ to the RSG~~ may only be established with the explicit approval of the ERO EMG~~. ~~=~~P~~Any P~~proposed ~~working~~ groups ~~and task forces~~ must have charters/scopes, work plans, deliverables, and a designated life expectancy. At least once a year, the ERO EMG will evaluate ~~Any~~ the approved ~~working~~ groups ~~and task forces approved by the ERO EMG will be evaluated~~ (including their charters/scopes, etc)~~,) by ERO EMG on a periodic basis not to exceed one year~~. The RSG will prioritize working group and task force tasks and ~~will be responsible for~~provide the ERO EMG with regular, periodic reports on their~~f~~ activities~~ of these working groups and task forces to ERO EMG~~.

# Costs

Each Member shall bear his or her own costs for participation.

## Voting

The RSG will not conduct ballots, but will seek consensus in every instance. RSG dDecisions ~~of the RSG~~ are non-binding. The RSG will forward ~~p~~PPolicy issues ~~will be passed~~ to the ERO EMG with a paper outlining the issue, recommendation and any differing positions.

## Minutes and Agendas

The Chair and Vice-Chair will prepare and issue aAgendas ~~will be prepared by the cChair and vVice cChair and issued~~ to each ~~member~~ Member [SPP RE11] no later than five~~two~~ business days ~~prior to~~ before a meeting. The documenting secretary will prepare and distribute n~~N~~on-public notes and action items ~~will be prepared~~ to ~~after each meeting by the chairdocumenting secretary and distributed to the~~ M~~m~~embers no later than two business days after a meeting or conference call. ~~Additionally,~~ T~~t~~he Chair, with assistance ~~of~~from the documenting secretary, will ~~be responsible for preparing~~ prepare and supply written, quarterly reports ~~to be supplied~~ to the ~~R~~EMG Chair for inclusion into a formal report ~~to the~~ for each NERC Board of Trustees ~~at each~~ meeting. These reports shall cover, at a minimum, activities since the last report, issues/tasks completed, key planned activities, recommendations and ~~barriers~~ challenges ~~as they exist~~.

## ~~Proxy Representatives~~ [gv12]

~~While use of proxies is discouraged, a member may assign a proxy to participate in a meeting in rare circumstances. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order. Abuse of the use of proxies shall be noted by the Chair and brought to the attention of the ERO EMG.~~

## Savings Clause

Nothing in this charter is intended to alter or replace the Members' rights and obligations ~~of the members~~ under the Regional Delegation Agreements, as they are now in effect or ~~may be~~ if amended ~~from time to time~~. Each ~~member~~ Member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

## Rules of Conduct

Members may discuss specific confidential information or procedures consistent with NERC's Rules of Procedure. Members agree to maintain confidentially of any matters considered "confidential information". The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Guidelines.

NERC

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# ~~ERO Regional Standards Group Charter~~

to ensure the reliability of the bulk power system

116-390 Village Blvd., Princeton, NJ 08540
609.452.8060 | 609.452.9550 fax
www.nerc.com

~~December 3, 2010~~

# ERO EMG Regional Standards Group (RSG) D R A F T Charter

**3-14-2012–approved template**
**4-10-2012-draft**

# Table of Contents

-

Membership ..... 3

Purpose ..... 3
Key Objectives ..... 3
Meetings ..... 4
Subgroups ..... 4
Costs ..... 4
Voting ..... 4
Minutes and Agendas ..... 5
Proxy Representatives ..... 5
Savings Clause ..... 5
Rules of Conduct ..... 5

## ~~Membership~~

Revision History ..... ii

Membership ..... 3

Purpose ..... 3

Key Objectives ..... 4

Meetings ..... 6

Costs ..... 7

Voting ..... 8

Minutes and Agendas ..... 1

Proxy Representatives ..... 1

Savings Clause ..... 1

Rules of Conduct ..... 1

# Revision History

| Rev. | Date | Reviewers | Revision Description |
|---|---|---|---|
| 0 | 12-3-2010 | RSG members & EMG Executives | Original RSG Charter as approved by the EMG |
| 1 | 4-10-2012 | TBD | Conform RSG Charter rev 0 to new EMG template 3-14-2012 |

# Purpose

The ~~Electric Reliability Organization (ERO)~~ purpose of the Regional Standards Group (RSG) is ~~comprised of~~

~~the NERC Vice President and Director of Standards and the Standards Managers from each of the eight Regional Entities (the Members). The RSG may form working groups as needed with other NERC and regional staff to accomplish specific tasks or objectives. The NERC Vice President and Director of Standards shall act as Chair and a Regional Director or Manager of Standards, elected by the eight Regional Entities, as Vice Chair. The Chair will assign a member of the NERC staff to serve as the RSG Secretary. The RSG will report to the ERO Executive Management Group (EMG).~~

~~**Purpose**~~

~~The RSG's purpose is~~ to provide process and policy recommendations in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure. The recommendations pertain to executing the Regional Standards development procedures, and processes being conducted by the Regional Entities and the NERC Regional Reliability Standards Evaluation Procedure. The overarching objective is to coordinate the development of Regional and Continent~~-Wide~~-wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system (BES) users, owners, and operators. A primary initiative of the RSG is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the ~~ERO~~electric reliability organization (ERO) enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards developing

authority.

The RSG carries out its objectives within the confines of the ERO's Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines as set forth therein.

# Key Objectives

1. Provide a forum for active communication and information exchange between the Regional Entities and NERC as it pertains to standards.
2. Identify opportunities for furthering Regional Entity standards procedures and processes for consistency in results, policies, procedures, and business practices.
3. Provide a forum for promulgating the most recent FERC and ERO information such as training, guidelines, directives, and mandates to effectively and efficiently disseminate information.
4. Address concerns expressed by registered entities and performance assessment pertaining to inconsistent implementation of the North American and Regional Standards development processes, giving due deference to regional differences that do not adversely affect system performance.
5. Provide oversight of NERC's internal processes for review of regional standards to coordinate timely reviews consistent with the regions' approval processes.

6. Report progress and status of high-priority activities to the ERO EMG.

7. Provide information and support for the execution of the regional reliability standards activities in the NERC Three-Year Standards Development Work Plan.

8. Review NERC reliability standard requirements and recommend those requirements that should be developed by the Regional Entities as regional standards, and filed through the ERO.

9. Identify potential assignments or projects for sub-RSG, NERC, or Regional Entity led working groups dealing in the standards development area.

10. Promote best practices and provide a forum to share lessons learned.

11. Promote ERO-wide team concept and working environment.

12. Promote resource planning, efficiency, and budget coordination across the ERO (both NERC and the Regional Entities), including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long term ERO and regional entity business plan and budget processes.

# Membership

The RSG is comprised of the NERC standards program area lead and the standards program area leads from each of the eight Regional Entities (the Members). The ERO EMG will appoint a Chair and Vice Chair. A NERC staff representative shall serve as the secretary, unless otherwise agreed to by the ERO EMG.

# Meetings

Meetings of the RSG are open to ~~observers.~~attendance by NERC and Regional Entity staff having an interest in the topics being addressed. The RSG may meet in executive session, as called upon by the ~~Chair~~chair or ~~Vice Chair.~~vice-chair. Meetings are closed to the public. The RSG will meet ~~at least quarterly,~~as schedules allow~~,~~ and conduct ~~additional~~conference calls on a periodic~~, as needed,~~ basis.

**~~Subgroups~~**

~~Subgroups, either ad hoc workgroups or taskforces,~~

## Working Group and Task Forces

Working groups and task forces reporting to RSG may only be established ~~for either specific~~

~~functional areas or for cross-functional tasks to support issue analysis and resolution. Subgroups~~

~~will~~with the explicit approval of the ERO EMG. Proposed working groups and task forces must have charters~~ or~~/scopes~~ as appropriate and~~, work plans, deliverables, and a designated life expectancy. Any working groups and task forces approved by ~~the RSG and~~ERO EMG~~. These~~

~~subgroups and~~ will be evaluated (including their charters/scopes ~~will be evaluated~~ etc.) by ERO EMG on a periodic basis not to exceed one year. The RSG will prioritize ~~subgroup~~working group and task force tasks~~. Each subgroup~~ and will ~~have a designated chair to report to~~

~~the RSG and facilitate the subgroup communications. The RSG chair will designate a NERC staff person~~be responsible for regular, periodic reports of activities of these working groups and task forces to ~~work with the subgroup chair and act as the secretary and facilitator.~~ERO EMG.

## Costs

Each Member shall bear his or her own costs for participation.

# Voting

The RSG will ~~generally~~ not conduct ballots, but will seek consensus ~~on issues requiring group~~

~~decisions.~~ in every instance. Decisions of the RSG are non-binding. Policy issues ~~that cannot be resolved after due consideration by the RSG, or that the RSG has no authority to resolve~~ will be passed to the ERO EMG with a paper outlining the issue~~(s)~~, recommendation and any differing positions.

~~4~~

## Minutes and Agendas

Agendas will be prepared by the ~~Chair~~chair and ~~Vice Chair~~vice-chair and issued to each member no later than

~~one week~~two business days prior to a meeting. Non-public ~~minutes~~notes and action items will be prepared after each meeting by the chair and distributed to the members ~~within one week after adjournment.~~ no later than two business days after a meeting or conference call. Additionally, the Chair will be responsible for preparing written, quarterly reports to be supplied to the REMG Chair for inclusion into a formal report to the NERC Board of Trustees at each meeting. These reports shall cover, at a minimum, activities since the last report, issues/tasks completed, key planned activities, and barriers as they exist.

## Proxy Representatives

~~A~~While use of proxies is discouraged, a member may assign a proxy to participate in a meeting~~.~~ in rare circumstances. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order. Abuse of the use of proxies shall be noted by the Chair and brought to the attention of the ERO EMG.

## Savings Clause

Nothing in this charter is intended to alter or replace the rights and obligations of the members under the Regional Delegation Agreements, as they are now in effect or may be amended from time to time. Each member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

## Rules of Conduct

Members may discuss specific confidential information or procedures~~,~~ consistent with ~~NERC's~~ NERC's Rules of Procedure. Members agree to maintain ~~confidentiality~~confidentially of any matters considered

"“confidential information"”.  The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Compliance Guidelines.

5

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# ERO EMG Regional Standards Group (RSG) D R A F T Charter

**3-14-2012–approved template**
**4-10-2012-draft**

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Table of Contents

Revision History ..... ii

Membership ..... 1

Purpose ..... 1

Key Objectives ..... 1

Meetings ..... 2

Costs ..... 2

Voting ..... 3

Minutes and Agendas ..... 3

Proxy Representatives ..... 3

Savings Clause ..... 3

Rules of Conduct ..... 3

# Revision History

| Rev. | Date | Reviewers | Revision Description |
|---|---|---|---|
| 0 | 12-3-2010 | RSG members & EMG Executives | Original RSG Charter as approved by the EMG |
| 1 | 4-10-2012 | TBD | Conform RSG Charter rev 0 to new EMG template 3-14-2012 |

# Purpose

The purpose of the Regional Standards Group (RSG) is to provide process and policy recommendations in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure. The recommendations pertain to executing the Regional Standards development procedures, and processes being conducted by the Regional Entities and the NERC Regional Reliability Standards Evaluation Procedure. The overarching objective is to coordinate the development of Regional and Continent-wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system (BES) users, owners, and operators. A primary initiative of the RSG is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the electric reliability organization (ERO) enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards developing authority.

The RSG carries out its objectives within the confines of the ERO's Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines as set forth therein.

# Key Objectives

1. Provide a forum for active communication and information exchange between the Regional Entities and NERC as it pertains to standards.
2. Identify opportunities for furthering Regional Entity standards procedures and processes for consistency in results, policies, procedures, and business practices.
3. Provide a forum for promulgating the most recent FERC and ERO information such as training, guidelines, directives, and mandates to effectively and efficiently disseminate information.
4. Address concerns expressed by registered entities and performance assessment pertaining to inconsistent implementation of the North American and Regional Standards development processes, giving due deference to regional differences that do not adversely affect system performance.
5. Provide oversight of NERC's internal processes for review of regional standards to coordinate timely reviews consistent with the regions' approval processes.

6. Report progress and status of high-priority activities to the ERO EMG.
7. Provide information and support for the execution of the regional reliability standards activities in the NERC Three-Year Standards Development Work Plan.
8. Review NERC reliability standard requirements and recommend those requirements that should be developed by the Regional Entities as regional standards, and filed through the ERO.
9. Identify potential assignments or projects for sub-RSG, NERC, or Regional Entity led working groups dealing in the standards development area.
10. Promote best practices and provide a forum to share lessons learned.
11. Promote ERO-wide team concept and working environment.
12. Promote resource planning, efficiency, and budget coordination across the ERO (both NERC and the Regional Entities), including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long term ERO and regional entity business plan and budget processes.

## Membership

The RSG is comprised of the NERC standards program area lead and the standards program area leads from each of the eight Regional Entities (the Members). The ERO EMG will appoint a Chair and Vice Chair. A NERC staff representative shall serve as the secretary, unless otherwise agreed to by the ERO EMG.

## Meetings

Meetings of the RSG are open to attendance by NERC and Regional Entity staff having an interest in the topics being addressed. The RSG may meet in executive session, as called upon by the chair or vice-chair. Meetings are closed to the public. The RSG will meet as schedules allow and conduct conference calls on a periodic basis.

## Working Group and Task Forces

Working groups and task forces reporting to RSG may only be established with the explicit approval of the ERO EMG. Proposed working groups and task forces must have charters/scopes, work plans, deliverables, and a designated life expectancy. Any working groups and task forces approved by ERO EMG will be evaluated (including their charters/scopes etc.) by ERO EMG on a periodic basis not to exceed one year. The RSG will prioritize working group and task force tasks and will be responsible for regular, periodic reports of activities of these working groups and task forces to ERO EMG.

## Costs

Each Member shall bear his or her own costs for participation.

## Voting

The RSG will not conduct ballots, but will seek consensus in every instance. Decisions of the RSG are non-binding. Policy issues will be passed to the ERO EMG with a paper outlining the issue, recommendation and any differing positions.

## Minutes and Agendas

Agendas will be prepared by the chair and vice-chair and issued to each member no later than two business days prior to a meeting. Non-public notes and action items will be prepared after each meeting by the chair and distributed to the members no later than two business days after a meeting or conference call. Additionally, the Chair will be responsible for preparing written, quarterly reports to be supplied to the REMG Chair for inclusion into a formal report to the NERC Board of Trustees at each meeting. These reports shall cover, at a minimum, activities since the last report, issues/tasks completed, key planned activities, and barriers as they exist.

## Proxy Representatives

While use of proxies is discouraged, a member may assign a proxy to participate in a meeting in rare circumstances. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order. Abuse of the use of proxies shall be noted by the Chair and brought to the attention of the ERO EMG.

## Savings Clause

Nothing in this charter is intended to alter or replace the rights and obligations of the members under the Regional Delegation Agreements, as they are now in effect or may be amended from time to time. Each member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

## Rules of Conduct

Members may discuss specific confidential information or procedures consistent with NERC's Rules of Procedure. Members agree to maintain confidentially of any matters considered "confidential information". The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Guidelines.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# ERO EMG Regional Standards Group (RSG) D R A F T Charter

**3-14-2012–approved template**
**4-10-2012-draft**

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Table of Contents

Revision History ..... ii

Membership ..... 1

Purpose ..... 1

Key Objectives ..... 1

Meetings ..... 2

Costs ..... 3

Voting ..... 4

Minutes and Agendas ..... 4

Proxy Representatives ..... 4

Savings Clause ..... 4

Rules of Conduct ..... 4

# Revision History

| Rev. | Date | Reviewers | Revision Description |
|---|---|---|---|
| 0 | 12-3-2010 | RSG members & EMG Executives | Original RSG Charter as approved by the EMG |
| 1 | 4-10-2012 | TBD | Conform RSG Charter rev 0 to new EMG template 3-14-2012 |

# Purpose

The purpose of the Regional Standards Group (RSG) is to provide process and policy recommendations in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure, as well as develop recommended strategies to enhance efficiency and effectiveness. The recommendations pertain to executing the Regional Standards development procedures, and processes being conducted by the Regional Entities and the NERC Regional Reliability Standards Evaluation Procedure. The overarching objective is to coordinate the development of Regional and Continent-wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system (BES) users, owners, and operators. A primary ~~initiative~~objective of the RSG is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the electric reliability organization (ERO) enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards developing authority.

The RSG carries out its objectives within the confines of the ERO's Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines as set forth therein.

# Key Objectives

1. Provide a forum for active communication and information exchange between the Regional Entities and NERC as it pertains to standards.
2. Identify opportunities to improve ~~for furthering Regional Entity standards procedures and processes for~~ consistency ~~in~~for the Regional Entity's standards results, policies, procedures, and business practices.
3. Provide a forum for promulgating ~~the most recent~~standards related FERC and ERO information such as training, guidelines, directives, and mandates to effectively and efficiently disseminate information to and amongst the ERO and Regional Entities.
4. Address concerns expressed by registered entities and as expressed in the various performance assessments pertaining to inconsistent implementation of the North American and Regional Standards development processes, giving due deference to regional differences that do not adversely affect system performance.
5. Provide oversight of NERC's internal processes and provide input for the ERO's project management schedule for review of regional standards to ensure coordination~~e~~ of timely reviews ~~consistent~~ with the regions' approval processes.

6. Report progress, proposed prioritization, and status of high-priority RSG activities to the ERO EMG.
7. Provide information and support for the execution of the regional reliability standards activities in the NERC Three-Year Standards Development Work Plan.
8. Review NERC reliability standard requirements and recommend those requirements that should be developed by the Regional Entities as regional standards, and filed through the ERO.
9. Identify potential assignments or projects for sub-RSG, NERC, or Regional Entity led working groups dealing in the standards development area.
10. Promote best practices and provide a forum to share lessons learned.
11. Promote ERO-wide team concept and working environment.
12. Promote resource planning, efficiency, and budget coordination across the ERO (both NERC and the Regional Entities), including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long term ERO and regional entity business plan and budget processes.
13. Identify potential new draft fill-in-the-blank standards and requirements being developed by the ERO and provide notification to the standard drafting team.

# Membership

The RSG is comprised of the NERC standards program area lead and the standards program area leads from each of the eight Regional Entities (the Members). The ERO EMG will appoint a Chair and Vice Chair, who's term is to be for two years and may be extended by one year. A NERC staff representative shall serve as the documenting secretary, unless otherwise agreed to by the ERO EMG.

# Meetings

Meetings of the RSG are open to attendance by NERC and Regional Entity staff having an interest in the topics being addressed. The RSG may meet in executive session, as called upon by the ~~€~~Chair or ~~¥~~Vice-~~€~~Chair. All RSG ~~₦~~meetings are closed to the public. The RSG will conduct in-person meetings as schedules allow, and in conjunction with standards related meetings attended by RSG members (i.e. Standards Committee or Process Subcommittee), to minimize travel costs and conduct conference calls on a periodic basis and as deemed necessary by the Chair and Vice-Chair.

# Working Group and Task Forces

Working groups,~~ and~~ task forces, and ad hoc groups proposed to report~~ing~~ to the RSG may only be established with the explicit approval of the ERO EMG. Any ~~₱~~proposed ~~working~~ groups ~~and task forces~~ must have charters/scopes, work plans, deliverables, and a designated life expectancy. Any ~~working~~ groups and ~~task forces~~ approved by the ERO EMG will be evaluated (including their charters/scopes etc.) by ERO EMG on a periodic basis not to exceed one year.

The RSG will prioritize working group and task force tasks and will be responsible for regular, periodic reports of activities of these working groups and task forces to ERO EMG.

## Costs

Each Member shall bear his or her own costs for participation.

## Voting

The RSG will not conduct ballots, but will seek consensus in every instance. Decisions of the RSG are non-binding. Policy issues will be passed to the ERO EMG with a paper outlining the issue, recommendation and any differing positions.

## Minutes and Agendas

Agendas will be prepared by the ~~c~~Chair and ~~v~~Vice-~~c~~Chair and issued to each member no later than five~~two~~ business days prior to a meeting. Non-public notes and action items will be prepared after each meeting by the ~~chair~~documenting secretary and distributed to the members no later than two business days after a meeting or conference call. Additionally, the Chair, with assistance of the documenting secretary, will be responsible for preparing written, quarterly reports to be supplied to the ~~R~~EMG Chair for inclusion into a formal report to the NERC Board of Trustees at each meeting. These reports shall cover, at a minimum, activities since the last report, issues/tasks completed, key planned activities, recommendations and ~~barriers~~ challenges as they exist.

## Proxy Representatives [gvz1]

While use of proxies is discouraged, a member may assign a proxy to participate in a meeting in rare circumstances. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order. Abuse of the use of proxies shall be noted by the Chair and brought to the attention of the ERO EMG.

## Savings Clause

Nothing in this charter is intended to alter or replace the rights and obligations of the members under the Regional Delegation Agreements, as they are now in effect or may be amended from time to time. Each member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

## Rules of Conduct

Members may discuss specific confidential information or procedures consistent with NERC's Rules of Procedure. Members agree to maintain confidentially of any matters considered "confidential information". The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Guidelines.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# ERO EMG Regional Standards Group (RSG) D R A F T Charter

**3-14-2012–approved template**
**4-10-2012-draft**

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Table of Contents

Revision History ..... ii

Membership ..... 1

Purpose ..... 1

Key Objectives ..... 1

Meetings ..... 3

Costs ..... 3

Voting ..... 4

Minutes and Agendas ..... 4

Proxy Representatives ..... 4

Savings Clause ..... 4

Rules of Conduct ..... 4

# Revision History

| Rev. | Date | Reviewers | Revision Description |
|---|---|---|---|
| 0 | 12-3-2010 | RSG members & EMG Executives | Original RSG Charter as approved by the EMG |
| 1 | 4-10-2012 | TBD | Conform RSG Charter rev 0 to new EMG template 3-14-2012 |

# Purpose

The purpose of the Regional Standards Group (RSG) is to provide process and policy recommendations in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure, as well as develop recommended strategies to enhance efficiency and effectiveness. The recommendations pertain to executing the Regional Standards development procedures, and processes being conducted by the Regional Entities and the NERC Regional Reliability Standards Evaluation Procedure.

~~-~~The overarching objective is to coordinate the development of Regional and Continent-wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system (BES) users, owners, and operators. A primary ~~initiative~~objective of the RSG is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the electric reliability organization (ERO) enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards developing authority.

The RSG carries out its objectives within the confines of the ERO's Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines as set forth therein.

# Key Objectives

1. Provide a forum for active communication and information exchange between the Regional Entities and NERC as it pertains to standards.
2. Identify opportunities for the inclusion of Regional Entity variances and criteria within the NERC Reliability Standards and to improve ~~for furthering Regional Entity standards procedures and processes for~~ for consistency ~~in~~for the Regional Entity's standards in results, policies, procedures, and business practices.
3. Provide a forum for promulgating ~~the most recent~~standards related FERC and ERO information such as training, guidelines, directives, and mandates to effectively and efficiently disseminate information to and amongst the ERO and Regional Entities.
4. Address concerns expressed by registered entities and as expressed in the various performance assessments pertaining to inconsistent implementation of the North American and Regional Standards development processes, giving due deference to regional differences that do not adversely affect system performance.
5. Provide oversight of NERC's internal processes and provide input for the ERO's project management schedule for review of regional standards to ensure coordination~~e~~ of timely reviews ~~consistent~~ with the regions' approval processes.

6. Report progress, proposed prioritization, and status of high-priority RSG activities to the ERO EMG.
7. Provide information and support for the execution of the regional reliability standards activities in the NERC Three-Year Standards Development Work Plan.
8. Review NERC reliability standard requirements and recommend those requirements that should be developed by the Regional Entities as regional standards, and filed through the ERO.
9. Identify potential assignments or projects for sub-RSG, NERC, or Regional Entity led working groups dealing in the standards development area.
10. Promote best practices and provide a forum to share lessons learned.
11. Promote ERO-wide team concept and working environment.
12. Promote resource planning, efficiency, and budget coordination across the ERO (both NERC and the Regional Entities), including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long term ERO and regional entity business plan and budget processes.
13. Identify potential new draft fill-in-the-blank standards and requirements being developed by the ERO and provide notification to the standard drafting team.

~~14. Assist the compliance staff of NERC and the Regional Entities in understanding the application of the NERC Reliability Standards and the types of evidence needed to demonstrate compliance.~~

~~15. Identify pools of subject matter experts in the industry to assist in the development of guidance documents and to provide insights into specific continent-wide standards being developed by NERC.~~

~~16. Review trends in compliance violations to determine if there are any common areas which requiring additional guidance in clarifying the requirements to the NERC Reliability Standard.~~

~~17. Draft Standards Authorization request (SAR) based on historical analysis or identification of technical "gaps" in standards resulting from lessons learned from System Event Analysis, compliance violation trends, mitigation and enforcement actions, which could result in the modification of continent-wide standards. Including, the retirement of duplicative and/or unneeded reliability standards.~~

~~18. Assist NERC and Regional Entity Staff to provide education and training to stakeholders on effectively demonstrating compliance through webinars, emails, conference calls, presentations, workshops, etc..~~

# Membership

The RSG is comprised of the NERC standards program area lead and the standards program area leads from each of the eight Regional Entities (the Members). ~~The workload of the RSG shall focus on the initiatives assigned and approved by the EMG.~~ The ERO EMG will appoint a Chair and Vice Chair for one year terms, with the officers rotating among the Regional Entity

members.~~, who's whose term is to be for two years and may be extended by one year~~. A NERC staff representative shall serve as the documenting secretary, unless otherwise agreed to by the ERO EMG. The RSG shall advise and recommend solutions to the EMG on issues that could have an impact on the development of both existing and emerging NERC Reliability Standards, including subgroups.

## Meetings

Meetings of the RSG are open to attendance by NERC and Regional Entity staff having an interest in the topics being addressed. The RSG may meet in executive session, as called upon by the ~~c~~Chair or ~~v~~Vice-~~c~~Chair. All RSG ~~M~~meetings are closed to the public. [ALTERNATIVE: All RSG meetings are open to the public, however, the Chair may designate all or part of a meeting as a closed session.] The RSG will conduct in-person meetings ~~as schedules allow, and~~ in conjunction with standards related meetings attended by RSG members (i.e. Standards Committee~~ or Process Subcommittee~~), to minimize travel costs, and the RSG will~~ and~~ conduct conference calls on a periodic basis and as deemed ~~necessary~~appropriate by the Chair and Vice-Chair.

## Working Group and Task Forces

Working groups,~~ and~~ task forces, and ad hoc groups proposed to report~~ing~~ to the RSG may only be established with the explicit approval of the ERO EMG. Any ~~P~~proposed ~~working~~ groups ~~and task forces~~ must have charters/scopes, work plans, deliverables, and a designated life expectancy. Any ~~working~~ groups ~~and task forces~~ approved by the ERO EMG will be evaluated (including their charters/scopes etc.) by ERO EMG on a periodic basis not to exceed one year. The RSG will prioritize working group and task force tasks and will be responsible for regular, periodic reports of activities of these working groups and task forces to ERO EMG.

## Costs

Each Member shall bear his or her own costs for participation.

## Voting

The RSG will not conduct ballots, but will seek consensus in every instance. Decisions of the RSG are non-binding. Policy issues will be passed to the ERO EMG with a paper outlining the issue, recommendation and any differing positions.

## Minutes and Agendas

Agendas will be prepared by the ~~c~~Chair and ~~v~~Vice-~~c~~Chair and issued to each member no later than five~~two~~ business days prior to a meeting. Non-public notes and action items will be prepared after each meeting by the ~~chair~~documenting secretary and distributed to the members no later than two business days after a meeting or conference call. Additionally, the Chair, with assistance of the documenting secretary, will be responsible for preparing written, quarterly reports to be supplied to the ~~R~~EMG Chair for inclusion into a formal report to the NERC Board of Trustees at each meeting. These reports shall cover, at a minimum, activities since the last report, issues/tasks completed, key planned activities, recommendations and ~~barriers~~ challenges as they exist.

## ~~Proxy Representatives~~ [gv1]

~~While use of proxies is discouraged, a member may assign a proxy to participate in a meeting in rare circumstances. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order. Abuse of the use of proxies shall be noted by the Chair and brought to the attention of the ERO EMG.~~

## Savings Clause

Nothing in this charter is intended to alter or replace the rights and obligations of the members under the Regional Delegation Agreements, as they are now in effect or may be amended from time to time. Each member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

## Rules of Conduct

Members may discuss specific confidential information or procedures consistent with NERC's Rules of Procedure. Members agree to maintain confidentially of any matters considered "confidential information". The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Guidelines.

| | |
|---|---|
| **From:** | Ed Schwerdt |
| **To:** | Guy V. Zito; Lee R. Pedowicz |
| **Cc:** | Ed Schwerdt |
| **Subject:** | FW: REMG Agenda/Attachments for Conference Call on Friday, March 23, 2012- 12:00 p.m. - 1:00 p.m. ET |
| **Date:** | Friday, March 23, 2012 3:32:57 PM |
| **Attachments:** | Regional Standards Group Charter_final.docx |

Guy/Lee,

The attached scope was discussed but not approved by the REMG during today's call. Concerns expressed were that the revised scope would be duplicative with other groups and would go beyond the capability of the RSG members. However, while the scope in Toto was not approved, the REMG did note certain good ideas that the RSG should consider going forward. Those ideas included: sharing and coordinating on application guides for standards and support the RSAW initiative.

The RSG was tasked with discussing the attached as a group and formulating recommendations to the REMG.

Thanks.

Ed

---

**From:** Jennifer L. Matz [mailto:JL.Matz@MidwestReliability.org]
**Sent:** Thursday, March 22, 2012 6:32 PM
**To:** amcclaine@serc1.org; cgarrett@wecc.biz; cwhite@wecc.biz; dp.skaar@midwestreliability.org; Ed Schwerdt; Jessica R. Mitchell; lane.lanford@TEXASRE.org; lcampbell@frcc.com; mmaher@wecc.biz; shenry@serc1.org; sscott.re@spp.org; sdochoda.re@spp.org; sroraback@wecc.biz; tim.gallagher@rfirst.org; Seminal@frcc.com
**Cc:** patty.tymcio@rfirst.org
**Subject:** FW: REMG Agenda/Attachments for Conference Call on Friday, March 23, 2012- 12:00 p.m. - 1:00 p.m. ET

Good Afternoon,

Please find attached the latest version of the Regional Standards Group charter for your review.

Thank you,


## Jennifer Matz

**Compliance, Mitigation & Standards Administrator**
**Midwest Reliability Organization**
2774 Cleveland Ave North
Roseville, MN 55113
Ph: 651-855-1740 Fx: 651-855-1712
**www.midwestreliability.org**

*NOTICE:*
*This e-mail and any of its attachments may contain MRO or NERC proprietary information that is privileged, confidential, or subject to copyright belonging to MRO or NERC. This e-mail is intended solely for the use of the individual or entity to which it is addressed. If you are not the intended recipient you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this e-mail is strictly prohibited and may be unlawful. If you have received this message in error, please notify the sender immediately and permanently delete the original and any copy of this e-mail.*

---

**From:** Seminal-owner@frcc.com [mailto:Seminal-owner@frcc.com] **On Behalf Of** patty.tymcio@rfirst.org
**Sent:** Thursday, March 22, 2012 9:54 AM
**To:** AMcClaine@serc1.org; cgarrett@wecc.biz; cwhite@wecc.biz; Daniel P. Skaar; eschwerdt@npcc.org; Jessica R. Mitchell; lane.lanford@TEXASRE.org; lcampbell@frcc.com; mmaher@wecc.biz; shenry@serc1.org; sscott.re@spp.org; sdochoda.re@spp.org; sroraback@wecc.biz; tim.gallagher@rfirst.org; Seminal@frcc.com
**Subject:** REMG Agenda/Attachments for Conference Call on Friday, March 23, 2012- 12:00 p.m. - 1:00 p.m. ET

Good Morning,

Please find attached the REMG Agenda/Attachments for our conference call on Friday, March 23, 2012.

***Conference Call Details:***
Time: 12:00 p.m. – 1:00 p.m. ET
Dial in number: 877.309.4269
Meeting ID: 2658
Meeting Password: 498959

Best Regards,

*Patty Tymcio*
Executive Assistant
Reliability*First* Corporation
330.247.3084 (Office)
330.456.5408 (Fax)
patty.tymcio@rfirst.org

---

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally

confidential, privileged or subject to copyright belonging to Reliability*First* Corporation. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this electronic message is strictly prohibited and may be unlawful. If you have received this message in error, please notify the sender immediately and permanently delete the original and any copy of this electronic message.

# Regional Standards Group (RSG) Charter

*Revised: March 22, 2012*

# Table of Contents


Membership ..... 3
Purpose ..... 3
Key Objectives ..... 4
Meetings ..... 5
Subgroups ..... 5
Costs ..... 5
Voting ..... 5
Minutes and Agendas ..... 6
Proxy Representatives ..... 6
Savings Clause ..... 6
Rules of Conduct ..... 6

## Membership

The Electric Reliability Organization (ERO) Regional Standards Group (RSG) membership shall be comprised of Standards Managers or representatives from each of the eight Regional Entities (the Members) and NERC staff. The RSG will report to the Executive Management Group (EMG), who shall assign a Chair and Vice Chair.

NERC's Vice President and Director of Standards shall serve as an ex-officio member of the group and may delegate a NERC staff member to serve as the RSG Secretary.

The workload of the RSG shall focus on the initiatives assigned and approved by the EMG. The RSG shall advise and recommend solutions to the EMG on issues that could have an impact on the development of both existing and emerging NERC Reliability Standards.

## Purpose

To enhance the reliability of the Bulk Electric System (BES) across North America by supporting the development of the continent-wide standards and assuring that all regional standards are properly coordinated across an interconnection including any variances resulting from regional differences in operating the BES.

The activities to support the purpose include:

- Obtaining consistency and uniformity on the standards development across the ERO enterprise (NERC and the Regional Entities) and where possible, identify the development of continent-wide standards, rather than regional standards.

- Ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards developing authority.

- Ensuring that the Regional Entities establish and periodically review the procedural process for developing the Regional Standards, including the incorporation of lessons learned when necessary.

- Act as a resource for both the Stakeholders and the Regional Entities to understand the technical application of continent-wide standards through communications, education, and training.

- Establishing subgroups as needed with other NERC and regional staff to accomplish specific tasks or objectives, with prior approval of the EMG.

## Key Objectives

The RSG carries out its objectives within the ERO's Rules of Procedure, Section 300, NERC's Antitrust Compliance Guideline, and the NERC Registration Criteria.

1. Provide a forum for active communication and information exchange between the Regional Entities and NERC as it pertains to standards including:

    a. Effective and efficient dissemination of information regarding the most recent FERC and ERO initiatives such as interpretations, training, guidelines, directives, and mandates;

    b. Promote ERO-wide coordination and a cooperative, collaborative working environment between Regional Entities and NERC; and,

    c. Promote best practices and sharing of lessons learned across the Regional Entities.

2. Identify opportunities for the inclusion of Regional Entity variances and criteria within the NERC Reliability Standards for consistency in results, policies, procedures, and business practices.

3. Coordinate timely reviews of Regional Standards consistent with the Regional Entity's approval processes.

4. Provide comments on the prioritization of NERC Standards Development Projects.

5. Coordinate Regional Standards with neighboring regions so that impacts can be understood and properly communicated.

6. Regularly report to the EMG on matters related to the development and implementation of NERC Reliability Standards including the progress on high priority activities.

7. Collaborate with NERC compliance staff and the Regional Entities in understanding the application of NERC Reliability Standards and the types of evidence needed to demonstrate compliance.

8. Review trends in compliance violations to determine if there are any common areas requiring additional guidance to clarify requirements.

9. Draft Standard Authorization Requests (SAR) based on historical analysis or identification of technical "gaps" in standards resulting from lessons learned on Event Analysis, trends from compliance violations or mitigation, and compliance and enforcement practices, which could result in the modification of continent-wide standards or the retirement of un-necessary or duplicative reliability standards.

10. Work with NERC and Regional Entity staff to provide education and training to stakeholders on effectively demonstrating compliance through webinars, emails, conference calls, presentations, workshops, etc.

11. Identify pools of subject matter experts in the industry to assist in the development of guidance documents and to provide insights into specific continent-wide standards being developed by NERC.

12. Promote planning, efficiency, and budget coordination across the ERO (both NERC and the Regional Entities), including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long term ERO and Regional Entity business plan and budget processes.

## Meetings

Meetings of the RSG are open to observers. The RSG may meet in executive session, as called upon by the Chair or Vice-Chair. The RSG will meet at least quarterly, as schedules allow, and conduct additional conference calls on a periodic, as needed basis.

## Subgroups

Subgroups as approved by the EMG, either ad hoc workgroups or taskforces, may be established for either specific functional areas or for cross-functional tasks to support issue analysis and resolution. Subgroups will have charters or scopes as appropriate and be approved by the RSG. These subgroups and their charters/scopes will be evaluated on a periodic basis not to exceed one year. The RSG will prioritize subgroup tasks, and each subgroup will have a designated chairman to report to the RSG and facilitate the subgroup communications. The RSG chair will request a NERC staff person to work with the subgroup chair and act as the secretary and facilitator.

## Costs

Each Member shall bear his or her own costs for participation.

## Voting

The RSG will generally not conduct ballots, but will seek consensus on issues requiring group decisions. Decisions of the RSG are non-binding. Policy issues that cannot be resolved after due consideration by the RSG, or that the RSG has no authority to resolve, will be passed to the EMG with a paper outlining the issue(s) and positions.

## Minutes and Agendas

Agendas will be prepared by the chair and vice-chair and issued to each member no later than one week prior to a meeting. Non-public minutes and action items will be prepared after each meeting by the chair and distributed to the members within one week after adjournment.

## Proxy Representatives

A member may assign a proxy to participate in a meeting. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order.

## Savings Clause

Nothing in this charter is intended to alter or replace the rights and obligations of the members under the Regional Delegation Agreements, as they are now in effect or may be amended from time to time. Each member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

## Rules of Conduct

Members may discuss specific confidential information or procedures, consistent with NERC's Rules of Procedure. Members agree to maintain confidentiality of any matters considered "confidential information." The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Guidelines.

| | |
|---|---|
| **From:** | Herb Schrayshuen |
| **To:** | rsg |
| **Subject:** | RSG Charter |
| **Date:** | Friday, April 13, 2012 10:19:18 AM |
| **Attachments:** | RSG_Revised_ERO_Charter-NERC12-03-2010 (2).docx<br>EROEMG subgroup charter template+RSG 4-10-2012 - rev 2.docx |

---

Colleagues,

I apologize you did not receive the transmittal on Tuesday.

Attached is the current RSG Charter from 12-3-2010 and a draft of the proposed charter (RSG 4-10-2012 – rev 2) conformed to the charter template provided by the EMG as we discussed yesterday. A second email will contain a comparison WORD comparison between the original and the proposed.

As we discussed yesterday this proposed version makes no changes to the key objectives of the RSG as compared to the 12-3-2010 version. Based on another proposal circulated among the regions, I know that is may be an area for discussion. This draft does generally make the changes called for by the EMG regarding membership and appointment of leadership. Note is also proposes closing the meetings. This is a topic we discussed and reach consensus on regarding a recommendation to the EMG that they remain open. I recommend you each communication with your respective leadership on this point also.

Schedule – I need your comments on this before April 24. The EMG meeting is April 27

Please confirm receipt

Herb Schrayshuen
Vice President Standards and Training
Mobile: 315 439 1390
Office: 404 446 2563
herb.schrayshuen@nerc.net

NERC
3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326

NERC. Reliability. Accountability.

This email and any of its attachments may contain NERC proprietary information that is privileged, confidential, or subject to copyright belonging to NERC. This message and any attachments may contain confidential information protected by the attorney-client or other privilege. This email is intended solely for the use of the individual or entity to which it is addressed. If you are not the intended recipient of this email, you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this email is strictly prohibited and may be unlawful. If you receive this email in error, please notify the sender immediately and permanently delete the original and any copy of this email and any printout.

---
Y

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# ERO EMG Regional Standards Group (RSG) D R A F T Charter

**3-14-2012–approved template**
**4-10-2012-draft**

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Table of Contents

Revision History ..... ii

Membership ..... 1

Purpose ..... 1

Key Objectives ..... 1

Meetings ..... 2

Costs ..... 3

Voting ..... 4

Minutes and Agendas ..... 4

Proxy Representatives ..... 4

Savings Clause ..... 4

Rules of Conduct ..... 4

# Revision History

| Rev. | Date | Reviewers | Revision Description |
|---|---|---|---|
| 0 | 12-3-2010 | RSG members & EMG Executives | Original RSG Charter as approved by the EMG |
| 1 | 4-10-2012 | TBD | Conform RSG Charter rev 0 to new EMG template 3-14-2012 |

# Purpose

The purpose of the Regional Standards Group (RSG) is to provide process and policy recommendations in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure, as well as develop recommended strategies to enhance efficiency and effectiveness. The recommendations pertain to executing the Regional Standards development procedures, and processes being conducted by the Regional Entities and the NERC Regional Reliability Standards Evaluation Procedure. The overarching objective is to coordinate the development of Regional and Continent-wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system (BES) users, owners, and operators. A primary ~~initiative~~objective of the RSG is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the electric reliability organization (ERO) enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards developing authority.

The RSG carries out its objectives within the confines of the ERO's Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines as set forth therein.

# Key Objectives

1. Provide a forum for active communication and information exchange between the Regional Entities and NERC as it pertains to standards.
2. Identify opportunities to improve ~~for furthering Regional Entity standards procedures and processes for~~ consistency ~~in~~for the Regional Entit~~y's~~ies' standards~~ results~~, policies, procedures, and business practices.
3. Provide a forum for promulgating ~~the most recent~~standards related FERC and ERO information such as training, guidelines, directives, and mandates to effectively and efficiently disseminate information to and amongst the ERO and Regional Entities.
4. Address concerns expressed by registered entities and as expressed in the various performance assessments pertaining to inconsistent implementation of the North American and Regional Standards development processes, giving due deference to regional differences that do not adversely affect system performance.
5. Provide oversight of NERC's internal processes and provide input for the ERO's project management schedule for review of regional standards to ensure coordination~~e~~ of timely reviews ~~consistent~~ with the regions' approval processes.

6. Report progress, proposed prioritization, and status of high-priority RSG activities to the ERO EMG.
7. Provide information and support for the execution of the regional reliability standards activities in the NERC Three-Year Standards Development Work Plan.
8. Review NERC reliability standard requirements and recommend those requirements that should be developed by the Regional Entities as regional standards, and filed through the ERO.
9. Identify potential assignments or projects for sub-RSG, NERC, or Regional Entity led working groups dealing in the standards development area.
10. Promote best practices and provide a forum to share lessons learned.
11. Promote ERO-wide team concept and working environment.
12. Promote resource planning, efficiency, and budget coordination across the ERO (both NERC and the Regional Entities), including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long term ERO and regional entity business plan and budget processes.
13. Identify potential new draft fill-in-the-blank standards and requirements being developed by the ERO and provide notification to the standard drafting team.

# Membership

The RSG is comprised of the NERC standards program area lead and the standards program area leads from each of the eight Regional Entities (the Members). The ERO EMG will appoint a Chair and Vice Chair, ~~who's term is to be for two years and may be extended by one year~~for one year terms, with the officers rotating among the Regional Entity members. A NERC staff representative shall serve as the documenting secretary, unless otherwise agreed to by the ERO EMG.

# Meetings

Meetings of the RSG are open to attendance by NERC and Regional Entity staff having an interest in the topics being addressed. The RSG may meet in executive session, as called upon by the ~~c~~Chair or ~~v~~Vice-~~c~~Chair. All RSG ~~M~~meetings are closed to the public. [ALTERNATIVE: All RSG meetings are open to the public, however, the Chair may designate all or part of a meeting as a closed session.] The RSG will conduct in-person meetings ~~as schedules allow, and~~ in conjunction with standards-~~=~~related meetings attended by RSG members (i.e. Standards Committee~~ or Process Subcommittee~~), to minimize travel costs, and the RSG will~~ and~~ conduct conference calls on a periodic basis and as deemed ~~necessary~~appropriate by the Chair and Vice-Chair.

# Working Group and Task Forces

Working groups,~~ and~~ task forces, and ad hoc groups proposed to report~~ing~~ to the RSG may only be established with the explicit approval of the ERO EMG. Any ~~P~~proposed ~~working~~ groups ~~and~~

~~task forces~~ must have charters/scopes, work plans, deliverables, and a designated life expectancy. Any ~~working~~ groups and ~~task forces~~ approved by the ERO EMG will be evaluated (including their charters/scopes etc.) by ERO EMG on a periodic basis not to exceed one year. The RSG will prioritize working group and task force tasks and will be responsible for regular, periodic reports of activities of these working groups and task forces to ERO EMG.

## Costs

Each Member shall bear his or her own costs for participation.

## Voting

The RSG will not conduct ballots, but will seek consensus in every instance. Decisions of the RSG are non-binding. Policy issues will be passed to the ERO EMG with a paper outlining the issue, recommendation and any differing positions.

## Minutes and Agendas

Agendas will be prepared by the ~~c~~Chair and ~~v~~Vice-~~c~~Chair and issued to each member no later than five~~two~~ business days prior to a meeting. Non-public notes and action items will be prepared after each meeting by the ~~chair~~documenting secretary and distributed to the members no later than two business days after a meeting or conference call. Additionally, the Chair, with assistance of the documenting secretary, will be responsible for preparing written, quarterly reports to be supplied to the ~~R~~EMG Chair for inclusion into a formal report to the NERC Board of Trustees at each meeting. These reports shall cover, at a minimum, activities since the last report, issues/tasks completed, key planned activities, recommendations and ~~barriers~~ challenges as they exist.

## Proxy Representatives [gvz1]

While use of proxies is discouraged, a member may assign a proxy to participate in a meeting in rare circumstances. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order. Abuse of the use of proxies shall be noted by the Chair and brought to the attention of the ERO EMG.

## Savings Clause

Nothing in this charter is intended to alter or replace the rights and obligations of the members under the Regional Delegation Agreements, as they are now in effect or may be amended from time to time. Each member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

## Rules of Conduct

Members may discuss specific confidential information or procedures consistent with NERC's Rules of Procedure. Members agree to maintain confidentially of any matters considered "confidential information". The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Guidelines.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# ERO EMG Regional Standards Group (RSG) D R A F T Charter

**3-14-2012–approved template**
**4-10-2012-draft**

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Table of Contents

Revision History ..... ii

Membership ..... 1

Purpose ..... 1

Key Objectives ..... 1

Meetings ..... 3

Costs ..... 3

Voting ..... 4

Minutes and Agendas ..... 4

Proxy Representatives ..... 4

Savings Clause ..... 4

Rules of Conduct ..... 4

# Revision History

| Rev. | Date | Reviewers | Revision Description |
|---|---|---|---|
| 0 | 12-3-2010 | RSG members & EMG Executives | Original RSG Charter as approved by the EMG |
| 1 | 4-10-2012 | TBD | Conform RSG Charter rev 0 to new EMG template 3-14-2012 |

# Purpose

The purpose of the Regional Standards Group (RSG) is to provide process and policy recommendations in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure, as well as develop recommended strategies to enhance efficiency and effectiveness. The recommendations pertain to executing the Regional Standards development procedures, and processes being conducted by the Regional Entities and the NERC Regional Reliability Standards Evaluation Procedure.

~~-~~The overarching objective is to coordinate the development of Regional and Continent-wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system (BES) users, owners, and operators. A primary ~~initiative~~objective of the RSG is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the electric reliability organization (ERO) enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards developing authority.

The RSG carries out its objectives within the confines of the ERO's Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines as set forth therein.

# Key Objectives

1. Provide a forum for active communication and information exchange between the Regional Entities and NERC as it pertains to standards.
2. Identify opportunities for the inclusion of Regional Entity variances and criteria within the NERC Reliability Standards and to improve ~~for furthering Regional Entity standards procedures and processes for~~ for consistency ~~in for the Regional Entity's standards~~ in results, policies, procedures, and business practices.
3. Provide a forum for promulgating ~~the most recent~~standards related FERC and ERO information such as training, guidelines, directives, and mandates to effectively and efficiently disseminate information to and amongst the ERO and Regional Entities.
4. Address concerns expressed by registered entities and as expressed in the various performance assessments pertaining to inconsistent implementation of the North American and Regional Standards development processes, giving due deference to regional differences that do not adversely affect system performance.
5. Provide oversight of NERC's internal processes and provide input for the ERO's project management schedule for review of regional standards to ensure coordination~~e~~ of timely reviews ~~consistent~~ with the regions' approval processes.

6. Report progress, proposed prioritization, and status of high-priority RSG activities to the ERO EMG.
7. Provide information and support for the execution of the regional reliability standards activities in the NERC Three-Year Standards Development Work Plan.
8. Review NERC reliability standard requirements and recommend those requirements that should be developed by the Regional Entities as regional standards, and filed through the ERO.
9. Identify potential assignments or projects for sub-RSG, NERC, or Regional Entity led working groups dealing in the standards development area.
10. Promote best practices and provide a forum to share lessons learned.
11. Promote ERO-wide team concept and working environment.
12. Promote resource planning, efficiency, and budget coordination across the ERO (both NERC and the Regional Entities), including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long term ERO and regional entity business plan and budget processes.
13. Identify potential new draft fill-in-the-blank standards and requirements being developed by the ERO and provide notification to the standard drafting team.
14. Coordinate on Regional Standards within an interconnection so that impacts can be understood and properly communicated.

~~14. Assist the compliance staff of NERC and the Regional Entities in understanding the application of the NERC Reliability Standards and the types of evidence needed to demonstrate compliance.~~

~~15. Identify pools of subject matter experts in the industry to assist in the development of guidance documents and to provide insights into specific continent-wide standards being developed by NERC.~~

~~16. Review trends in compliance violations to determine if there are any common areas which requiring additional guidance in clarifying the requirements to the NERC Reliability Standard.~~

~~17. Draft Standards Authorization request (SAR) based on historical analysis or identification of technical "gaps" in standards resulting from lessons learned from System Event Analysis, compliance violation trends, mitigation and enforcement actions, which could result in the modification of continent-wide standards. Including, the retirement of duplicative and/or unneeded reliability standards.~~

~~18. Assist NERC and Regional Entity Staff to provide education and training to stakeholders on effectively demonstrating compliance through webinars, emails, conference calls, presentations, workshops, etc..~~

# Membership

The RSG is comprised of the NERC standards program area lead and the standards program area leads from each of the eight Regional Entities (the Members). ~~The workload of the RSG shall focus on the initiatives assigned and approved by the EMG.~~ The ERO EMG will appoint a Chair and Vice Chair for one year terms, with the officers rotating among the Regional Entity members.~~,~~[PH1] ~~who's whose term is to be for two years and may be extended by one year~~. A NERC staff representative shall serve as the documenting secretary, unless otherwise agreed to by the ERO EMG. The RSG shall advise and recommend solutions to the EMG on issues that could have an impact on the development of both existing and emerging NERC Reliability Standards, including subgroups.

# Meetings

Meetings of the RSG are open to attendance by NERC and Regional Entity staff having an interest in the topics being addressed. The RSG may meet in executive session, as called upon by the ~~c~~Chair or ~~v~~Vice-~~c~~Chair. All RSG ~~M~~meetings are closed to the public. [ALTERNATIVE: All RSG meetings are open to the public, however, the Chair may designate all or part of a meeting as a closed session.] The RSG will conduct in-person meetings ~~as schedules allow, and~~ in conjunction with standards related meetings attended by RSG members (i.e. Standards Committee ~~or Process Subcommittee~~), to minimize travel costs, and the RSG will ~~and~~ [PH2]conduct conference calls on a periodic basis and as deemed ~~necessary~~appropriate by the Chair and Vice-Chair.

# Working Group and Task Forces

Working groups, ~~and~~ task forces, and ad hoc groups proposed to report~~ing~~ to the RSG may only be established with the explicit approval of the ERO EMG. Any ~~P~~proposed ~~working~~ groups ~~and task forces~~ must have charters/scopes, work plans, deliverables, and a designated life expectancy. Any ~~working~~ groups ~~and task forces~~ approved by the ERO EMG will be evaluated (including their charters/scopes etc.) by ERO EMG on a periodic basis not to exceed one year. The RSG will prioritize working group and task force tasks and will be responsible for regular, periodic reports of activities of these working groups and task forces to ERO EMG.

# Costs

Each Member shall bear his or her own costs for participation.

## Voting

The RSG will not conduct ballots, but will seek consensus in every instance. Decisions of the RSG are non-binding. Policy issues will be passed to the ERO EMG with a paper outlining the issue, recommendation and any differing positions.

## Minutes and Agendas

Agendas will be prepared by the ~~c~~Chair and ~~v~~Vice-~~c~~Chair and issued to each member no later than five~~two~~ business days prior to a meeting. Non-public notes and action items will be prepared after each meeting by the ~~chair~~documenting secretary and distributed to the members no later than two business days after a meeting or conference call. Additionally, the Chair, with assistance of the documenting secretary, will be responsible for preparing written, quarterly reports to be supplied to the ~~R~~EMG Chair for inclusion into a formal report to the NERC Board of Trustees at each meeting. These reports shall cover, at a minimum, activities since the last report, issues/tasks completed, key planned activities, recommendations and ~~barriers~~challenges as they exist.

## ~~Proxy Representatives~~ [gv3]

~~While use of proxies is discouraged, a member may assign a proxy to participate in a meeting in rare circumstances. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order. Abuse of the use of proxies shall be noted by the Chair and brought to the attention of the ERO EMG.~~

## Savings Clause

Nothing in this charter is intended to alter or replace the rights and obligations of the members under the Regional Delegation Agreements, as they are now in effect or may be amended from time to time. Each member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

## Rules of Conduct

Members may discuss specific confidential information or procedures consistent with NERC's Rules of Procedure. Members agree to maintain confidentially of any matters considered "confidential information". The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Guidelines.

| | |
|---|---|
| **From:** | Pat Huntley |
| **To:** | rsg |
| **Subject:** | RE: EROEMG subgroup charter template |
| **Date:** | Thursday, April 19, 2012 2:53:05 PM |
| **Attachments:** | EROEMG subgroup charter template+RSG 4-10-2012 - rev 3 GVZ+MRO+TRE+SERC.docx |

RSG,

Attached are some additional comments.

- Added a new Key Objective # 14 to cover discussions about EI standards.
- Added a comment recommending we eliminate references to terms for RSG officers and any regional rotation requirement. That will be determined on a case-by-case basis by the ERO EMG.
- Added a comment recommending we return to the original language on meetings. While I agree face-to-face meetings are valuable and it is convenient to meet at SC meetings, it should not be a requirement in the charter.

Pat Huntley
Manager, Reliability Standards
SERC Reliability Corporation
2815 Coliseum Centre Drive, Suite 500
Charlotte, NC 28217
(704) 940-8228 (Office)
(704) 281-2342 (Cellular)

*This email and any of its attachments may contain SERC proprietary information that is privileged, confidential, or subject to copyright belonging to SERC. This email is intended solely for the use of the individual or entity to which it is addressed. If you are not the intended recipient of this email, you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this email is strictly prohibited and may be unlawful. If you receive this email in error, please notify the sender immediately and permanently delete the original and any copy of this email and any printout.*

---

**From:** Jones, Donald [mailto:Don.Jones@texasre.org]
**Sent:** Wednesday, April 18, 2012 12:40 PM
**To:** rsg
**Subject:** RE: EROEMG subgroup charter template

Group:

My revisions are attached.

- I suggest annual rotation of chair and vice-chair among the regions, especially if the EMG's intent is to spread the leadership around.
- I don't feel strongly about the open/closed meeting issue, but I provided some alternative language for the open meeting option.
- I agree with Guy's comment – the Proxy paragraph can be deleted.
- I deleted the scope items 14-18 that MRO added. As we discussed at the RSG meeting, these are items that I feel are outside of the scope of this group. These items seem to be intended to enlist Region personnel to perform NERC functions, or to enlist Standards personnel to perform compliance functions.

Let me know if you want to discuss any specific items further.

Don Jones
Reliability Standards Manager
Texas Reliability Entity, Inc.
o: 512-583-4929 | m: 512-627-3750
805 Las Cimas Parkway, Suite 200
Austin, Texas 78746
don.jones@texasre.org

---

**From:** Herb Schrayshuen [mailto:Herb.Schrayshuen@nerc.net]
**Sent:** Tuesday, April 17, 2012 3:30 PM
**To:** rsg
**Subject:** RE: EROEMG subgroup charter template+RSG 4-10-2012 - rev 2GVZ.docx

Will,

At the meeting, we elected to start with the charter template provided by the Regional Executives.
Thank you for adding your proposed changes.
Others, this version includes Guy's and Will's changes.
Make further edits on this version.

Herb Schrayshuen
Vice President Standards and Training
Mobile: 315 439 1390
Office: 404 446 2563
herb.schrayshuen@nerc.net

NERC
3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326

NERC. Reliability. Accountability.

This email and any of its attachments may contain NERC proprietary information that is privileged, confidential, or subject to copyright belonging to NERC. This message and any attachments may contain confidential information protected by the attorney-client or other privilege. This email is intended solely for the use of the individual or entity to which it is addressed. If you are not the intended recipient of this email, you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this email is strictly prohibited and may be unlawful. If you receive this email in error, please notify the sender immediately and permanently delete the original and any copy of this email and any printout.

---

**From:** William S. Smith [mailto:WS.Smith@MidwestReliability.org]
**Sent:** Tuesday, April 17, 2012 4:21 PM
**To:** Herb Schrayshuen
**Cc:** Daniel P. Skaar; James D. Burley; Jennifer L. Matz
**Subject:** EROEMG subgroup charter template+RSG 4-10-2012 - rev 2GVZ.docx

Hi Herb – MRO latest edits to didn't make it over into this document. Please see MRO's edits in "Red"

*Thank You,*

*Will Smith*

Manager - Standards & Program Performance – CIPP, CIPP-IT, & CCEP
Midwest Reliability Organization
2774 Cleveland Ave. No.
Roseville, MN 55113
651-855-1718

**NOTE:** MRO is moving! As of April 30, our new address will be **380 St. Peter Street, Ste. 800, St. Paul, MN 55102**. (Our phone and email addresses will not change.) Please update your records accordingly.

---
Y
---
Y
---
Y

NERC

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# ERO Regional Standards Group Charter

to ensure the reliability of the bulk power system

December 3, 2010

116-390 Village Blvd., Princeton, NJ 08540
609.452.8060 | 609.452.9550 fax
www.nerc.com

# Table of Contents

Membership ..... 3
Purpose..... 3
Key Objectives..... 3
Meetings..... 4
Subgroups ..... 4
Costs..... 4
Voting ..... 4
Minutes and Agendas..... 5
Proxy Representatives..... 5
Savings Clause..... 5
Rules of Conduct ..... 5

## Membership

The Electric Reliability Organization (ERO) Regional Standards Group (RSG) is comprised of the NERC Vice President and Director of Standards and the Standards Managers from each of the eight Regional Entities (the Members). The RSG may form working groups as needed with other NERC and regional staff to accomplish specific tasks or objectives. The NERC Vice President and Director of Standards shall act as Chair and a Regional Director or Manager of Standards, elected by the eight Regional Entities, as Vice Chair. The Chair will assign a member of the NERC staff to serve as the RSG Secretary. The RSG will report to the ERO Executive Management Group (EMG).

## Purpose

The RSG's purpose is to provide process and policy recommendations in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure. The recommendations pertain to executing the Regional Standards development procedures, and processes being conducted by the Regional Entities and the NERC Regional Reliability Standards Evaluation Procedure. The overarching objective is to coordinate the development of Regional and Continent Wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system users, owners, and operators. A primary initiative of the RSG is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the ERO enterprise (NERC and the Regional Entities), while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards developing authority.

The RSG carries out its objectives within the confines of the ERO's Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines as set forth therein.

## Key Objectives

1. Provide a forum for active communication and information exchange between the Regional Entities and NERC as it pertains to standards.
2. Identify opportunities for furthering Regional Entity standards procedures and processes for consistency in results, policies, procedures, and business practices.
3. Provide a forum for promulgating the most recent FERC and ERO information such as training, guidelines, directives, and mandates to effectively and efficiently disseminate information.
4. Address concerns expressed by registered entities and performance assessment pertaining to inconsistent implementation of the North American and Regional Standards development processes, giving due deference to regional differences that do not adversely affect system performance.
5. Provide oversight of NERC's internal processes for review of regional standards to coordinate timely reviews consistent with the regions' approval processes.

6. Report progress and status of high-priority activities to the ERO EMG.
7. Provide information and support for the execution of the regional reliability standards activities in the NERC Three-Year Standards Development Work Plan.
8. Review NERC reliability standard requirements and recommend those requirements that should be developed by the Regional Entities as regional standards, and filed through the ERO.
9. Identify potential assignments or projects for sub-RSG, NERC, or Regional Entity led working groups dealing in the standards development area.
10. Promote best practices and provide a forum to share lessons learned. 11.

Promote ERO-wide team concept and working environment.

12. Promote resource planning, efficiency, and budget coordination across the ERO (both NERC and the Regional Entities), including the recommendation of common business plan and budget assumptions and associated NERC and Regional Entity resource needs (including projected staffing, contractor, and consultant expenses) as part of the annual and long term ERO and regional entity business plan and budget processes.

### Meetings

Meetings of the RSG are open to observers. The RSG may meet in executive session, as called upon by the Chair or Vice Chair. The RSG will meet at least quarterly, as schedules allow, and conduct additional conference calls on a periodic, as needed, basis.

### Subgroups

Subgroups, either ad hoc workgroups or taskforces, may be established for either specific functional areas or for cross-functional tasks to support issue analysis and resolution. Subgroups will have charters or scopes as appropriate and approved by the RSG and EMG. These subgroups and their charters/scopes will be evaluated on a periodic basis not to exceed one year. The RSG will prioritize subgroup tasks. Each subgroup will have a designated chair to report to the RSG and facilitate the subgroup communications. The RSG chair will designate a NERC staff person to work with the subgroup chair and act as the secretary and facilitator.

### Costs

Each Member shall bear his or her own costs for participation.

### Voting

The RSG will generally not conduct ballots, but will seek consensus on issues requiring group decisions. Decisions of the RSG are non-binding. Policy issues that cannot be resolved after due consideration by the RSG, or that the RSG has no authority to resolve will be passed to the EMG with a paper outlining the issue(s) and positions.

### Minutes and Agendas

Agendas will be prepared by the Chair and Vice Chair and issued to each member no later than one week prior to a meeting. Non-public minutes and action items will be prepared after each meeting by the chair and distributed to the members within one week after adjournment.

### Proxy Representatives

A member may assign a proxy to participate in a meeting. Notice of a proxy shall be given to the presiding officer prior to the meeting being called to order.

### Savings Clause

Nothing in this charter is intended to alter or replace the rights and obligations of the members under the Regional Delegation Agreements, as they are now in effect or may be amended from time to time. Each member shall keep its separate and independent legal existence and authority, whether by statute, regulation, rule of procedure, or common law.

### Rules of Conduct

Members may discuss specific confidential information or procedures, consistent with NERC's Rules of Procedure. Members agree to maintain confidentiality of any matters considered "confidential information". The RSG shall obey all applicable anti-trust laws and observe the NERC Antitrust Compliance Guidelines.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Draft Notes
# Regional Standards Group Monthly Meeting

April 12, 2012 | 3:00-6:00 p.m. ET

FRCC-10th Floor-Small Conference Room
The Towers at Westshore
1408 N. Westshore Blvd., Suite 1002
Tampa, FL 33607-4512
Phone Number: 813-289-5644

Dial-In: 866-740-1260 | Access Code: 4413162 | Security Code: 04122012

1. Welcome—**Herb Schrayshuen**
   - Herb Schrayshuen welcomed the members of the Regional Standards Group (RSG) and participants.
2. Review NERC Antitrust and Open Meeting Reminder—**Herb Schrayshuen**
   - Herb Schrayshuen delivered the Antitrust Guidelines and Open Meeting Reminder to all members and participants. There were no questions raised.
3. Establish Attendance of RSG—**Herb Schrayshuen**
   - Meeting attendees:
     - Pete Heidrich, FRCC
     - Nick Henery, FERC
     - Pat Huntley, SERC
     - Don Jones, TRE
     - Steve Myers, ERCOT
     - Lee Pedowitz, NPCC
     - Emily Pennel, SPP RE
     - Steve Rueckert, WECC
     - Guy Zito, NPCC
     - Juan Villar, FERC
     - Howard Gugel, NERC

- Mallory Huggins, NERC
- Barb Nutter, NERC
- Herb Schrayshuen, NERC

4. Review Current Agenda—**Herb Schrayshuen**
    - A number of changes were made to the agenda and some agenda items were handled out of order due to travel plans of certain participants. All modifications were agreed to by the group.
5. Approval of March 12, 2012 Notes**—Herb Schrayshuen**
    - Meeting notes from March 12, 2012 were reviewed and approved with no changes.
6. Compliance Application Notices (CANs)-RSG Involvement—**Guy Zito**
    - Guy discussed his concerns with CANs development and the need for the RSG to engage. No conclusion from the discussion.
7. Regional Standards Once Adopted by the Board of Trustees (BOT) and Approved by FERC-Roles of the Regions and NERC and Division of Responsibilities**—Guy Zito**
    - The group discussed the issues related to "ownership" of regional standards once they become FERC approved. The discussion relates also to agenda items 12 and 13 on the next page. Conclusion: Standards, once approved, are "NERC" standards but the regions must be consulted in regard to retirement, or changes, because that is where the technical knowledge that originated the regional standard resides.
8. RSG Charter-Status Report**—Herb Schrayshuen**
    - The email sent on April 13, 2012, containing the draft charter based on the Executive Management Group (EMG) instructions did not reach the group. The group will review the issued draft and provide comments by April 24, 2012. The meeting where the issues will be discussed with the EMG is on April 27, 2012.
    - The RSG objectives remain unchanged in the initial draft.
    - The governance changes called for by the EMG are largely acceptable (pending specific comments), except for the call for closed meetings. Those RSG members in attendance agree that meetings should be open and that recommendation will be made to the EMG.
9. Informal Feedback on Standards Under Development by Regional Standards Reviewers**—Mallory Huggins**
    - Mallory solicited input from the group regarding the needs for regional input to standards under development by the regional technical committees. A plan was developed whereby

Mallory would reach out to each regional standards manager to initiate reviews when needed.

10. RSG Report to ERO EMG—**Howard Gugel**

    - Howard solicited comments on the report to the EMG. None were offered and the report will go forward to the next EMG meeting to be included in the Standards Report to the Standards Oversight and Technology Committee (SOTC) in May, 2012.

11. Whitepaper (Regional Variances and Regional Standards) Comments from Regional Executives—**Howard Gugel**

    - The Whitepaper with modifications from the EMG was accepted by the RSG.

12. Retirement of Regional Standards Requirements in light of North American Standards Approvals—**Herb Schrayshuen**

    - The group discussed the need to develop processes for retiring regional standards and rapidly making changes in a lock-step manner with North American standard implementation plans, where regional standards requirements need to be changed or retired, so as to not conflict. It was discussed that the regional boards should have a role in the process. It was agreed to develop a common template/statement for addition to regional standards processes to accommodate this need. Those that have their processes open for review and redevelopment (FRCC, NPCC and others, if any) will take on the initial effort in that regard and share their proposal with the group.

13. Regional Standards—Where and How They Are Displayed on the NERC Website(s)—**Guy Zito & Kristin Iwanechko**

    - It was agreed that the regions should be pointing to the NERC website as the source for regional standards which have been approved.

14. Additional Item from Allen Mosher–**Herb Schrayshuen**

    - Allen Mosher requested that the RSG members solicit input from the regional compliance managers regarding the Standards Committee (SC) action on Violation Risk Factors (VRFs) and Violation Severity Levels Pro Forma (VSLs). They agreed to do so. Their initial reaction is that the regional compliance managers would oppose eliminating VRFs and VSLs until they see a better product proposal.

15. Future RSG Meetings:

    - 5/14/2012-Teleconference
    - 6/11/2012-Teleconference
    - 7/13/2012-Face-to-Face

# Regional Standards Group
# 2011-2012 Action Items

| Action Item # | Meeting Date | Description | Owner | Next Step | Due Date | Comments | Status |
|---|---|---|---|---|---|---|---|
| **08.15.2011.30** | 08/15/2011 | Create a Whitepaper Explaining Regional Variances | Howard | Waiting for comments from Regional executives. Comment period closes 3/15. Comments compiled and sent to RSG on 4/12, comments due back by 4/20 | 04/20/2012 | | Open |
| **01.12.2012.34** | 01/12/2012 | Regional Definitions | Howard | Regions to review list Howard sent out on 3/12/2012; classify definitions as follows: BOT Approved, Used by Region, In-Development. Revised list sent on 4/12. RSG members to review and provide updates by 4/20. | 04/20/2012 | | Open |
| **02.21.2012.39** | 02/21/2012 | Philosophy of Each Region on Regional Standards | Tony | Still compiling replies, one (1) region outstanding | 04/12/2012 | | Completed |
| **02.21.2012.40** | 02/21/2012 | Prepare UFLS report | Herb | A draft of the report will be issued for review by the RSG | 3/19/2012 | | Completed |
| **03.12.2012.41** | 03/12/2012 | Regions to Comment on Fill-in-the Blank Status Report | Herb | Herb will send out report to the RSG_plus list; Comments due back by 3/19 | 03/19/2012 | | Completed |
| **04.12.2012.42** | 04/12/2012 | Add Mallory Huggins to RSG list | Herb | Ensure Mallory appears on list | 04/20/2012 | | Open |
| **04.12.2012.43** | 04/12/2012 | Continue Charter Drafting | | Regions Respond by April 24 | 4/24/2012 | | Open |

| Regional Standard | Term | Definition |
|---|---|---|
| **MRO** | | |
| | | |
| | | |
| **NPCC** | | |
| PRC-002-NPCC-1—Disturbance Monitoring **(NERC/FERC Approved definition)** | Current zero time | The time of the final current zero on the last phase to interrupt. |
| PRC-002-NPCC-1—Disturbance Monitoring **(NERC/FERC Approved definition)** | Generating Plant | One or more generators at a single physical location whereby any single contingency can affect all the generators at that location. |
| **RFC** | | |
| BAL-502-RFC-02 **(NERC/FERC Approved definition)** | Resource Adequacy | The ability of supply-side and demand-side resources to meet the aggregate electrical demand (including losses).<br>*candidate to include in the field test of the definition development procedure |
| BAL-502-RFC-02 **(NERC/FERC Approved definition)** | Net Internal Demand | Total of all end-use customer demand and electric system losses within specified metered boundaries, less Direct Control Load Management and Interruptible Demand. |
| BAL-502-RFC-02 **(NERC/FERC Approved definition)** | Peak Period | A period consisting of two (2) or more calendar months but less than seven (7) calendar months, which includes the period during which the responsible entity's annual peak demand is expected to occur |
| BAL-502-RFC-02 **(NERC/FERC Approved definition)** | Year One | The planning year that begins with the upcoming annual Peak Period. |
| PRC-002-RFC-01 **(RFC BOD approved – if standard is converted to a Regional Criterion, this will be a definition used just within RFC)** | Substation | As defined by the IEEE C2-2002, (National Electric Safety Code) “An enclosed assemblage of equipment , e.g. switches, circuit breakers, buses and transformers, under control of qualified persons , through which electric energy is passed for the purpose of switching or modifying its characteristics.” |
| MOD-024-RFC-01 **(RFC BOD approved – if standard is converted to a Regional Criterion, this will be a definition used just within RFC)** | Capacity Factor | (expressed as a percent) - Is the net actual energy generation (MW-hours) divided by the product of the period (hours) and the net max capacity rating (MW) |
| MOD-024-RFC-01 **(RFC BOD approved – if standard is converted to a Regional Criterion, this will be a** | Summer/Winter Peak Period | For the summer season, the Peak Period extends from the first day of June to the last day of August. For the winter peak season, the Peak Period extends from the first day of December to the last day of February. |

| Regional Standard | Term | Definition |
|---|---|---|
| **definition used just within RFC)** | | |
| MOD-024-RFC-01 **(RFC BOD approved – if standard is converted to a Regional Criterion, this will be a definition used just within RFC)** | Low Side Net Capability For Modeling (also referred to as Low Side Net | The total effects of all plant related load (aux transformers, GSU tertiary load, station service transformers and generator loads connected to other sources) subtracted from the gross capability of the unit (or units if multiple units are connected to one GSU) not including Generator Step-up Transformer losses. |
| MOD-024-RFC-01 **(RFC BOD approved – if standard is converted to a Regional Criterion, this will be a definition used just within RFC)** | Peak Period Hours | The four summer hours ending at 3 PM, 4 PM, 5 PM and 6 PM. The four winter hours ending 8 AM, 9 AM, 7 PM and 8 PM. |
| MOD-024-RFC-01 **(RFC BOD approved – if standard is converted to a Regional Criterion, this will be a definition used just within RFC)** | Sister Units | Units can be considered sisters in regard to that equipment or system if it can be demonstrated that the units, equipment, or systems have identical designs, identical major components, identical significant control system settings and similar verified capabilities. Sister Units must be installed at the same plant. |
| MOD-024-RFC-01 **(RFC BOD approved – if standard is converted to a Regional Criterion, this will be a definition used just within RFC)** | Station Service Transformer | A transformer that supplies power from a station high voltage bus to the station auxiliaries and also to the unit auxiliaries during unit startup and shutdown or when the unit auxiliaries transformer is not available, or both. (ANSI C57.116-1989) |
| MOD-024-RFC-01 **(RFC BOD approved – if standard is converted to a Regional Criterion, this will be a definition used just within RFC)** | Unit Auxiliaries Transformer | A transformer intended primarily to supply all or a portion of the unit auxiliaries (ANSI C57.116-1989) |
| MOD-024-RFC-01 **(RFC BOD approved – if standard is converted to a Regional Criterion, this will be a definition used just within RFC)** | Unit Transformer (UT) | A power system supply transformer that transforms all or a portion of the unit power from the unit to the power system voltage (ANSI C57.116-1989) (often referred to a Generator Step-up Transformer (GSU), or main Transformer). |
| MOD-025-RFC-01 **(NERC BoT approved – if standard is converted to a Regional Criterion, this will be a definition used just within RFC)** | Wind Generating Station | A collection of wind turbines electrically connected together and injecting energy into the grid at one point, sometimes known as a "Wind Farm." |
| **TRE** | | |
| BAL-001-TRE-1 – Real Power Balancing Control Performance | Frequency Measurable | Frequency Deviation used to evaluate generating unit/generating facility Primary Frequency Response performance and that meets one of the |

| Regional Standard | Term | Definition |
|---|---|---|
| (In Development) | Event (FME) | following conditions:<br>i) a Frequency Deviation that has a pre-perturbation [the 16-second period of time before t(0)] average frequency to post-perturbation [the 34-second period of time starting 20 seconds after t(0)] average frequency absolute deviation greater than 100 mHz (the 100 mHz value may be adjusted by the BA to capture 30 to 40 events per year). See Attachment 1 for detailed criteria for this measurement.<br>or<br>ii) a change in a generating unit/generating facility, DC tie or firm load pre-perturbation megawatt value to post-perturbation megawatt value absolute deviation greater than 550 MW (the 550 MW value may be adjusted by the BA to capture 30 to 40 events per year). See Attachment 1 for detailed criteria for this measurement. |
| BAL-001-TRE-1 – Real Power Balancing Control Performance (In Development) | Primary Frequency Response (PFR) | The immediate proportional increase or decrease in real power output provided by generating units/generating facilities and the natural real power dampening response provided by Load in response to system Frequency Deviations. This response is in the direction that stabilizes frequency. |
| BAL-001-TRE-1 – Real Power Balancing Control Performance (In Development) | Governor | The electronic, digital or mechanical device that implements Primary Frequency Response of generating units/generating facilities or other system elements. |
| **WECC** | | |
| | | |
| | | |
| **WECC (FERC Approved Definitions)** | | |
| BAL-STD-002-0 – Operating Reserves **(NERC/FERC Approved definition)** | Area Control Error or ACE | means the instantaneous difference between net actual and scheduled interchange, taking into account the effects of Frequency Bias including correction for meter error. |
| BAL-STD-002-0 – Operating Reserves **(NERC/FERC Approved definition)** | Automatic Generation Control or AGC | means equipment that automatically adjusts a Control Area's generation from a central location to maintain its interchange schedule plus Frequency Bias. |
| BAL-STD-002-0 – Operating Reserves **(NERC/FERC Approved definition)** | Average Generation | means the total MWh generated within the Balancing Authority Operator's Balancing Authority Area during the prior year divided by 8760 hours (8784 hours if the prior year had 366 days). |
| BAL-STD-002-0 – Operating Reserves **(NERC/FERC Approved definition)** | Business Day | means any day other than Saturday, Sunday, or a legal public holiday as designated in section 6103 of title 5, U.S. Code. |
| BAL-STD-002-0 – Operating | Disturbance | means (i) any perturbation to the electric system, or (ii) the unexpected |

| Regional Standard | Term | Definition |
|---|---|---|
| Reserves **(NERC/FERC Approved definition)** | | change in ACE that is caused by the sudden loss of generation or interruption of load. |
| BAL-STD-002-0 – Operating Reserves **(NERC/FERC Approved definition)** | Extraordinary Contingency | shall have the meaning set out in Excuse of Performance,section B.4.c. |
| BAL-STD-002-0 – Operating Reserves **(NERC/FERC Approved definition)** | Frequency Bias | means a value, usually given in megawatts per 0.1 Hertz, associated with a Control Area that relates the difference between scheduled and actual frequency to the amount of generation required to correct the difference. |
| BAL-STD-002-0 – Operating Reserves **(NERC/FERC Approved definition)** | Nonspinning Reserve | means that Operating Reserve not connected to the system but capable of serving demand within a specified time, or interruptible load that can be removed from the system in a specified time. |
| BAL-STD-002-0 – Operating Reserves **(NERC/FERC Approved definition)** | Operating Reserve | means that capability above firm system demand required to provide for regulation, load-forecasting error, equipment forced and scheduled outages and local area protection. Operating Reserve consists of Spinning Reserve and Nonspinning Reserve. |
| BAL-STD-002-0 – Operating Reserves **(NERC/FERC Approved definition)** | Spinning Reserve | means unloaded generation which is synchronized and ready to serve additional demand. It consists of Regulating reserve and Contingency reserve (as each are described in Sections B.a.i and ii). |
| IRO-STD-006-0 – Qualified Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | Business Day | means any day other than Saturday, Sunday, or a legal public holiday as designated in section 6103 of title 5, U.S. Code. |
| IRO-STD-006-0 – Qualified Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | Disturbance | means (i) any perturbation to the electric system, or (ii) the unexpected change in ACE that is caused by the sudden loss of generation or interruption of load. |
| IRO-STD-006-0 – Qualified Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | Extraordinary Contingency | shall have the meaning set out in Excuse of Performance, section B.4.c. |
| IRO-STD-006-0 – Qualified Path Unscheduled Flow Relief **(NERC/FERC Approved** | Normal Path Rating | is the maximum path rating in MW that has been demonstrated to WECC through study results or actual operation, whichever is greater. For a path with transfer capability limits that vary seasonally, it is the |

| Regional Standard | Term | Definition |
|---|---|---|
| **definition)** | | maximum of all the seasonal values. |
| IRO-STD-006-0 – Qualified Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | WECC Table 2 | means the table maintained by the WECC identifying those transfer paths monitored by the WECC regional Reliability coordinators. As of the date set out therein, the transmission paths identified in Table 2 are as listed in Attachment A to this Standard. |
| PRC-STD-001 – Certification of Protective Relay Applications and Settings **(NERC/FERC Approved definition)** | Disturbance | means (i) any perturbation to the electric system, or (ii) the unexpected change in ACE that is caused by the sudden loss of generation or interruption of load. |
| PRC-STD-001 – Certification of Protective Relay Applications and Settings **(NERC/FERC Approved definition)** | Extraordinary Contingency | shall have the meaning set out in Excuse of Performance, section B.4.c. |
| PRC-STD-001 – Certification of Protective Relay Applications and Settings **(NERC/FERC Approved definition)** | Normal Path Rating | is the maximum path rating in MW that has been demonstrated to WECC through study results or actual operation, whichever is greater. For a path with transfer capability limits that vary seasonally, it is the maximum of all the seasonal values. |
| PRC-STD-001 – Certification of Protective Relay Applications and Settings **(NERC/FERC Approved definition)** | WECC Table 2 | means the table maintained by the WECC identifying those transfer paths monitored by the WECC regional Reliability coordinators. As of the date set out therein, the transmission paths identified in Table 2 are as listed in Attachment A of this Standard. |
| PRC-STD-003-1 – Protective Relay and Remedial Action Scheme Misoperation **(NERC/FERC Approved definition)** | Business Day | means any day other than Saturday, Sunday, or a legal public holiday as designated in section 6103 of title 5, U.S. Code. |
| PRC-STD-003-1 – Protective Relay and Remedial Action Scheme Misoperation **(NERC/FERC Approved definition)** | Disturbance | means (i) any perturbation to the electric system, or (ii) the unexpected change in ACE that is caused by the sudden loss of generation or interruption of load. |
| PRC-STD-003-1 – Protective Relay and Remedial Action Scheme Misoperation **(NERC/FERC Approved** | Extraordinary Contingency | shall have the meaning set out in Excuse of Performance, section B.4.c. |

| Regional Standard | Term | Definition |
|---|---|---|
| **definition)** | | |
| PRC-STD-003-1 – Protective Relay and Remedial Action Scheme Misoperation **(NERC/FERC Approved definition)** | Normal Path Rating | is the maximum path rating in MW that has been demonstrated to WECC through study results or actual operation, whichever is greater. For a path with transfer capability limits that vary seasonally, it is the maximum of all the seasonal values. |
| PRC-STD-003-1 – Protective Relay and Remedial Action Scheme Misoperation **(NERC/FERC Approved definition)** | WECC Table 2 | means the table maintained by the WECC identifying those transfer paths monitored by the WECC regional Reliability coordinators. As of the date set out therein, the transmission paths identified in Table 2 are as listed in Attachment A to this Reliability Agreement. |
| PRC-STD-005-1 – Transmission Maintenance **(NERC/FERC Approved definition)** | Disturbance | means (i) any perturbation to the electric system, or (ii) the unexpected change in ACE that is caused by the sudden loss of generation or interruption of load. |
| PRC-STD-005-1 – Transmission Maintenance **(NERC/FERC Approved definition)** | Extraordinary Contingency | shall have the meaning set out in Excuse of Performance, section B.4.c. |
| PRC-STD-005-1 – Transmission Maintenance **(NERC/FERC Approved definition)** | Normal Path Rating | is the maximum path rating in MW that has been demonstrated to WECC through study results or actual operation, whichever is greater. For a path with transfer capability limits that vary seasonally, it is the maximum of all the seasonal values. |
| PRC-STD-005-1 – Transmission Maintenance **(NERC/FERC Approved definition)** | WECC Table 2 | means the table maintained by the WECC identifying those transfer paths monitored by the WECC regional Reliability coordinators. As of the date set out therein, the transmission paths identified in Table 2 are as listed in Attachment A to this Reliability Agreement. |
| TOP-STD-007-0 – Operating Transfer Capability **(NERC/FERC Approved definition)** | Disturbance | means (i) any perturbation to the electric system, or (ii) the unexpected change in ACE that is caused by the sudden loss of generation or interruption of load. |
| TOP-STD-007-0 – Operating Transfer Capability **(NERC/FERC Approved definition)** | Extraordinary Contingency | shall have the meaning set out in Excuse of Performance, section B.4.c. |
| TOP-STD-007-0 – Operating Transfer Capability **(NERC/FERC Approved definition)** | Normal Path Rating | is the maximum path rating in MW that has been demonstrated to WECC through study results or actual operation, whichever is greater. For a path with transfer capability limits that vary seasonally, it is the maximum of all the seasonal values. |

| Regional Standard | Term | Definition |
|---|---|---|
| TOP-STD-007-0 – Operating Transfer Capability **(NERC/FERC Approved definition)** | WECC Table 2 | means the table maintained by the WECC identifying those transfer paths monitored by the WECC regional Reliability coordinators. As of the date set out therein, the transmission paths identified in Table 2 are as listed in Attachment A to this Reliability Agreement. |
| TOP-STD-007-0 – Operating Transfer Capability **(NERC/FERC Approved definition)** | Business Day | means any day other than Saturday, Sunday, or a legal public holiday as designated in section 6103 of title 5, U.S. Code. |
| TOP-STD-007-0 – Operating Transfer Capability **(NERC/FERC Approved definition)** | Operating Transfer Capability Limit or OTC | means the maximum value of the most critical system operating parameter(s) which meets: (a) precontingency criteria as determined by equipment loading capability and acceptable voltage conditions, (b) transient criteria as determined by equipment loading capability and acceptable voltage conditions, (c) transient performance criteria, and (d) post-contingency loading and voltage criteria. |
| VAR-STD-002a-1 – Automatic Voltage Regulators **(NERC/FERC Approved definition)** | Generating Unit Capability | means the MVA nameplate rating of a generator. |
| VAR-STD-002a-1 – Automatic Voltage Regulators **(NERC/FERC Approved definition)** | Disturbance | means (i) any perturbation to the electric system, or (ii) the unexpected change in ACE that is caused by the sudden loss of generation or interruption of load. |
| VAR-STD-002a-1 – Automatic Voltage Regulators **(NERC/FERC Approved definition)** | Extraordinary Contingency | shall have the meaning set out in Excuse of Performance,section B.4.c. |
| VAR-STD-002b-1 – Power System Stabilizer **(NERC/FERC Approved definition)** | Generating Unit Capability | means the MVA nameplate rating of a generator. |
| VAR-STD-002b-1 – Power System Stabilizer **(NERC/FERC Approved definition)** | Disturbance | means (i) any perturbation to the electric system, or (ii) the unexpected change in ACE that is caused by the sudden loss of generation or interruption of load. |
| VAR-STD-002b-1 – Power System Stabilizer **(NERC/FERC Approved definition)** | Extraordinary Contingency | shall have the meaning set out in Excuse of Performance,section B.4.c. |

| Regional Standard | Term | Definition |
|---|---|---|
| | | |
| VAR-501-WECC-1 – Power System Stabilizer **(NERC/FERC Approved definition)** | Commercial Operation | Achievement of this designation indicates that the Generator Operator or Transmission Operator of the synchronous generator or synchronous condenser has received all approvals necessary for operation after completion of initial start-up testing. |
| IRO-006-WECC-1 – Qualified Transfer Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | Contributing Schedule | is defined as a Schedule not on the Qualified Transfer Path between a Source Balancing Authority and a Sink Balancing Authority that contributes unscheduled flow across the Qualified Transfer Path. |
| IRO-006-WECC-1 – Qualified Transfer Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | Qualified Transfer Path: | A transfer path designated by the WECC Operating Committee as being qualified for WECC unscheduled flow mitigation. |
| IRO-006-WECC-1 – Qualified Transfer Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | Qualified Controllable Device: | A controllable device installed in the Interconnection for controlling energy flow, and the WECC Operating Committee has approved using the device for controlling the USF on the Qualified Transfer Paths. |
| IRO-006-WECC-1 – Qualified Transfer Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | Qualified Transfer Path Curtailment Event: | Each hour that a Transmission Operator calls for Step 4 or higher for one or more consecutive hours (see Attachment 1-IRO-006-WECC-1) during which the curtailment tool is functional. |
| IRO-006-WECC-1 – Qualified Transfer Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | Transfer Distribution Factor (TDF): | The percentage of USF that flows across a Qualified Transfer Path when an Interchange Transaction (Contributing Schedule) is implemented. [See the WECC Unscheduled Flow Mitigation Summary of Actions Table (Attachment 1 WECC IRO-006-WECC-1).] |
| IRO-006-WECC-1 – Qualified Transfer Path Unscheduled Flow Relief **(NERC/FERC Approved definition)** | Relief Requirement: | The expected amount of the unscheduled flow reduction on the Qualified Transfer Path that would result by curtailing each Sink Balancing Authority's Contributing Schedules by the percentages listed in the columns of WECC Unscheduled Flow Mitigation Summary of Actions Table in Attachment 1 WECC IRO-006-WECC-1. |

| Regional Standard | Term | Definition |
|---|---|---|
| PRC-004-WECC-1 – Protection System and Remedial Action Scheme Misoperation **(NERC/FERC Approved definition)** | Functionally Equivalent Protection System (FEPS): | A Protection System that provides performance as follows:<br>• Each Protection System can detect the same faults within the zone of protection and provide the clearing times and coordination needed to comply with all Reliability Standards.<br>• Each Protection System may have different components and operating characteristics. |
| PRC-004-WECC-1 – Protection System and Remedial Action Scheme Misoperation **(NERC/FERC Approved definition)** | Functionally Equivalent RAS (FERAS): | A Remedial Action Scheme (RAS) that provides the same performance as follows:<br>• Each RAS can detect the same conditions and provide mitigation to comply with all Reliability Standards.<br>• Each RAS may have different components and operating characteristics. |
| PRC-004-WECC-1 – Protection System and Remedial Action Scheme Misoperation **(NERC/FERC Approved definition)** | Security-Based Misoperation: | A Misoperation caused by the incorrect operation of a Protection System or RAS. Security is a component of reliability and is the measure of a device's certainty not to operate falsely. |
| PRC-004-WECC-1 – Protection System and Remedial Action Scheme Misoperation **(NERC/FERC Approved definition)** | Dependability-Based Misoperation: | Is the absence of a Protection System or RAS operation when intended. Dependability is a component of reliability and is the measure of a device's certainty to operate when required. |
| VAR-002-WECC-1 – Automatic Voltage Regulators **(NERC/FERC Approved definition)** | Commercial Operation | Achievement of this designation indicates that the Generator Operator or Transmission Operator of the synchronous generator or synchronous condenser has received all approvals necessary for operation after completion of initial start-up testing. |
| **WECC (NERC BOT Approved)** | | |
| BAL-004-WECC-01 — Automatic Time Error Correction **(NERC BoT approved)** | Automatic Time Error Correction: | A frequency control automatic action that a Balancing Authority uses to offset its frequency contribution to support the Interconnection's scheduled frequency. |
| BAL-004-WECC-01 — Automatic Time Error Correction **(NERC BoT approved)** | Primary Inadvertent Interchange: | The component of area (n) inadvertent interchange caused by the regulating deficiencies of the area (n). |
| BAL-004-WECC-01 — Automatic Time Error Correction **(NERC BoT approved)** | Secondary Inadvertent Interchange: | The component of area (n) inadvertent interchange caused by the regulating deficiencies of area (i). |
| | | |

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Regional Standards Group (RSG) Report to the ERO EMG

May 2012

**Overview**

This report highlights the key activities of NERC and the Regions in support of the RSG charter obligations in the year 2012.

The RSG meets on a monthly basis and has held four meetings this year, either in-person or by phone. The Regions have worked with NERC staff to perform quality reviews, post Regional Standards to the NERC website, and file Regional Standards and variances with FERC. In addition, the RSG has developed a whitepaper that helps define the differences between Regional Standards and Regional Variances. The RSG also contributed input to the standards section of the Business Plan and Budget Common Assumptions for 2013. As a result of these efforts we report the following:

***Regional Standards:***

- Regional Standards and Variances adopted by the BOT and filed by NERC with FERC:
  - IRO-006-TRE-01
  - PRC-006-SERC-01

- Regional Standard adopted by the NERC BOT with filings under development for FERC and the applicable Governmental Authorities in Canada
  - PRC-006-NPCC-01

- Regional Standards and Variances approved by Regional Entity Board (not included above):
  - MOD-25-RFC-01 (ReliabilityFirst has requested NERC staff to delay filing this standard with FERC)
  - VAR-001-3 – Voltage and Reactive Control (WECC Variance)

***Regional Standards Development Activities and Accomplishments:***

- NERC Regional Standards staff working in conjunction with the RSG members have:
  - prepared a unified schedule for all Regional projects in development (See attached)
  - processed three Regional postings for comment on behalf of the Regions
  - performed four Quality Reviews on Regional Standards and Variances

### *Other Activities*

- RFC proposed a revised Standard Development Procedure which was approved for filing with the FERC by the NERC Board of Trustees (BOT) in 2011. Subsequent to BOT approval, RFC requested the filing with the FERC be held pending additional changes requested by RFC stakeholders. Those changes have been approved by RFC stakeholders and will be presented to the BOT in May.
- SERC proposed a revised Standard Development Procedure which was approved for filing with the FERC by the NERC BOT at their February 9, 2012 meeting. The revised procedure was filed with FERC on March 15, 2012.

### *Status of Regional UFLS standards*

On November 4, 2010, the NERC BOT adopted PRC-006-1 Automatic Underfrequency Load Shedding and directed NERC staff to file the standard with FERC. Included in PRC-006-1 are Interconnection-wide variances for Quebec and WECC. Concurrent with the development of PRC-006-1, several Regions were developing Regional underfrequency load shedding standards based on historical documents and practices. Two of those Regions, SERC and NPCC, subsequently submitted those Regional Standards for adoption by the NERC BOT and they were approved with their associated filings either completed or under development. SPP RE has developed its Regional Standard with stakeholder consensus and is expecting to present the standard at an upcoming Regional Entity Trustees meeting for action. MRO and TRE have evaluated the continent-wide standard and have determined that it provides sufficient reliability coverage in their respective Regions. FRCC is currently performing a comparison between the NERC BOT approved continent-wide standard and the FRCC Underfrequency Program to determine if there are any reliability gaps that would require further action in the form of a Regional Standard or a Regional Variance to the continent-wide standard. Finally, RFC has suspended the current RFC UFLS standard drafting efforts indefinitely until such time the associated NERC standard (PRC-006-1) is enforced and effective.

### *Status of Efforts to Address Version 0 (Fill-In-The-Blank) Standards*

The Regional Reliability Standards Working Group (RRSWG) issued a report in October of 2006 establishing a systematic methodology for resolving the potential issues surrounding the existing NERC Reliability Standards that contain "fill-in-the-blank" characteristics. The Report identified 31 continent-wide standards that needed to be addressed and established a workplan to meet the needs identified. Of the 31 fill-in-the-blank standards identified in that 2006 report, revisions to ten standards have been completed; seven are scheduled to be completed in 2012, two in 2014, one in 2015, nine in 2016, and the last two in 2017.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# DRAFT
# Whitepaper to Provide Guidance on Regional Standards and Variances

April 12, 2012

## Regional Standards and Variances—Requirements That Apply on Less Than a Continent-Wide Basis

NERC's goal is to have a set of reliability requirements that provides an "adequate level of reliability." In some instances, a continent-wide standard cannot be written so that the desired level of reliability is attained with requirements that apply to all entities–in some instances an alternative requirement that mandates performance not addressed in the continent-wide requirements is needed to attain the desired level of reliability and, in some instances, requirements with more stringent performances are needed to maintain an adequate level of reliability. Regional Standards and variances give NERC the tools it needs to develop and maintain a core set of standards that apply throughout the continent–augmented by a small set of supplementary requirements that address unique situations where a continent-wide requirement is not appropriate. FERC, in its Orders, has indicated that it will apply a single set of criteria for approving both Regional Standards and Regional Differences.

Since all standards approved by NERC and applicable regulatory authorities are subject to the same level of enforceability, the location of a requirement (in a Regional Standard or a continent-wide standard) does not have any impact on either reliability or enforceability.

There are three ways of developing a requirement that identifies performance necessary for reliability that applies on less than a continent-wide basis:

- Within a continent-wide standard, a requirement can include alternative performance based on different facility characteristics, different regions, or different interconnections. (See INT-006-3 for an example.)
- A continent-wide standard can include a variance that specifies one or more alternative requirements that apply to a functional entity meeting certain characteristics, one or more Regions, or an interconnection. (See FAC-011-2 for an example.)
- A Regional Standard will include mandatory requirements that achieve a reliability objective needed for reliability in that region. (See VAR-501-WECC-1 for an example.)

Each of these methods achieves the same goal–that of developing a requirement that specifies mandatory requirements needed to achieve a reliability objective.

When a continent-wide standard is developed and there is a need to support the continent-wide standard with region-specific requirements, the region-specific requirements may be developed either as a Regional Standard or a Regional Variance to the continent-wide standard requirement. If it is determined that a variance is necessary, the development of the variance should occur during the development of the continent-wide standard, if possible.

A region may take steps to fill a potential reliability "gap" (areas where new or different reliability requirements may be needed) with either a Regional Standard or Regional Variance with due consideration to NERC's existing projects and the ability of those projects to address the need. Before embarking on an effort to develop a set of requirements for a new Regional Standard, it would be beneficial to consider if the new/revised requirement should apply on a broader basis–to other regions, to an entire interconnection, or to the entire continent. This endeavor should not preclude the region from addressing any reliability related need, especially in the event NERC lacks sufficient resources to develop the continent-wide standard or interconnection-wide standard.

A Regional Standard either augments (i.e., is more stringent, more specific, or facilitates) a continent-wide standard or addresses a subject for which there is no continent-wide standard. If the Regional Standard augments a continent-wide standard, the Regional Standard typically contains more specific requirements. Responsible entities are technically audited on both standards, and must meet all of the requirements of both standards.

A **Regional Standard** adds one or more requirements without altering any continent-wide requirements that are applicable to entities in the region. A **Regional Variance** replaces one or more continent-wide requirements with one or more region-specific requirements that achieve the same reliability objective, so that the continent-wide requirement is no longer applicable to entities in the

A Regional Variance is something that achieves the reliability objective of the continent-wide standard's requirement(s) in a "different" or alternate way than specified in a given requirement in the continent-wide standard. The need for a variance, which may be due to differing physical or operational characteristics, must be clearly identified.

Regional Standards are developed using the Region's FERC approved standard development process. Regional Variances, on the other hand, have a couple of development paths. If the need for the Regional Variance is identified during the development of the continent-wide standard, the variance is developed by the continent-wide Standard Drafting Team, with input from and coordination with the Region needing the variance, and follows the NERC standard development process along with the rest of the standards. If the need for the Regional Variance is recognized after the continent-wide standard is developed, and the Region is organized on an interconnection-wide basis, the Region will use its FERC-approved standard development process to develop the Regional Variance[sr1]. If the need for the Regional Variance is recognized after the continent-wide standard is developed, and the Region is not

organized on an interconnection-wide basis, the Regional Variance will be developed using the continent-wide NERC process.

## Background Information

### Regional Standards and Variances–What Was Approved in the ERO Certification Order and Rules of Procedure

FERC has indicated it will consider approving regional differences (variances) and Regional Standards that meet the following criteria:

Item 34: ¶ 274 of the ERO Certification Order:

> "The Commission has stated that we will accept the following two types of regional differences, provided they are otherwise just, reasonable, not unduly discriminatory or preferential and in the public interest, as required under the statute:
> (1) a regional difference that is more stringent than the continent-wide Reliability Standard, including a regional difference that addresses matters that the continent-wide Reliability Standard does not; and
> (2) a regional Reliability Standard that is necessitated by a physical difference in the Bulk-Power System. "

The FERC-approved definitions of Regional Standard and Variance (from the Rules of Procedure) are:

> **"Regional reliability standard"** means a type of reliability standards that is applicable only within a particular regional entity or group of regional entities. A regional reliability standard may augment, add detail to, or implement another reliability standard or cover matters not addressed by other reliability standards. Regional reliability standards, upon adoption by NERC and approval by the applicable ERO governmental authority(ies), shall be reliability standards and shall be enforced within the applicable regional entity or regional entities pursuant to delegated authorities.
>
> **"Variance"** means an aspect or element of a reliability standard that applies only within a particular regional entity or group of regional entities, or to a particular entity or class of entities. A variance allows an alternative approach to meeting the same reliability objective as the reliability standard, and is typically necessitated by a physical difference. A variance is embodied within a reliability standard and as such, if adopted by NERC and approved by the ERO governmental authority, shall be enforced within the applicable regional entity or regional entities pursuant to delegated authority.

### Regional Standards and Variances–What was Approved in the Standard Processes Manual

The latest approved version of the Standard Processes Manual includes the following language:

> "NERC's drafting teams shall aim to develop standards with requirements that apply on a continent-wide basis, minimizing the need for variances while still achieving the standard's reliability objectives. If one or more requirements cannot be met or complied with as written

because of a physical difference in the bulk power system or because of an operational difference (such as a conflict with a Federally or Provincially approved tariff), but the requirement's reliability objective can be achieved in a different fashion, an entity or a group of entities may pursue a variance from one or more requirements in a continent-wide standard. It is the responsibility of the entity that needs a variance to identify that need and initiate the processing of that variance through the submittal of a Standard Authorization Request (SAR) that includes a clear definition of the basis for the variance.

There are two types of variances–those that apply on an interconnection-wide basis, and those that apply to one or more entities on less than an interconnection-wide basis.

### Interconnection-Wide Variances

Any variance from a NERC reliability standard requirement that is proposed to apply to responsible entities within a Regional Entity organized on an interconnection-wide basis shall be considered an Interconnection-wide variance and shall be developed through that Regional Entity's NERC-approved regional reliability standards development procedure.

While an interconnection-wide variance may be developed through the associated Regional Entity standards development process, Regional Entities are encouraged to work collaboratively with existing continent-wide drafting team to reduce potential conflicts between the two efforts.

An interconnection-wide variance from a NERC reliability standard that is determined by NERC to be just, reasonable, and not unduly discriminatory or preferential, and in the public interest, and consistent with other applicable standards of governmental authorities shall be made part of the associated NERC reliability standard. NERC shall, rebuttably, presume that an interconnection-wide variance from a NERC reliability standard that is developed, in accordance with a standards development procedure approved by NERC, by a Regional Entity organized on an interconnection-wide basis, is just, reasonable, and not unduly discriminatory or preferential, and in the public interest.

### Variances that Apply on Less Than an Interconnection-Wide Basis

Any variance from a NERC reliability standard requirement that is proposed to apply to one or more entities but less than an entire interconnection (e.g., a variance that would apply to a regional transmission organization or particular market or to a subset of bulk power system owners, operators, or users), shall be considered a variance. A variance may be requested while a standard is under development or a variance may be requested at any time after a standard is approved. Each request for a variance shall be initiated through a SAR, and processed and approved in the same manner as a continent-wide standard, using the standards development process defined in this manual."

| | |
|---|---|
| **From:** | Guy V. Zito |
| **To:** | rsc |
| **Subject:** | FW: NERC: Announcement - Adequate Level of Reliability Revised Definition and Associated Documents - Comment Period Open: April 25 – June 25, 2012 |
| **Date:** | Friday, April 27, 2012 7:11:30 AM |

Lee and RSC,

Let's add this to the agenda next week for a discussion item. ALR is an important topic and will feed into CEAP and determine what standards need to be written.

Thanks,

Guy V. Zito
Assistant Vice President-Standards
Northeast Power Coordinating Council, Inc.
1040 Avenue of the Americas, 10 th Floor
New York, NY 10018
212-840-1070
212-302-2782 fax

---

**From:** Mosher, Allen [AMosher@publicpower.org]
**Sent:** Thursday, April 26, 2012 4:10 PM
**To:** sac_plus@nerc.com; scps_plus@nerc.com; sccps_plus@nerc.com
**Subject:** FW: NERC: Announcement - Adequate Level of Reliability Revised Definition and Associated Documents - Comment Period Open: April 25 – June 25, 2012

Dear Standards Committee, SAC-Plus and SC Subcommittee Members,

The NERC Adequate Level of Reliability Task Force (ALRTF) has posted the documents described below for a 60 day comment period. Please review the draft definition and supporting technical document and let me know what you think. We do plan to hold a webinar on the ALR Definition in mid or late-May, but our hope is that these documents will be largely self-explanatory – so please don't wait until June 24.

I also encourage you to read the Discussion Paper on "Risk Tolerance for Widespread Bulk Electric System Outages with Significant Socio-Economic Impacts," which explored some of the broader goals and objectives associated with BES reliability, beyond preventing the evil three (cascading, instability and uncontrolled separation).

Formal written comments should be submitted using the electronic form linked below. All of the work of the ALR Task Force including a number of supporting documents, are posted on the project page at: http://www.nerc.com/filez/alrtf.html

Finally, let me express my thanks to all of my colleagues on the ALR Task Force and to each of the observers who contributed to this effort – and thanks in advance for the work to come after the comment period closes.

| | | | |
|---|---|---|---|
| Acrobat<br>Acrobat<br>Acrobat<br>Acrobat<br>Word | 312 KB<br>301 KB<br>494 KB<br>506 KB<br>351 KB | 04/24/12 | Definition - Adequate Level of Reliability for BES<br>Technical Report Supporting Definition of Adequate Level of Reliability<br>Discussion Paper - Risk Tolerance for Widespread BES Outages<br>Mapping of Adequate Level of Reliability for BES<br>Unofficial Comment Form |

| | | | |
|---|---|---|---|
| Acrobat | 221 KB | | Announcement<br><br>**Submit Comments Here** |

**Allen Mosher**
Phone: 202-467-2944
Mobile: 301-767-6652
amosher@publicpower.org

---

**From:** Monica Benson [mailto:Monica.Benson@nerc.net]
**Sent:** Wednesday, April 25, 2012 1:43 PM
**To:** Monica Benson
**Subject:** NERC: Announcement - Adequate Level of Reliability Revised Definition and Associated Documents - Comment Period Open: April 25 – June 25, 2012

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Announcement

## Adequate Level of Reliability
## Revised Definition and Associated Documents

## Comment Period Open: April 25 – June 25, 2012

The Adequate Level of Reliability Task Force (ALRTF) has posted a revised definition of "Adequate Level of Reliability" and associated documents for a 60-day stakeholder comment period:

- Definition: Adequate Level of Reliability for the Bulk Electric System
- Technical Report Supporting Definition of Adequate Level of Reliability
- Discussion Paper: Risk Tolerance for Widespread Bulk Electric System Outages with Significant Socio-Economic Impacts
- Discussion Draft: Mapping of Adequate Level of Reliability for the Bulk Electric System to Standards Development Reliability Principles

**Instructions for Commenting**
Please use this electronic form to submit comments. If you experience any difficulties in using the electronic form, please contact Monica Benson at monica.benson@nerc.net. An off-line, unofficial copy of the comment form is posted on the project page.

**Next Steps**
The ALRTF will meet in the last week of June to review all comments received and determine what revisions are necessary to finalize its proposed revision to the definition of Adequate

Level of Reliability.

**Background**

The Adequate Level of Reliability Task Force (ALRTF) was formed in May 2011 under the auspices of the NERC Standing Committees Coordinating Group (SCCG), which comprises the chairs and vice chairs of NERC's standing committees, to address concerns expressed by the NERC Board of Trustees (BOT), the Member Representatives Committee (MRC), and stakeholders that NERC's current definition of Adequate Level of Reliability (ALR) needs reassessment to ensure that the definition supports and helps to define NERC's mission to ensure reliable operation of the bulk power system.

The ALRTF's draft scope document describes the Task Force's purpose as follows:

"Deliver, for use by the ERO enterprise, a document which includes a definition of ALR and associated characteristics with demonstrated ability to measure the relative state of ALR on an ongoing basis. The definition and associated characteristics may be identical to those previously approved or may be enhanced if necessary. Further, these measurable objectives and characteristics should focus on support for the ERO's key activities, including Reliability Standards and Compliance and Certification functions. "

The ALRTF's goal is to develop a definition of ALR that encompasses NERC's responsibility to ensure reliable planning and operation of the bulk power system and to identify and define reliability objectives and performance characteristics that drive what system planners and operators do on a day-to-day basis to ensure that the bulk power system is reliable.

The ALRTF sought to be as concise as possible in the development of these core reliability characteristics, recognizing that too little detail may leave them unexplained, while extraneous text often obscures a lack of clarity or agreement. ALR is clearly not a single value or outcome or state. Rather, ALR is the result of multiple efforts to achieve bulk power system performance outcomes that will support reliable operations.

This multi-dimensional effort is reflected in NERC's current and evolving body of reliability standards, which work together to establish a portfolio of performance outcome, risk reduction, and capability-based reliability standards that are designed to achieve a defense in depth against an inadequate level of reliability. The ALRTF recognizes that performance outcomes and Disturbances need to be further developed, but that specific performance outcomes and Disturbances should be addressed in the standards development stage.

Other NERC programs, such as industry alerts, reliability assessments, event analysis, education, and the compliance with and enforcement of reliability standards, are designed to work in concert with reliability standards to support reliable operation. Each of these activities should be driven by the goal of consistently achieving an adequate level of reliability.

The ALRTF also agreed that the characteristics of ALR must be objective and measurable, in recognition of NERC's commitment that the ERO enterprise must be a learning organization that assesses industry performance, analyzes trends, and learns from its performance

successes and failures, allowing the ERO enterprise to focus on and align its activities with specific characteristics of ALR.

The ALRTF's work reexamines the current NERC definition of ALR, which was adopted by the NERC BOT in February 2008 and filed for informational purposes with the Federal Energy Regulatory Commission in May 2008. The ALRTF has developed seven reliability objectives and associated performance outcomes that collectively describe the performance state that the design, planning, and operation of the BES will achieve when the reliability objectives are met.

The ALRTF's work has been reviewed by the standing committees (primarily the Operating Committee, Planning Committee, Standards Committee, and Critical Infrastructure Protection Committee) and approved for industry posting by the Standing Committees Coordination Group. The ALRTF looks forward to reviewing additional input from industry stakeholders.

Additional documentation is available on the project page.

For more information or assistance, please contact Monica Benson at monica.benson@nerc.net.

**3353 Peachtree Road NE**
**Suite 600, North Tower**
**Atlanta, GA 30326**
**404-446-2560 | www.nerc.com**



---
You are currently subscribed to scps_plus as: gzito@npcc.org
To unsubscribe send a blank email to leave-1290203-212981.13845ddad66fa21a55caa50d1f5b6919@listserv.nerc.com

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Agenda
# Standards Committee Meeting

April 11, 2012 | 8-5 p.m. Eastern
April 12, 2012 | 8-3 p.m. Eastern

FRCC
The Towers at Westshore
1408 N. Westshore Blvd.
Tampa, FL 33607

Phone Number: 1-866-740-1260
Meeting Code: 4685998
Security Code: 123456

**Introductions and Chair's Remarks**

**NERC Antitrust Compliance Guidelines ***

**Public Announcement ***

**SC Expectations ***

**Agenda**

1. **Review of Agenda (Approve)**

   *Item 6dvi additional definition added.*

   *Item 6dvii CAN language on retention period added.*

   *approved*

2. **Waiver of 5-day Rule (Approve)**

   *Approved*

3. **Consent Agenda (Approve)**

   a. March 6, 2012 Standards Committee's Executive Committee Meeting Minutes* **(Review)**

   ***Project 2008-06 CSO706 – Request to Deviate from SPM***

   *Ten cyber security standards were posted for a public comment period that ended January 6, 2012.*

*The Cyber Security 706 Standard Drafting Team has been working since then to review and consider all of the comments submitted by stakeholders and the comment report totals over 5,000 pages. The drafting team made conforming changes to the standards based on the comments received, but, with over 5,000 pages of comments and responses, the drafting team has been overwhelmed in its attempt to verify that the response to each comment accurately represents the final set of modifications made to the associated standard.*

*The standards staff asked the Standards Committee Executive Committee to waive the requirement that the drafting team provide a response to each individual comment and direct the team to focus on providing detailed summary responses to each question.*

*John Bussman moved that the committee defer action until the regularly scheduled meeting of the full Standards Committee scheduled for March 8, 2012.*

~~a.~~ *– The motion was approved with three affirmative and one opposed – Jason Shaver.*

b. March 8, 2012 Standards Committee Meeting Minutes* **(Review)**

c. March 27, 2012 Standards Committee's Executive Committee Meeting Minutes* **(Review)**

***Interpretation 2010-INT-01 — Interpretation of TOP-006-2 R1.2 and R3 for FMPP***

*Jason Shaver motioned to authorize posting the SAR and associated revisions to TOP-006-2 –*

*Monitoring System Conditions for a 45-day formal comment period with the formation of a ballot pool during the first 30 days and an initial ballot during the last 10 days of that 45-day comment period.*

*– The motion was approved without objection or abstention.*

~~c.~~ *Executive Committee members expressed concerns with an immediate posting of proposed revisions to TOP-006 because of the large number of standards already posted for comment and because there is another version of TOP-006 posted for ballot in Project 2007-03 – Real-time Operations through April 20, 2012 and having two versions of the same standard posted at the same time is confusing. The Executive Committee recommended that staff consider deferring posting until after the posting for Project 2007-03 and staff agreed to consider this advice.*

d. Errata in NUC-001-2 – Nuclear Plant Interface Coordination and PRC-001- System Protection Coordination and TOP-002-2.1b – Normal Operations Planning* **(Approve)**

*Recommended Modifications to Already Approved Standards*

*The non-capitalized version of the term, "protection system" is used in the following approved standards:*

- *NUC-001-2 – Nuclear Plant Interface Coordination*
- *PRC-001-1 – System Protection Coordination*

*The term, "protection system" shall be capitalized where used in these standards when the definition of "Protection System" is approved by applicable regulatory authorities.*

*On February 3, 2012 FERC issued an order approving the revised definition of Protection System, but the order did not specifically identify approval of the modifications proposed in the implementation plan. For clarity, the intent is to file the revised standards with the term, "Protection System" capitalized as errata.*

*Errata Associated With TOP-002-2.1b*

*During the March 2012 Standards Committee meeting, the standards staff presented a redline version of TOP-002-2.1b with unnecessary information highlighted in Requirement R14 and sought approval to delete the unnecessary information and file the revisions with FERC and governmental authorities as errata. Since then a stakeholder identified that Measure M6, associated with Requirement R14, includes information that is no longer accurate. The standards staff proposes correcting M6 as errata.*

*Request:*

*Endorse staff's recommendation to file NUC-001-2.1 and PRC-001-1.1 with FERC and other governmental authorities with the term, "Protection System" capitalized as errata.*

~~d.~~ *Endorse staff's recommendation to consider the revision to TOP-006-2.1 Measure M6 as errata and file this correction (with the previously approved errata for the same standard) with FERC and other governmental authorities.*

e. Subcommittee Appointments* (L. Hussey) **(Appoint) (Confidential - To be sent separately)**

***Communications and Planning Subcommittee Appointments***

*Proposed Slate of New Members*

- *Scott Miller, MEAG Power*
- *John Bussman, Associated Electric Cooperatives*

*Proposed Subcommittee Leadership*

- *Anne Brown, FRCC – Chairman*
- *Scott Miller, MEAG Power – Vice-chairman*

***Process Subcommittee Appointments***

*Proposed Slate of New Members*

- *Doug Holbaugh, FirstEnergy Corporation*
- *Silvia Parada Mitchell, NextEra Energy (SC Member)*
- *Andy Pusztai, ATC LLC*
- *Keith Porterfield, Georgia System Operations Corporation*

• *Robert Rhodes, SPP*

• *Katherine Smith, National Grid*

• *Joseph Tarantino, Sacramento Municipal Utilities District (SC Member)*

• *Catherine Wesley, PJM, Inc.*

*Proposed Subcommittee Leadership*

• *Ben Li, Ben Li Associates, Inc. – Co-chairman*

• *Linda Campbell, FRCC – Co-chairman*

*Discussion:*

*Errata item removed.*

*Remainder approved.*

*Corrected to Measure 7 instead of 6.*

*Add output to real capability.*

*Review errata procedure to see general criteria for erratas.*

*Approved with the above changes.*

4. **Projects under Active Development** (A. Rodriquez) **(Review)**

a. Status of Projects Under Active Development*

*Two Projects Pending Forecast*

• *Project 2007-12 Frequency Response. This project is currently showing as 1.5 months late due to technical issues raised during the development of the proposed standard. On March 30, 2012 NERC filed a request for an extension of time to complete this project.*

*The team has proposed holding two technical conferences to address the issues raised and will adjust the project schedule following the two conferences and FERC's approval of the request for an extension.*

• *Project 2010-14.1 Phase 1 of Balancing Authority Reliability-based Controls: Reserves.*

*This project is currently showing as three months late. The posting for this project was delayed 40 days to reduce overall posting load (per decision of the SCEC, based on staff analysis and recommendation). Dependences related to Project 2007-12 – Frequency Response may result in changes to this schedule; additionally, this project may be expanded to incorporate additional work related to BAL-004.*

*One Rapid Revision Project Awaiting Filing*

• *Project 2011-INT-01 Interpretation of MOD-028 for Florida Power & Light Company*

*One Rapid Revision Project in Queue for Posting*

*• Project 2010-INT-01 Interpretation of TOP-006 for FMPP*

*Three Projects behind Schedule*

*Analysis of timelines and delays are generally based on approved delivery dates from previous SC meetings. Note that resource and posting conflicts may delay these projects further; Standards is considering process enhancements to stage projects more proactively in 2012.*

*• Project 2007-06 System Protection Coordination. This project received greater attention while in Quality Review to consider results-based feedback. The project is approximately four months behind schedule (one half month more than last month's report), largely due to taking additional time to improve the Results-Based aspects of the documents, as previously discussed and reviewed with the SC at its March 2012 meeting.*

*• Project 2007-17 Protection System Maintenance and Testing. This project is approximately one month behind schedule; however, the team is working to meet more frequently in an attempt to realign with the schedule. The successive ballot that concluded on March 28, 2012 achieved an overall affirmative vote of almost 74%. The drafting team is considering the comments received and may progress to a recirculation ballot.*

*Details:*

*• Project 2007-09 Generator Verification. This project is approximately three and a half months behind schedule (no change since last report).*

*Four Projects on Schedule (+/- One Month)*

*• Project 2007-03 Real-time Operations*

*• Project 2008-06 Cyber Security Order 706*

*• Project 2009-01 Disturbance and Sabotage Reporting. Note the posting for this project was delayed 30 days to reduce overall posting load (per decision of the SCEC, based on staff analysis and recommendation); however, the team is working to still deliver its standard to the August BOT meeting as scheduled.*

*• Project 2010-05.1 Phase 1 of Protection Systems: Misoperations*

*One Project Ahead of Schedule*

*• Project 2010-07 – Generator Requirements at the Transmission Interface*

- *Project 2006-06 Reliability Coordination*

*Status: First set of standards: The industry approved IRO-002, IRO-005, and IRO-014 on July 25, 2012. The BOT approved the standards at their August 4, 2012 meeting.*

*The current and previous coordinator met with NERC Legal and other staff on 1/31 regarding the filing for these BOT approved standards in this project. Discussion is on-going regarding the timing of the filing due to coordination with the RTOSDT and OPCPSDT. Filing may be delayed until the RTOSDT set of standards is approved by the BOT and is ready to file.*

*Next steps are to determine when to file.*

*Second set of standards: Successive ballots ended on February 9, 2012. The balloted standard COM-001 did not receive significant approval; however, COM-002, and IRO-001 received considerable approval.*

*Currently, following the direction of the Standards Committee and NERC, the posting for this standard will be adjusted to the week of May 16. The coordinator cleaned up the Response to Comments and sent them to the chair for distribution. The RCSDT meets again the first week of April at the Entergy office in New Orleans.*

*The next major milestone will be determining the next steps for each standard. It may be possible for*

*COM-002 and IRO-001 to go to recirculation ballot; however, COM-001 will probably go to a second successive ballot.*

- ***Project 2007-03: Real-time Operations r0***

*Status: Project is to be posted for comment and successive ballot on March 22, 2012.*

- ***Project 2007-09 Generator Verification***

*Status: MOD-025, MOD-07 and PRC-019: The standards were posted for a 30-day formal comment period from June 15 - July 15, 2011. The team has met twice to develop responses to comments and develop revisions to the standards. The team submitted the proposed revisions for QR in November and received QR feedback in December. The team has resubmitted all documents to QR for final review and approval to post. The team received additional feedback on February 20 and provided responses on February 23. The standards were posted on February 29 through April 16.*

*MOD-026 and PRC-024: The standards were posted for initial ballot June 15 - August 1, 2011. The team has met twice to develop responses to comments and develop revisions to the standards. The team submitted the proposed revisions for QR in November and received QR feedback in December. PRC-024 was resubmitted to QR on 2/1/2012. The team returned completed QR responses for MOD-026 on February 3. The team received additional feedback on February 20 and provided responses on February*

*23. The standards were posted on February 29th through March 29th. The successive ballot began on*

*March 19 and ended on March 29th. The team will respond to comments over the next few weeks. The team has a meeting scheduled for April 17-19 to finalize responses and determine the next steps. The preliminary ballot results indicate that both standards may need another successive ballot.*

*A coordination issue with RFC standards MOD-024 and MOD-025 is being addressed. RFC is withholding filing of their MOD-024 and MOD-025 standards until the continent-wide standard MOD-025 is approved.*

*They will then evaluate whether the continent-wide standard meets their needs.*

- ***Project 2010-07: Generator Requirements at the Transmission Interface***

*Status: FAC-001-1 and PRC-004-2.1a were adopted by the BOT on February 9, 2012, with the understanding that they would not be filed with FERC until all Project 2010-07-related standards have been adopted by the BOT (and NERC staff has determined its official stance on GOTO issues in general).*

*The SDT has posted PRC-005-1.1a (an errata change) for an initial ballot, and FAC-003-x and FAC-003-3 for a successive ballot (required after the Level 1 Appeal issued on those standards) the week of March 5, 2012. The goal is to present these two standards to the BOT for adoption in May 2012.*

*Note that the schedule has been adjusted to account for the latest modifications to PRC-005 and both versions of FAC-003. Because the project was several months ahead of schedule before these modifications, the overall completion date has not changed since the original projections.*

- ***Project 2010-INT-01 Interpretation of TOP-006-2 for FMPP***

*Status: Re-submitted to QR on March 6, 2012. Still waiting on resolution as to how to proceed.*

- ***Project 2011-INT-01 Interpretation of MOD-028 for Florida Power & Light Company***

*Status: Rapid Revision Pilot*

*Approved at the February Board of Trustees meeting. Awaiting filing.*

- ***Project 2011-INT-02 Interpretation of VAR-002 for Constellation Power Gen***

*Status: This Interpretation Request was approved by the SC for Rapid Revision on Jan 12, 2012. The drafting team held a conference call on January 19th to discuss the request and to propose revised language for the standard. The draft SAR and standard were submitted for QR on January 24. QR suggested a few edits to the revised language, team accepted. The SAR and revised standard are posted for a 45 day concurrent comment / ballot period which ended on March 23. Team members are reviewing comments and developing draft responses. The team has conference calls scheduled the week of April 9-13 to discuss comments received and determine the next step for the standard. Initial ballot results indicate that the standard may need to proceed to a successive ballot. The initial ballot received 63.09 percent approval.*

- ***Project 2007-02 Operating Personnel Communication Protocols***

*Status: The Standard is now being expedited by the BOT to address three-part communications in light of the COM-002-2 interpretation approval. The project was handed off to QR on March 2. The SDT is contemplating an April 2012 posting. The OPSDT is planning a team meeting in Atlanta on 3-27-2012 to consider preliminary results of the QR. The results of this meeting may drive the Initial Posting until late*

*April or early May. The schedule will be updated based on those results and the completion of the CIP posting in early April, which will free up industry QR resources to complete the COM-003 posting.*

*White paper on three-part communication is in progress. White paper written to explain intent of raising the bar. Suggestion to discuss with OC.*

- ***Project 2007-06 System Protection Coordination***

*Status: The drafting team met March 20 & 21 at NERC HQ in Atlanta continuing work on the revised standard and associated documents. The team is awating feedback on the concept paper from the regional technical committees. The deadline for the feedback is April 2. The coordinator is working to have all the documents prepared and sent to QR on or before April 16. This provides a month for QR and the drafting team to achieve a mid-May posting.*

*NOTE: The SC agreed the delay associated with the QR and results-based feedback is acceptable, but did not want to reforecast completion. The project will continue to be reported as behind schedule, with the understanding that this is an acceptable delay.*

*Phil Winston sent the Concept Paper related to the proposed Reliability Standard PRC-027-1, Protection*

*System Coordination for Performance During Faults, to the Chairs and members of each Region's respective System Protection Committee. The purpose is to solicit informal feedback from the Regional groups prior to the next scheduled SDT meeting on March 20-21 at NERC in Atlanta. These efforts are aimed to minimize the amount of slippage in the schedule.*

- ***Project 2007-12 Frequency Response***

*Status: NERC is preparing a filing for an extension of time to complete the proposed standard. The SDT has put together a small team to review the outstanding issues and develop a plan (with timeline for completion) for addressing the issues and developing a new standard.*

- ***Project 2007-17 Protection System Maintenance and Testing***

*Status: The comment and ballot period ended March 28, 2012. The standard passed the ballot. The results for the standard were: Quorum - 84.32% and Affirmative - 73.93%; and for the VRF/VSL Nonbinding poll: Quorum - 80.72% Affirmative - 64.88%. The team is currently developing draft responses to the comments and is scheduling a Ready Talk conference for next week - April 9-13 to discuss several issues prior to the face to face meeting scheduled for April 17-19 and a tentative second meeting (if necessary) for May 8-10. The team is preemptively scheduling the second meeting to achieve the scheduled June 19 recirculation ballot.*

- ***Project 2008-06 Cyber Security Order 706***

*Status: The SDT continues its work on developing Version 5 of CIP-002 through CIP-011 in response to FERC Order 706. This team will also address items related to remote access vulnerabilities (transferred for the previous expedited project). The Version 5 CIP standards were posted for a 60 day formal comment period on November 7, 2011, with a 20 day parallel ballot ending January 6, 2012. All Ballots*

*received over 90% quorums, and approvals were in the 20s and 30s for all ballots except the implementation plan, which was in the low 40s. The team is responding to significant, but constructive comments.*

*The team just concluded considering QR feedback in preparation for posting for successive ballot. Expect posting for formal comment (40 days instead of the more customary 30) and parallel successive ballot in early April 2012.*

- ***Project 2009-01 Disturbance and Sabotage Reporting***

*Status: The proposed EOP-004-2 was posted for initial ballot October 28 through December 12, 2011. The team received the comments on December 27, 2011 and held a conference call on January 5, 2012 to discuss the comments and propose a work plan. The team met January 25-27, 2012 and developed revised standard and preliminary responses to comments. The team completed the response to comments and developed a draft of all of the associated documents and then submitted them for QR on February 14. The team received feedback from QR on February 27, considered the comments and revised the standard and associated documents. The team resubmitted the documents on March 15. The next posting will be for a 30-day comment period and successive ballot.*

*At the direction of the Standards Committee and NERC, the posting for this standard will be delayed until the week of April 25. The project schedule has been updated to reflect this adjustment.*

- ***Project 2010-05.1 Phase 1 of Protection Systems: Misoperations***

*Status: The draft standard and all associated documents were prepared and sent to Quality Review on*

*Friday, March 9, 2012. The SDT anticpates completing the QR process and have PRC-004 posted for a 45-day comment and initial ballot beginning late April.*

- ***Project 2010-14.1 Balancing Authority Reliability-based Controls – Reserves***

*Status: The Standards have been received from Quality Review. The SDT has developed their responses to the Quality Review.*

*The SDT will be scheduling meetings to address comments received from the first posting once the proposed standards are posted. The SDT will be trying to reduce the amount of time for review of the comments received from the first posting to make up the time delays encountered prior to posting.*

- ***Project 2010-17 Definition of BES - Part 2***

*Status: The SDT has revised the SAR and submitted it to the Standards Committee for approval to continue to development. The SDT has reached out to the Operating and Planning Committees for assistance in developing technical justifications ofr thresholds in Phase 1. The SDT is also working on the creation of a guidance document for the Phase 1 definition.*

b. Status of Outstanding Interpretations*

***Two Interpretations Awaiting Filing***

- *Project 2008-10 Interpretation of CIP-006-1 for Progress Energy.*
- *Project 2009-22 Interpretation of COM-002-2 for the IRC*

***Two Interpretations in Current Development***

- *Project 2009-26 Interpretation of CIP-004-1 for WECC. (Potentially going to recirculation ballot.)*
- *Project 2010-INT-05 CIP-002-1 for Duke Energy. (Likely going to recirculation ballot.)*
- *Project 2012-INT-02 TPL-003-0a and TPL-004 for SPCS (In drafting)*
- *Project 2012-INT-03 CIP-007 for TECO (In drafting)*
- *Project 2012-INT-05 CIP-002-3 for OGE (In drafting)*

***Four Interpretations in Planning Queue***

- *Project 2010-INT-03 TOP-002-2a for FMPP (Waiting for response from Real-time Operations SDT)*
- *Project 2012-INT-04 CIP-007 for ITC (Assigned to CIP IDT but not yet started)*
- *Project 2012-INT-06 CIP-003 for Consumers Energy (Assigned to CIP IDT but not yet started)*
- *Project 2012-INT-07 CIP-005 for AEP (Assigned to CIP IDT but not yet started)*

c. Letter from Chair of Project 2007-02 – Operating Personnel Communications Protocols Standard Drafting Team*

*The purpose of this letter was to inform that the Operating Personnel Communications Protocols Standard Drafting Team (OPCP SDT) determined, based on stakeholder comments and drafting team deliberations, that the scope of the proposed COM-003-1 standard will not include the following from its SAR:*

> *The standard will include requirements for entities that experience abnormal conditions to use pre-defined terms such as proposed in the "Alert Level Guideline" (attached) to communicate the operating condition to other entities that are in a position to either assist in resolving the operating condition or to entities that are impacted by the operating condition.*

*The Reliability Coordinator Working Group developed and field tested the Alert Level Guide in response to the first part of Blackout Recommendation #26:*

> *Tighten communications protocols, especially for communications during alerts and emergencies.*

*The OPCP SDT developed requirements that proposed use of the alert levels defined in the draft Alert Level Guide. The intent was to have the Reliability Coordinator notify its Transmission Operators and Balancing Authorities of actual or anticipated system conditions impacting that Reliability Coordinator Area by announcing the location, time, at the beginning and ending of each alert. The intent was to increase real-time operational situational awareness.*

*Stakeholders indicated that the information "behind" the alert levels (e.g. cyber event impacting one control center) would be more useful to them than the announcement of the alert level (CEA Level 2 Alert). Stakeholders indicated that some of the alerts would be so infrequently used that if a system operator received the alert, the operator would need to research the criteria associated with the alert before determining how to respond to the information.*

*The OPCP SDT believes that sharing information about actual or anticipated changes to the reliability of the bulk power system is useful in increasing situational awareness. The OPCP SDT recommends that the Project 2009-01 – Disturbance and Sabotage Reporting SDT review its work and determine if the work should include classifying various events into different operating states as follows:*

- *Alert State - an event either "may have" or "might" occur*
- *Emergency State – an event "has" occurred*

*The OPCPSDT also recommends that the Reliability Coordinator issue notices indicating when the operating state in its Reliability Coordinator Area moves into or out of an alert or emergency state, to provide operating entities in its Reliability Coordinator Area with increased situational awareness.*

*Discussion:*

*Not clear what is the SDT asking the SC to do.*

*Motion to accept team recommendation and ask staff to look if any other standards projects are also looking at the same.*

*Approved without objection or abstentions.*

d. Projected Posting Schedules*

*During December 2011 the standards staff informed the Standards Committee that it faced the situation where, at the same time the standards from the Cyber 706 project were ready to post, several other drafting teams were also ready to post their work for stakeholder review.*

*Stakeholders have repeatedly advised that when there are too many documents posted at once, they are unable to provide the time needed to support submitting quality comments.*

*The same situation has occurred again with a request to post the Cyber 706 standards at the same time several other drafting teams have requested postings. The standards staff sought advice of the Standards Committee's Executive Committee, and advanced some projects and deferred others to minimize, to the extent practical, posting conflicts.*

*Recommendation:*

*The standards staff recommends that the Standards Committee advise the Cyber 706 SDT to complete and submit work in revising its standards (projected for posting in July/August 2012) on an "as ready" basis, with the standards staff directed to posting CIP-002 before other standards in the CIP series. If the CIP standards were posted as they were completed by the drafting team, a few at a time, this would prevent a "bottleneck" from occurring whereby other project teams, also trying to adhere to a project schedule, are prevented from posting according to that schedule.*

*Considerations:*

*• The total number of significant standards to review at one time should be limited and the number of standards posted in one content area should be limited to three, with the exception of the CIP standards where this is not practical for the April posting.*

*• Some standards are associated with other standards and posting together allows stakeholders to see the relationships.*

*• At the end of each posting period there is considerable work in reviewing the comments received from stakeholders – a goal is to have at least 2 weeks between the end of comment periods for any one coordinator.*

*• The extended CIP posting uses a considerable block of time – and if we determine not to post anything else while these standards are posted, several projects will experience significant time delays and this will impact the ability to maintain throughput.*

*• The CIP posting in April will not be a "recirculation" ballot as originally scheduled. The approval for the initial ballots ranged from 22%-40%. While it is possible that some of the standards may achieve a high enough approval in the successive ballot, some will likely need significant modifications and will need another successive ballot before proceeding to a recirculation ballot in late summer.*

*• At a minimum, standards with recirculation ballots that will complete before the May BOT meeting need to move forward to meet BOT expectations.*

*• Encourage drafting teams with delays to use informal feedback while waiting for a "posting slot."*

*Discussion:*

*Action addresses potential for bottlenecks in this case produced by the CIP standards posting.*

*Idea of doing this on a regular basis to prevent too many standards posted at the same time and better resource allocation.*

*Motion: Accept staff recommendation.*

*Staff recommends that the SC advise the Cyber 706 SDT to complete and submit work in revising the standards (projected for posting in July/August 2012) on an "as ready basis", with the staff directed to posting as ready and Allen to contact SDT to consider.*

*General opinion is to post all together as a package. Perhaps the only that could be posted alone is CIP-002. Allen will consult with SDT chair.*

**5. Actions**

a. Revised SAR for Project 2011-INT-02 Interpretation of VAR-002 for Constellation* (A. Rodriquez) **(Approve)**

*The drafting team working on the Rapid Revision of VAR-002 – Generator Operation for Maintaining Network Voltage Schedules developed a set of proposed "Rapid Revisions" focused on addressing the issue raised in Constellation Energy's request for an interpretation of VAR-002.*

*The drafting team posted its revised standard for a parallel comment and ballot period that ended March 23, 2012. The standard achieved a high quorum (87%), but only achieved a 63% weighted approval. Several stakeholders voted against the proposed modifications based, not on the modifications made, but on Requirement R2 and its associated VSLs. Stakeholders identified that the VSLs for Requirement R2 imply that the Transmission Operator will give the Generator Operator a voltage or reactive schedule that is a definitive number rather than an acceptable range, and such an interpretation is not practical.*

*The drafting team considered these comments and recommends modifying Requirement R2 and its associated VSLs to clarify that Transmission Operator must give the Generator Operator a voltage or reactive schedule as a "range" of acceptable values.*

*Request:*

*Authorize posting a revised SAR and changes to VAR-002– Generator Operation for Maintaining Network Voltage Schedules for a successive ballot to address the additional stakeholder issues raised in the initial ballot.*

*Discussion:*

*Motion to authorize posting of revised SAR and changes to VAR-002-Generator Operation for Maintaining Network Voltage Schedules for a successive ballot to address the additional stakeholder issues raised in the initial ballot.*

*Approved with 2 opposed (Frank and Fred).*

b. BES Phase 2 SAR and Schedule* (A. Rodriquez) **(Authorize)**

*The Bulk Electric System (BES) Definition Standard Drafting Team (SDT) posted the first draft of its proposed SAR for Phase 2 of the Definition of BES from January 4-February 3, 2012. The team responded to comments, made conforming changes to its SAR, and developed a proposed schedule for completion of the project.*

*Based on stakeholder comments and drafting team deliberations, the revised SAR proposes addressing fewer issues than identified in the first draft of the SAR. Some issues require considerable analysis, and the Operating Committee has agreed to complete this analysis for the BES SDT by the end of 2012.*

*The proposed project schedule includes having the BES SDT develop a "Guidance Document" to support implementation of the final definition of BES in parallel with the work of the Operating Committee. The schedule proposes the following milestones:*

- *July 2012 - Post the first draft of the BES Definition Guidance Document for informal comment in*
- *October 2012 - Post the second draft of the BES Definition Guidance Document for formal comment in*
- *December 2012 - Receive Operating Committee analyses in December*
- *March 2013 - Post the first draft of the BES definition for comment and initial ballot*
- *July 2013 - Post the second draft of the BES definition for comment and successive ballot*
- *September 2013 - Post the final draft of the BES definition for recirculation ballot*
- *November 2013 – Submit to Board of Trustees for adoption*
- *November 2013 – Submit to regulatory and governmental authorities for approval*

***Request***

*Authorize posting the revised SAR as "final" and endorse the project schedule.*

*Discussion:*

*Pete H.: SDT believes phase 2 can be completed in ~18 months.*

*SDT can meet time by eliminating 30 day posting for comments of the first changes to definition.*

*SDT plans to work with staff to clarify registry criteria on cases with the use of BPS as opposed to BES.*

*Discussion on White Paper vetting by the industry. It's really not a white paper according to the definition in the SDPM but a technical clarification paper with collected data.*

*Bright line may not be a voltage level but something else (e.g. short-circuit MVA).*

*Motion to authorize posting the revised SAR as "final" and endorse the project schedule.*

*Approved with 1 abstention (Steve R.)*

*FERC time frame depends on complexity of issues and comments received to a NOPR, if there is one. Herb expect a NOPR.*

c. Revised Project Schedules* (A. Rodriquez) **(Endorse)**

   i) Project 2006-06 - Reliability Coordination

*The Standards Committee's Executive Committee authorized extending the schedule for Project 2006-06 – Reliability Coordination approximately a month to reduce overall posting load (per decision of the SCEC, based on staff analysis and recommendation). Additionally, COM-001-2 requires an additional successive and recirculation ballot period based on comments received during the last ballot. The drafting team has developed a revised schedule to account for these delays.*

***Request:***

*Endorse the revised project schedule for Project 2006-06 – Reliability Coordination.*

*Added ~6 months.*

*Motion to approve.*

*Approved.*

ii) Project 2007-02 - Operating Personnel Communication Protocols

*The standards staff worked with the Operating Personnel Communications Protocols Standards Drafting Team (OPCP SDT) to address the observations from the Quality Review team and stakeholders by streamlining the proposed standard and moving certain elements to either new standards or existing standards. The OPCP SDT developed the new schedule at the request of the Standards Committee. The new schedule targets delivery of the standard to the Board of Trustees for action at its November 2012 meeting with filing for regulatory and governmental approval in January of 2013. This is two months sooner than previously projected – but still later than the previous target of completion in November 2012.*

***Request:***

*Endorse the revised project schedule for Project 2007-02 – Operating Personnel Communications Protocols.*

*Added ~2 months.*

*Motion to approve.*

*Approved.*

**6. Subcommittee and Staff Reports and Activities (Review)**

a. Officers

i) Standards Process Input Group* (A. Mosher)

*The Standards Process Input Group (SPIG) and sought Industry input and feedback on a variety of issues which included:*

- *Quality of Standards – improving the standards development process*
- *Timeliness – to include negative impact*

*• Efficiency and Effectiveness*

*• Importance and significance of meeting ANSI requirements*

***Report Executive Summary***

*[To be completed for final report to MRC and BOT during May delivery]*

*Major issues addressed by SPIG for NERC Standards Development*

*I. ANSI : Accreditation*

*II. PRODUCT : Quality of Standards*

*III. PROCESS : Efficiency, Timeliness and Effectiveness*

*High Level SPIG Recommendations*

*I. ANSI: Accreditation*

*• Continue to meet minimum ANSI Essential Requirements in order to preserve accreditation*

*II. PRODUCT: Quality of Standards*

*• Form Technical Issues Steering Group (TISG) to conduct high-level "triage analysis" of emerging reliability issues and performance gaps and to direct the initiation of a standards project or other activities; include analysis of cost effectiveness/justification*

*• Utilize Results-Based Standards Model as the basis for all future standards*

*• Assess and revise Essential Elements of the Standards Template to provide clarity with regard to compliance obligations; consider development of draft Reliability Standards Audit Worksheets (RSAWs) in standards process in lieu of other compliance elements*

*• Perform cost effectiveness evaluation during standard development to ensure appropriate scope and benefits are achieved at acceptable costs*

*• Establish process to consider elimination of standards and specific requirements that have minimal value*

*III. PROCESS: Efficiency, Timeliness and Effectiveness*

*• Revise formation and composition of Standard Drafting Teams (SDTs) – smaller core drafting teams with technical writers, legal ,compliance and facilitation support along with enhanced project management; larger group of SMEs used to review draft standard before posting*

*• Simplify/streamline balloting and comment process without jeopardizing ANSI accreditation*

*• Establish expected development timelines for different categories of standards; reset process after 24 months without a completed standard to reevaluate whether on right track*

*• Interface with FERC and governmental authorities in Canada earlier in the process (triage stage) and throughout the development process*

*Discussion:*

*Issue of No votes without comments not being counted was discussed. Comments are to help SDT addressing issues.*

*Links to ALR definition.*

*FERC (Keith): Core issue is perceived tension between reliability and liability. Some vote looking at the latter. Regulators and ERO tied by Section 215 explicit obligations to promote reliability.*

*Lots of comments on cost/benefit analysis at both ends.*

*Section 215 does not require an ANSI process.*

*Overlaps between the proposal and things that the SC is already doing.*

ii) Status of ALRTF* (A. Mosher)

*The Adequate Level of Reliability Task Force (ALRTF) is nearly ready to post its documents for stakeholder comment.*

*The task force has developed the following documents and will share these with the Standing*

*Committees Coordination Group (SCCG) on April 5, 2012:*

*• DRAFT Document for SCCG Review: ALR Definition*

*• DRAFT Document for SCCG Review: Technical Report Supporting Definition of ALR*

*• DRAFT Document for SCCG Review: Discussion Paper (Risk Tolerance for Widespread Outages with Significant Socio-Economic Impact)*

*• DRAFT Document for SCCG Review: Mapping of ALR Definition to Reliability Principles*

*• DRAFT Document for SCCG Review: ALR Definition Comment Form*

*Planned posting date towards end of April.*

*Seven reliability objectives and expected outcome. Not all objectives would require standards.*

*Defines a set of pre-defined contingencies.*

*Definition will become the driver to develop standards.*

b. Communications and Planning Subcommittee (M. Huggins)

i) April 16-18 Standards and Compliance Workshop*

*Mallory: Agenda is finalized and published.*

*Registered attendance: 225.*

*Consider having a basic (Compliance 101) and an advanced track.*

ii) Expansion of Communication Network for Informal Feedback
*Proposal to formalize these groups.*

*For each standard being developed, identify groups that could provide input/comments in specific areas.*

*Some expressed concerns about transparency of the process.*

iii) Other Activities for 2012

*Good feedback on weekly bulletins.*

*Will be adding BoT and FERC approvals dates.*

*Use list servers for RBB segments – who can use and for what purpose.*

c. Process Subcommittee (B. Li and L. Campbell)

i) Cost Effectiveness Assessment of Projects and Standards *

*CEAP Objectives:*

- *Introduce a cost – benefit "type" analysis into the standards decision making at the SAR stage of a project (gateway)*
- *Introduce a cost – effectiveness assessment into the standards development stage once the standard is sufficiently developed (requirement by requirement)*
- *Provide meaningful cost implementation information to the industry and regulators*
- *Afford industry the opportunity to propose alternate requirements to a standard which achieves the reliability objective of a draft standard more efficiently or less costly*

*Concept:*

- *CEAP has Two Phases (Sets of questions)*
  - *Cost Benefit Analysis (CBA)- initially determines a limited type of (CBA) used to derive feasibility, order of magnitude costs, potential reliability benefit, and to examine probabilities of occurrence*
  - *Cost Effectiveness Assessment (CEA)- identifies costs associated with implementation, maintenance, and ongoing compliance and reporting*

*CEAP Basics:*

- *Does not result in delays to a standards development*
- *Does not result in variances to the existing standards development process*
- *Provides a "cost benefit gateway" to a standard's development*
- *Does not reveal market sensitive information*
- *NERC Standards Committee (SC) provides oversight, owns and manages the process*
- *Outreach through announcements, notifications and education*

*CEAP Determinations:*

- *CBA – A report and recommendation from NERC Staff on whether to proceed with development of a standard at the SAR stage (i.e. SC authorize the SAR)*
- *CEA – A report and recommendation from NERC Staff to the SC to either continue or suggest the standard be revised by the Standard Drafting Team to address CEA findings.*

*Next Steps:*

- *Receive SC approval to post the draft CEAP for one formal comment period and incorporate comments*
- *Achieve SC and NERC Staff approval of CEAP*
- *Conduct industry outreach activities to trade groups and others*
- *Pilot a project(s) through the process*
- *Report on the results*
- *Revise the process as necessary*

*Discussion:*

*When to use it?*

*What to do if not enough number respond to request for data?*

*Cost is the incremental due to only the proposed standard.*

*Is "Cost Effectivenes" the appropriate name? Maybe "Cost Impact Analysis" or "Cost/Effectiveness"?*

*Motion that prior to posting for stakeholder comments, the drafter(s) shall meet with NERC/FERC and a sample population of registered entities and/or trade associations for additional dialog and bring back an updated draft to the SC for posting. With feedback back to the SCEC by April 27, 2012.*

*Motion did not pass.*

*Suggestions to post first to allow stakeholders the opportunity to take a first bite before it goes to rulemakers.*

*Motion to post for comments for 60 days.*

*Motion approved with no opposed or abstention votes.*

*Staff to develop comment form.*

ii) Drafting Team Input to Reliability Standard Audit Worksheets

*CCC unanimously endorsed.*
*Linda will present to the BoT CC in May 2012.*
*Mike Moon: In addition to working with SDTs, for approved standards (e.g. COM-002 interpretation), worked with chair of OC and others.*
*Schedule is to start field test after BoT meeting.*
*Potential of negative votes because the entity doesn't like the RSAW.*
*RSAW should not put bounds, just specify what's acceptable.*

iii) VRF and VSL Proposals *

*Letter from Herb to Allen and Ben:*

*Scott Barfield-McGinnis has been leading the VRF and VSL teams, comprised of FERC, NERC and Regional staff, as well as industry stakeholders, to drive these two projects to conclusion. This letter provides a brief synopsis of the projects' status and NERC staff recommendations.*

***VRF Definitions and Tool***

*The team, through consensus, determined the 5-Tier VRF approach has merit. Using the current 3-Tier VRF definitions as a basis, 5-Tier definitions were crafted with bright lines between each of the tiers and included criteria to address regulator input concerning CIP standards. This proposal also includes a VRF Tool for use by standard drafting teams to aid in the determination of VRFs. The tool accommodates both the 3 and 5-Tier VRFs and is only intended to support VRF selection by drafting teams; therefore, VRFs will be justified according to practice. The team proposes field-testing the tool to gain experience and confirm that the VRFs generated by the tool conform to NERC and FERC guidelines for VRFs.*

***Pro Forma VSLs***

*The team determined the pro forma approach to VSLs has merit, but implementation is not practical at this time. Obstacles encountered in the pro forma VSL proposal include not providing a clear starting point or benchmark for evaluating a violation, potentially lengthening the enforcement settlement time, and allowing opportunities for entities to challenge penalties. Additionally, the proposal rewards an entity for "being lucky" if there was no adverse event at the "Severe" level (e.g., Severe: The Violation led to an Adverse Reliability Impact of the bulk power system). Although the team was unable to resolve these obstacles, they made suggestions for enhancing the VSL Guidelines, which are captured in the accompanying draft revision of the guideline document. The revisions provide template language for each type of VSL (i.e., time-base, binary, etc.).*

*NERC Staff Recommendations NERC staff believes the 5-Tier VRFs have merit and acknowledges the team's effort; however, the proposal may not be in alignment with the other NERC initiatives, including the move toward results based standards (which will ultimately eliminate the need for requirements that are administrative in nature and have no direct reliability benefit) and the implementation of the Find, Fix and Track order.*

*Additionally, the expansion to include an "Administrative" level conflicts with these efforts. The proposal for placing "binary" requirements into their own sanctions matrix table with no assigned VSL level is contradictory to regulatory order and guidance with respect to binary treatment as "Severe."*

*In consideration of these issues, NERC staff recommends ending the VRF proposal and releasing resources for higher priority projects with more direct risk mitigating benefits.*

*NERC staff acknowledges the team's conclusion that the pro forma approach is not viable and, anticipating that there will be a need to revise various guidance once the outcome of the current effort to revise the Standards Process concludes, recommends that the Standards Committee Process Subcommittee retain the proposed enhancements to VSL guidance for potential incorporation into future revisions to guidance documents.*

*I have asked Scott to forward the VRF Definition Proposal, VSL Proposal Report, and proposed revisions to the VSL Guidelines to each of you for your files.*

---

*Discussion:*

*Effort started several years (4?) ago in the SCPS and has gone back and forth between SC and CCC.*

*Treating less grave violations with leniency could lead to reinforcing poor behaviour and entity won't be motivated to settle as quicly.*

*VRFs are forward looking and help entities focus on requirements with greater impact on reliability.*

*Tried to develop a 5-tier VRFs and use a tool to determine them in a standardized and consistent manner.*

*Posted for comments and in general had high support.*

*Letter touches only on resourcing issue and being time consuming to develop, particularly VSLs. Up to SC to decide whether effort is to be continued, perhaps rolled into one single project.*

*In practice they are used by regions as a starting point in determining monetary sanctions.*

*Motion: In recognition of NERC staff concern on resource impact, and the ongoing effort of the MRC's SPIG, the SC recommends to the CCC and the VRF/VSL team to suspend development of improvements to the VRF and VSL criteria and ask the SPIG to take the work already done by VRF/VSL team for possible use as a starting point for a team assigned to draft revisions to the process as they assess and revise the essential elements of the standard template.*

*VRFs and VSLs were developed to limit and bound penalties to the industry … a substitute for establishing bounds on penalties should be developed.*

*Approved with 3 opposed votes (Jason, Alice, David K.)*

iv) Other Activities for 2012

*Rapid Revision Process.*

*Single portal for requests for clarification: still under development.*

*SPIG recommendations jump start. Four sub-teams formed:*

- *Beyond ANSI Requirements assessment*
- *Consideration of No votes without comments*
- *Streamlining commenting/balloting process without jeopardizing ANSI accreditation.*
- *Standards template elements including compliance elements and RSAW development.*

d. Staff

i) Incorporating Consideration of Internal Controls into Standards or RSAWs* (M. Moon)

***Risk-based approach to compliance monitoring***

*Focus on reliability and emphasis on internal controls.*

*Discussion began in 2010.*

*Emphasis on reliability and less compliance bureaucracy.*

*Many more possible violations are internally identified and self-reported.*

*Key components:*

- *Planning/preparation*
- *Field work*
- *Reporting*

*Levels:*

*AML selection →*

*Entity Evaluations*

*Compliance monitoring in the field*

*Two ongoing efforts to develop generic template. They will be merged to develop a template for industry review and comment by mid-year.*

*Internal controls have different levels*

*Paradigm change:*

- *Focus on reliability*
- *Empower registered entities*
- *A risk-based approach*

ii) Response to Find, Fix and Track Order* (M. Moon and H. Schrayshuen)

*On March 15, 2012 FERC issued an order accepting with conditions the electric reliability organization's petition requesting approval of new enforcement mechanisms and requiring compliance filing (VII. Paragraph 81 of Other Approaches to Gain Efficiencies and Reduce Compliance Backlogs).*

*A cross-functional team of NERC staff members is working to accomplish the following:*
- *Establish selection criteria*
- *Apply criteria and develop strawman*
- *Vet with the Regions*
- *Vet with industry*
- *Vet with FERC technical staff*
- *Make recommendation in response to Commission*
- *Implement within the context of the prioritized standards development plan*

*Discussion:*

*There is a great deal of compliance operations data that can be used to assess requirements.*

*Before developing process we need to know how big this effort is.*

*This is a good opportunity not to be passed.*

iii) Appeal of NWPP RFI* (H. Schrayshuen)

*On January 17, 2012 Herbert Schrayshuen received a Level 1 Appeal for inaction from the ISO/RTO Councils Standards Review Committee on Project 2009-19 - Northwest Power Pool's Reserve Sharing Group's request for an interpretation of BAL-002-0, Requirement R4.*

*Herb reviewed the circumstances surrounding the appeal, did not find grounds for the appeal and made the following recommendation in his response issued March 28, 2012:*

*Given the difficulty in interpreting the existing language of the standard, NERC recommends to the IRC and NWPP that they consider developing and submitting a Standard Authorization Request to the Standards Committee to address their concern.*

*Note that the Northwest Power Pool is working with the standards staff to develop a SAR and an associated set of proposed changes to BAL-002 – Disturbance Control Performance.*

*Discussion:*

*Suggestion that Version 0 requirements were a "cut and paste" taking existing operating/planning policies with information going into various sections of the V0 standards. IDTs should be allowed to use material of the old policies when developing interpretations.*

*BAs are concerned that being accountable for response to contingencies in 10 minutes may cause a BA to respond either exactly as required which may adversely impact reliability.*

*Herb suggested to add to the BoT SOTC agenda to address the issue of "strict construction" in the interpretations policy. Strict construction means using only what is in the standard.*

*If relief from the BoT is not obtained, continue with the SAR and use the expedited process to fix the standard.*

iv) Update on ERO Response to Cold Weather Event* (H. Schrayshuen)

*Between February 1 and February 4, a total of 210 individual generating units within the footprint of the Electric Reliability Council of Texas, Inc. (ERCOT), which covers most of Texas, experienced either an outage, a derate, or a failure to start. The loss of generation was severe enough on February 2 to trigger a controlled load shed of 4000 MW, which affected some 3.2 million customers. On February 3, local transmission constraints coupled with the loss of local generation triggered load shedding for another 180,000 customers in the Rio Grande Valley in south Texas. El Paso Electric Company (EPE), which is outside the ERCOT region, lost approximately 646 MW of local generation over the four days beginning on February 1. It implemented rotating load sheds on each of the days from February 2 through February 4, totaling over 1000 MW and affecting 253,000 customers. The Salt River Project Agricultural Improvement and Power District (SRP), located in Arizona, lost 1050 MW of generation on February 1 through February 2 and shed load of 300 MW, affecting approximately 65,000 customers. The New Mexico communities of Alamogordo, Ruidoso, and Clayton lost approximately 26 MW of load, affecting a little over 21,000 customers, when Public Service Company of New Mexico (PNM) experienced localized transmission failures, although these were largely unrelated to the extreme weather.*

*In total, approximately 1.3 million electric customers were out of service at the peak of the event on February 2, and a total of 4.4 million were affected over the course of the event from February 2 through February 4.*

*The report included a list of 26 recommendations that include recommendations for the electric utility industry with respect to planning and reserves, coordination between functional entities, communications, and load shedding.*

*The Cold Weather Event of 2011 resulted in many "lessons learned" and now the ERO needs to determine how to institutionalize those lessons learned.*

*Herbert Schrayshuen has been working on a plan to partner with industry in analyzing the recommendations from the cold weather event to determine which recommendations, if any, should be translated into enforceable requirements and will report on progress to date.*

*As envisioned, a small group of industry experts will partner with NERC in analyzing the list of recommendations (see report pages 205-212) and recommend, based on their expertise, which, if any, of the recommendations to propose for inclusion in a reliability standard. The intent is to post this work product to provide transparency so that all stakeholders can see the recommended disposition of each recommendation (e.g., recommended as good utility practice, recommended as part of a guideline, recommended for inclusion in a standard, etc.).*

*If the group does identify some recommendations for inclusion in a reliability standard, the group will draft the SAR and may propose specific requirements for a new standard or for revisions to existing standards.*

*Discussion:*

*Looking for additional participants. Input from cold weather areas wanted, even if for them is a no-brainer because they are already prepared for this.*

v) Directives Report* (D.Taylor)

*According to the Rules of Procedure NERC is required to file a report each March that reports NERC's status in responding to outstanding directives issued by FERC.*

*On March 30, 2012 NERC filed its second annual report which included the following:*

*Since NERC was certified as the ERO, the Commission has issued 50 Orders containing approximately 721 directives related to NERC Reliability Standards. The majority of the directives, 435, were issued in 2007. Of the approximately 721 directives issued since 2007, NERC has initiated and completed projects associated with 58% of these directives, and continues to make substantial progress in addressing the remaining directives focusing first on those that have the greatest impact on reliability. NERC responded to and filed with the Commission 118 directives in 2011 and plans to address an additional 156 directives in 2012.*

*Directives are in the Standards issues database. Catalogued by order and paragraph number.*

*FERC has issued 50 Orders with ~721 directives.*

*NERC has addressed and filed 58%.*

vi) Definitions* (A. Dressel)

- ***Use of "Bulk Power System" versus "Bulk Electric System" in Reliability Standards***

*The term "Bulk Power System" comes from the Energy Policy Act of 2005 (the "Energy Policy Act") and is set forth in Section 215 of the Federal Power Act.*

*The Commission has addressed the BPS versus BES issue in several different orders. The Commission has made clear that BPS defines the extent of its jurisdiction, and that definition has not been delegated to the ERO. However, the Energy Policy Act extends NERC and FERC's authority over the BPS, which, as confirmed by the Commission, reaches farther than those facilities that are included in the BES. The BES identifies who must comply with Reliability Standards and is developed through the Standards Development Process.*

***When Should BPS and/or BES Be Used?***

*Both "BES" and "BPS" are acceptable to use in light of NERC's scope of authority in the Energy Policy Act. "BPS" is the term to use when generally speaking about the interconnected network or power grid. "BES" is a FERC-approved term in the NERC Glossary of Terms Used in NERC Reliability Standards. In Order No. 693, FERC found that "BES" was acceptable and should be used in the context of the applicability of Reliability Standards or NERC's monitoring and enforcement of compliance with the Reliability Standards. BES is the portion of the bulk power system to which the standards apply and should be used when that specific meaning is intended.*

*Accordingly, the NERC Reliability Standards generally apply to the BES. However, NERC's authority extends beyond the BES to the BPS. Stated differently, the BES is a subset of the BPS. Therefore, while the NERC Reliability Standards generally apply to the BES, the Energy Policy Act grants authority to NERC over the BPS. Therefore, standards should be written to apply to the BES (or portions of the BES) but may also include other elements necessary for the reliable operation of the bulk power system.*

*Some SDTs are using BPS instead of BES.*

*Write a document for issuance to SDTs. Generally standards are written to apply to BES.*

- ***Discrepancies in Definitions between the NERC Rules of Procedure and the Glossary of Terms Used in Reliability Standards***

*Questions have been raised over which source of a definition should be controlling when determining the meaning of a NERC defined term because there are two such sources of authority –*

*(1) the Glossary of Terms Used in NERC Reliability Standards ("Glossary of Terms") and (2) Appendix, Definitions Used in the Rules of Procedure ("ROP"). Currently, there are some terms that are defined in both places, and the definitions vary from one another.*

*The Glossary of Terms is to be used as the authoritative source for the definitions of terms used in Reliability Standards while the ROP Appendix 2 – Definitions Used in the Rules of Procedure - is to be used as the authoritative source for the definitions of terms used in the ROP.*

*Going forward, (1) NERC should seek to minimize or eliminate different definitions for the same term, and (2) NERC documents referencing defined terms should identify which definition source the reader should use to obtain the correct meaning of a defined term.*

*The Glossary of Terms is to be used as the authoritative source for the definitions of terms used in Reliability Standards, while the ROP Appendix 2 – Definitions Used in the Rules of Procedure - is to be used as the authoritative source for the definitions of terms used in the ROP.*

~~vi)~~ *Generally, NERC should try to avoid defining the same term differently in the Glossary of Terms and the ROP but this practice is not expressly prohibited. For other NERC documents referencing defined terms, the author should identify which definition source the reader should use to obtain the correct meaning of a defined term.*

- ***Use of "Regional Reliability Organization", "Regional Entities" and "Electric Reliability Organization" in Reliability Standards***

*NERC Legal has observed that there has been some confusion regarding the appropriate use of "Regional Entity" ("RE"), "Regional Reliability Organization" ("RRO"), and Electric Reliability Organization ('ERO") in the Reliability Standards drafting process.*
*In general, drafting teams can replace "RRO" with "RE," provided the functions being performed by the RE are related to their delegated duties. Reliability Standards that refer to Res are legally binding on the REs by operation of Rule 100 of NERC's Rules of Procedure and by the delegation agreements that NERC has entered into with each RE. NERC is obligated to comply with Reliability Standards that refer to NERC or the ERO by operation of Rule 100 as well. However, because of the complexity in determining an appropriate answer, working with NERC Legal is the best solution to ensure correct application of these guidelines. Because there are delegated functions performed by the RE, as well as regional services offered by the RE and/or RRO, it is important to review and understand the specific ongoing cases to ensure correct language is used.*

vii) *Possible conflict between TOP-001, COM-002 and COM-003*

*Three SDTs are working in parallel on these standards.*

*Issue is in defining "reliability directive"*

*Third team (TOP-001) created a new term instead: "operating communication."*

**7. Discussion Items**

a. Standards Committee Goals for 2012* (A. Mosher)

*No discussion due to time constraint.*

**8. Coordination (Review)**

a. Coordination with Regulatory and Governmental Authorities (A. Dressel)

*Several filings done*

b. Coordination with Regional Managers* (H. Schrayshuen)

*2 items:*
- *Analysis of the status of regional standards development in each region*
- *Analysis of the various approaches to UFLS program management in each region*

*Some regions writing their own standards; some relying on continent-wide standard*

c. Update on Coordination with Regions in Developing Regional Standards and Variances (H. Gugel)

**9. Informational Items (Review)**

a. Drafting Team Vacancies*

b. Standards Committee Roster*

c. Highlights of Parliamentary Procedure*

**10. Executive Committee Actions* (Pre-authorize)**

a. Add members to CIP IDT

*To fill a couple of vacancies*

b. Endorse First Quarter Ballot Results Report

c. SAR and Standard for Rapid Revision to BAL-002 - Disturbance Control Performance

*To replace RFI that the SC did not accept.*

d. Interpretation of EOP-005-2 Requirement R6 for Lincoln Electric System

e. SAR for statutory definitions to meet directives

*Three definitions to be added to the glossary.*

~~d.~~f. SAR for revisions to PER-005
*Seekig clarity on he meaning of "annual."*

*Approved.*

**11. Adjourn**

*Background materials included.

| | |
|---|---|
| **From:** | Goodman, Kathleen |
| **To:** | david.kiguel@HydroOne.com; rscmembers; silvia.parada.mitchell@fpl.com; donald.e.nelson@state.ma.us; rjfalsetti@cogeco.ca |
| **Subject:** | RE: My notes of the NERC Standards Committee meeting April 11-12 |
| **Date:** | Thursday, April 12, 2012 5:32:08 PM |

David – WOW – thanks, very detailed notes…a couple of items caught my eye:

***Interpretation 2010-INT-01 — Interpretation of TOP-006-2 R1.2 and R3 for FMPP***

*Jason Shaver motioned to authorize posting the SAR and associated revisions to TOP-006-2 – Monitoring System Conditions for a 45-day formal comment period with the formation of a ballot pool during the first 30 days and an initial ballot during the last 10 days of that 45-day comment period.*

*– The motion was approved without objection or abstention.*

*Executive Committee members expressed concerns with an immediate posting of proposed revisions to TOP-006 because of the large number of standards already posted for comment and because there is another version of TOP-006 posted for ballot in Project 2007-03 – Real-time Operations through April 20, 2012 and having two versions of the same standard posted at the same time is confusing. The Executive Committee recommended that staff consider deferring posting until after the posting for Project 2007-03 and staff agreed to consider this advice* this sounds like Staff, and not the SC, own the process

- ***Project 2007-12 Frequency Response***

*Status: NERC is preparing a filing for an extension of time to complete the proposed standard. The SDT has put together a small team to review the outstanding issues and develop a plan (with timeline for completion) for addressing the issues and developing a new standard.* I believe this is done

*Mike Moon: In addition to working with SDTs, for approved standards (e.g. COM-002 interpretation), worked with chair of OC and others.* I do not believe technical committees should be involved unless they become members of the SDT.

*Herb suggested to add to the BoT SOTC agenda to address the issue of "strict construction" in the interpretations policy. Strict construction means using only what is in the standard.* I do not understand this, b/c the information is contained within the standard – in the compliance section…

---

**From:** david.kiguel@HydroOne.com [mailto:david.kiguel@HydroOne.com]
**Sent:** Thursday, April 12, 2012 3:07 PM
**To:** rscmembers@npcc.org; silvia.parada.mitchell@fpl.com; donald.e.nelson@state.ma.us; rjfalsetti@cogeco.ca
**Subject:** My notes of the NERC Standards Committee meeting April 11-12

Please find attached my notes of the SC meeting. They are in the agenda file as tracked changes.

David

This email and any of its attachments may contain information that is privileged, confidential, classified as CEII, or subject to copyright belonging to NPCC. This email is intended solely for the use of the individual or entity to which it is addressed. If you are not the intended recipient of this email, you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this email is strictly prohibited and may be unlawful. If you receive this email in error, please notify the sender immediately and permanently delete the original and any copy of this email and any printout.

| | |
|---|---|
| **From:** | Philip A. Fedora |
| **To:** | grpStaff |
| **Subject:** | FW: NERC Standards Committee Action on Project 2010-17 DBES |
| **Date:** | Wednesday, April 11, 2012 1:30:46 PM |

FYI - Phil

**From:** Heidrich, Peter [mailto:pheidrich@frcc.com]
**Sent:** Wednesday, April 11, 2012 1:03 PM
**To:** dbessdt_plus
**Subject:** NERC Standards Committee Action on Project 2010-17 DBES

Ladies and Gentlemen,

Today at the NERC Standards Committee (SC) meeting, the SC conducted an extensive review of the Phase2 SAR and Project Schedule. After lengthy deliberations the SC accepted the Phase 2 SAR for development and approved the Project Schedule.

Thank you,

**Peter A. Heidrich**
Manager of Reliability Standards
Florida Reliability Coordinating Council
1408 N. Westshore Blvd., Suite 1002
Tampa, FL 33607-4512
813-207-7994 - office
813-787-7620 - cell
813-289-5646 - fax

This email and any of its attachments may contain FRCC proprietary information that is privileged, confidential, or subject to copyright belonging to FRCC. This email is intended solely for the use of the individual or entity to which it is addressed. If you are not the intended recipient of this email, you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this email is strictly prohibited and may be unlawful. If you receive this email in error, please notify the sender immediately and permanently delete the original and any copy of this email and any printout.

- - -
Y

**From:** Monica Benson
**To:** monica.benson@nerc.net
**Subject:** Standards Committee - Special Election | Segment 5 - April 27 - May 7, 2012
**Date:** Friday, April 27, 2012 10:05:48 AM

# Standards Committee

## Special Election
## Segment 5
## April 27 – May 7, 2012

**To vote click here: Segment 5 voting now available**

The Standards Committee Special Election for Industry Segment 5 is now open until May 7, 2012 at 8 p.m. Eastern.

The nominees (with links to their nomination forms) are listed below:

- Patrick Brown, Director of Compliance, Essential Power, LLC
- Amir Hammad, Manager, Regulatory Affairs, Exelon Power
- Gary Kruempel, MidAmerican Energy Company
- Kent Kujala, Senior Manager NERC Compliance, Detroit Edison
- Connie Lowe, NERC Compliance Policy Manager, Dominion Resource Services, Inc.
- Don Mzyk, Director of Generation Planning, Luminant Power
- John Seelke, NERC Standards Development and Advocacy Manager, PSEG Services Corporation

**Instructions for Voting in the Runoff Election**

Only members of Segment 5 of the Registered Ballot Body, or their proxies, are eligible to vote in the Segment 5 election. Votes must be submitted electronically. To cast a vote, click here.

**Next Steps**

To be elected during the initial ballot, a nominee must meet both of the following:

- Receive the highest total number of votes in that Segment, and
- Receive a simple majority of the votes cast in that Segment.

If no candidate meets both criteria through the initial ballot, a second ballot will be conducted in that Segment. For the second ballot, the slate consists of the two candidates who received the highest number of votes in the initial ballot.

The candidate receiving the highest number of votes in the second ballot is elected to represent that Segment.

If you have any questions, please contact Monica Benson at monica.benson@nerc.net.

For more information or assistance, please contact Monica Benson at monica.benson@nerc.net.

**3353 Peachtree Road NE**
**Suite 600, North Tower**
**Atlanta, GA 30326**
**404-446-2560 | www.nerc.com**

---
You have received this email because you are a registered representative in the Registered Ballot Body.

**System Analysis and Modeling Subcommittee**
April 17-18, 2012 Meeting Notes
Exelon Offices, Chicago, IL

SAMS reviewed and made revisions to the draft Special Protection System white paper (attached.) Additional comments should be sent to Greg Henry. SAMS will forward its latest draft version to the System Protection Control Subcommittee for their review at the meeting next week. SAMS plans to update the Planning Committee on the status of this white paper at the June meeting, provide a draft white paper at the September meeting, and seek approval of a final draft at the December meeting.

Mr. Cumming reported that NERC will reconstitute team who wrote the tests in Attachment B of PRC-023-2 to evaluate the applicability of circuits 100 kV-200 kV and other BES circuits. This effort, under the auspice of SAMS, will satisfy the testing required under FERC Order 759 by February 2013. The viability of these tests needs to be assured. Perhaps SAMS members may want to participate in the tests to determine if the tests work as envisioned. NERC will send out solicitations and will copy SAMS.

NERC Staff reported that the model validation workshop scheduled for May 2-3, 2012 in Atlanta is expected to have significant attendance, especially from the Generator forum and Transmission Forum. There will be presenters from ERAG MC (Paul Roman and Dan Rochester), Transmission Forum, and other subject matter experts. Representatives from the Generator Forum, Transmission Forum recently met with representatives from NERC, SAMS and ERAG to explore ways to take advantage of the synergy among the groups in trying to improve the modeling effort. The Transmission Forum and Generator Forum have expressed an interest in modeling and doing studies and have formed a modeling group. The group agreed to coordinate through the workshop and will meet again following the May workshop.

SAMS reviewed the actions requested at the February meeting in response to FERC Order 758 regarding 1) identify non-electrical relays that require testing and 2) the impact of reclosing relays on reliability and if they should be included in Standard PRC-005 for maintenance. SAMS members were asked to identify any issues and examples where reclosing might be used on the bulk electric system to address stability or reliability performance. SPCS at the previous joint meeting with SAMS agreed to provide failure modes for reclosing relay.

SAMS reviewed its charge from the PC to develop technical justifications for local area network, reactive resource threshold level, 100 kV voltage threshold, and support to RAS on the 20/75 MVA generator threshold. SAMS discussed several approaches including system impact level, participation in transfers, contingency flow (amount and time) out of a load pocket or load center

(what size), generator VAR capability, and method developed to address Order 754. The Chair will develop a straw-man for review at a conference call scheduled on May 7. The timeline for completing the assignment is September 2012.

NERC staff reported that a workshop is being held this week on Geo-Magnetic Disturbance modeling. EPRI, NERC, and FERC are working with transformer vendors to identify types of construction and vulnerabilities. NERC will work with the Transmission Forum to collect transformer information. FERC Staff will also be holding a conference with live webcast on April 30, 2012.

A SAMS sub-team has completed the draft white paper on MOD standards except for one remaining item regarding how to deal with propriety models. Team has discussed the idea of having propriety models certified by a Subject Matter Expert to provide independent verification but needs input from the rest of the SAMS members. The team will forward the latest draft paper to SAMS for comments, especially with respect to the propriety model issue.

Feedback on field testing the model validation procedure should be provided to Eric Allen for review at the next meeting of the Model Validation Working Group.

Future meetings/calls scheduled:

May 9 conference call at 1:30 PM EDT– on BES assignment

May 22-24 – (Full day, full day, half day) – Valley Forge, PJM or Philadelphia

Conference call in late June - BES assignment

Aug 14-15 – in Vancouver, WA – BPA Offices

**From:** Suzanne Smith-Wigfall
**To:** Suzanne Smith-Wigfall
**Subject:** FW: NERC Announcement: Slides Posted for Standards and Compliance Spring Workshop | April 16-18, 2012 - CORRECTION TO LINKS
**Date:** Friday, April 13, 2012 4:28:54 PM

---

**CORRECTED LINKS**

# NERC Announcement

## Slides Posted for Standards and Compliance Workshop

**"A Risk-Based Approach to Reliability and Accountability"**

Date: April 16-18, 2012 | San Diego, CA

Manchester Grand Hyatt
One Market Place
San Diego, CA 92101
(619) 232-1234

Agenda: Click Here
Day One Slides (combined): Click Here
Day Two Slides (combined): Click Here
Day Three Slides (combined): Click Here
Speaker Biographies: Click Here

Hard copies of presentations will not be available at the workshop so please use the above links, if you desire hard copies.

Please note: Slides for the April 18 presentation entitled "*Strategies for Standard Development Efficiencies*" will be provided after the workshop.

**If you have paid to attend via webinar, you should have received your link from ReadyTalk to access Monday's webinar.**

**ReadyTalk links will be released Monday and Tuesday evening by 6:00 p.m. ET for the following day's webinar.**

We are looking forward to seeing you next week!

**Please note: Registration for this workshop has closed, however, NERC will hold a second workshop October 23-25, 2012 in Atlanta, GA.**

For more information or assistance, please contact Suzanne Smith-Wigfall or at 404.446.9687.

**3353 Peachtree Road NE**
**Suite 600, North Tower**
**Atlanta, GA 30326**
**404-446-2560 | www.nerc.com**

---
You are currently subscribed to nerc-info as: lpedowicz@npcc.org
To unsubscribe send a blank email to leave-1288885-325654.1ca6f85fb1574a8515cc07df72d3bfe0@listserv.nerc.com

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# NERC Standards and Compliance 101

Mallory Huggins, Standards Specialist
Caroline Clouse, Compliance Specialist

April 16, 2012

RELIABILITY | ACCOUNTABILITY






# Presentation Agenda

- NERC Overview
- Standards Process
- Compliance and Enforcement
- Questions and Answers



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# NERC Overview

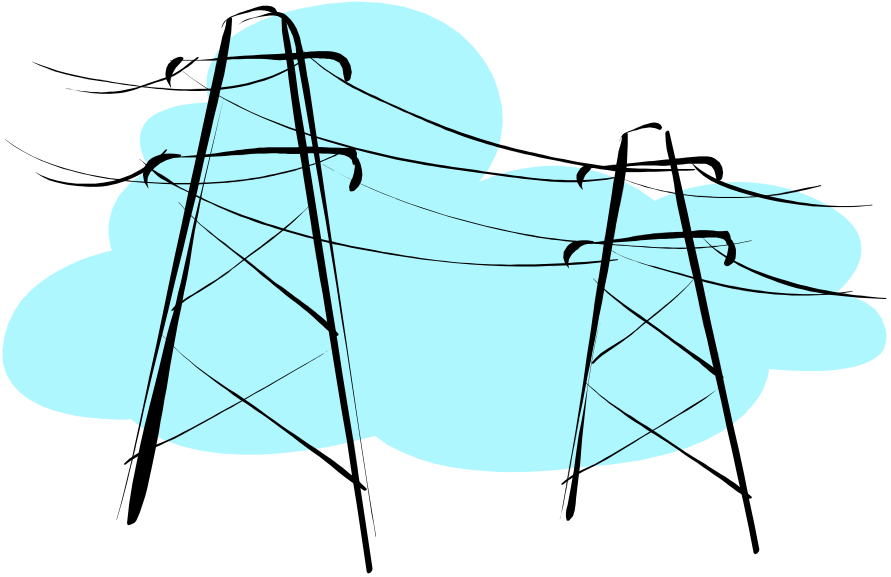
RELIABILITY | ACCOUNTABILITY






# What is NERC's Role in the Industry?

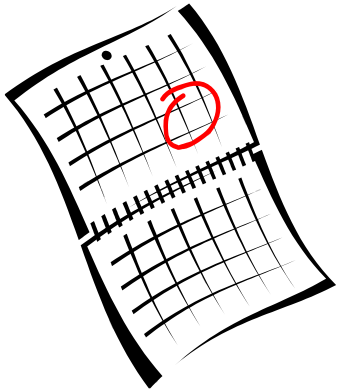
- Mission: Ensure the reliability of the North American bulk power system by…
  - Holding entities accountable for compliance with mandatory Reliability Standards
  - Acting as a catalyst for positive change within the industry



# Defining Reliability

- NERC defines a **reliable** bulk power system as one that is able to meet the electricity needs of end-use customers even when unexpected equipment failures reduce the amount of available electricity
- This means:
  - Adequacy – sufficient resources
  - Security – ability of system to withstand sudden and unexpected disturbances

# Reliability History: Key Dates



**November 9, 1965 - Northeast Blackout**

**1968:** National Electric Reliability Council (NERC) established by the electric industry

**2002:** NERC operating policy and planning standards became mandatory and enforceable in Ontario, Canada

**October 14, 2003 - Blackout**

**2005:** U.S. Energy Policy Act of 2005 creates the Electric Reliability Organization (ERO)

**2006:** Federal Energy Regulatory Commission (FERC) certified NERC as the ERO; Memorandum of Understanding (MOUs) with some Canadian Provinces

**2007:** North American Electric Reliability Council (NERC) became the North American Electric Reliability Corporation (NERC); FERC issued Order 693 approving 83 of 107 proposed Reliability Standards; became mandatory and enforceable

# What Does it Mean to be the ERO?

- Only one ERO, overseen by U.S. and Canadian regulatory authorities (FERC and the provinces)
  - Responsible for developing/enforcing reliability standards
  - Independent of owners, operators, users
  - Adhere to rules governing standards development, compliance enforcement, budgeting

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# What Does NERC Do?

- Develops and enforces reliability standards
- Monitors the bulk power system
- Assesses adequacy
- Audits owners, operators, and users for preparedness
- Educates and trains industry personnel

# NERC's Board of Trustees


J. Anderson


T. Berry


G. Cauley

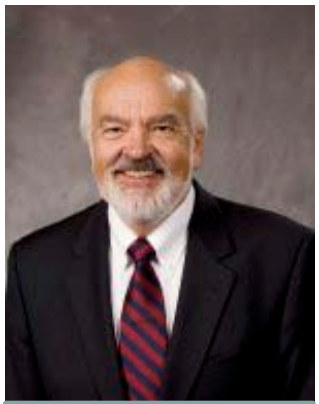

V. Bailey


P. Barber


J. Case


F. Gorbet


D. Goulding


K. Peterson


B. Scherr


J. Schori


R. Thilly

# NERC Membership

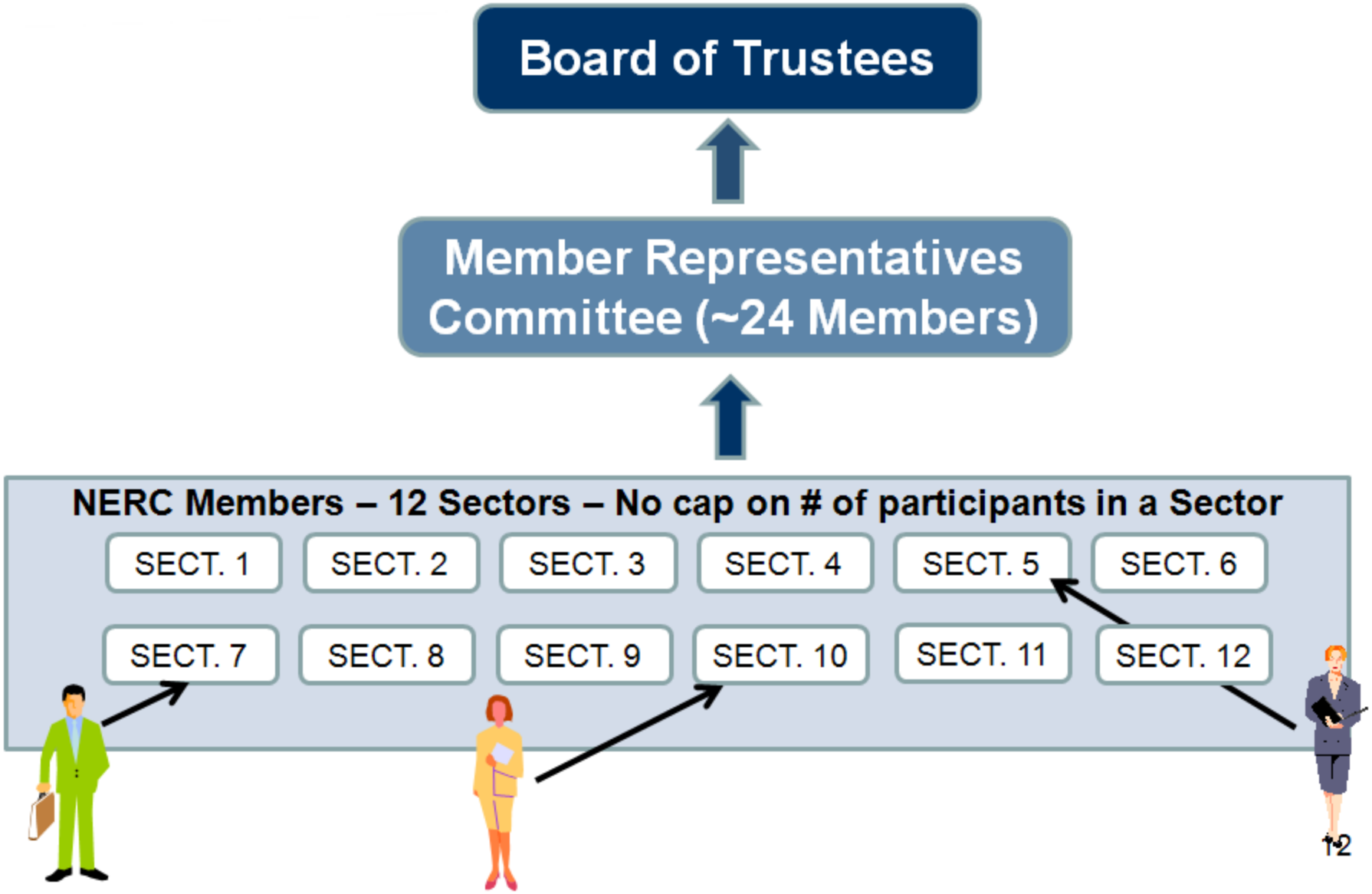
- Open to all entities interested in the bulk power system
- Twelve membership categories:
  - Investor-owned utility
  - State or municipal utility
  - Cooperative utility
  - Federal or provincial utility/power marketing administrator
  - Transmission dependent utility



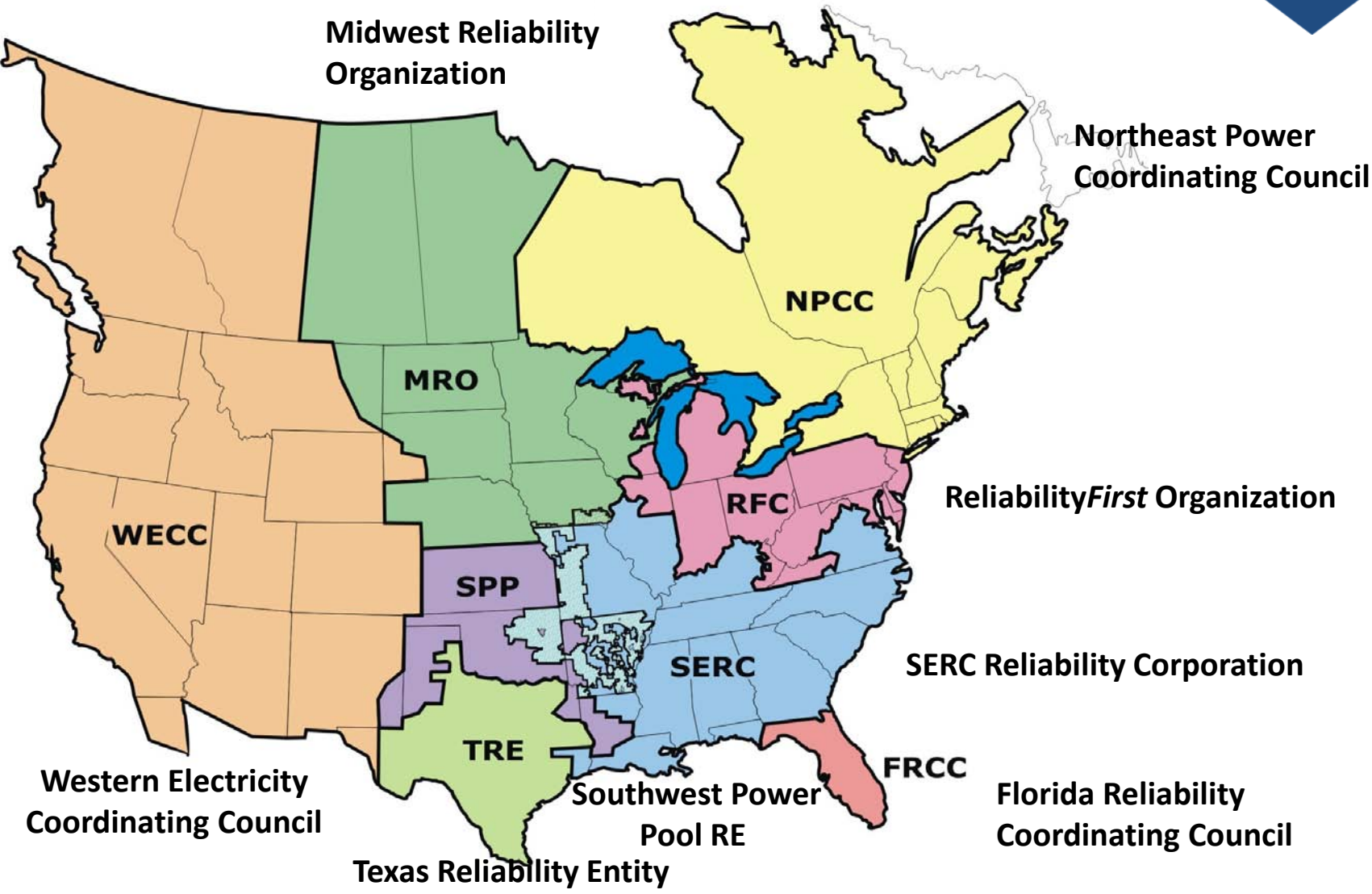
# NERC Membership

- More membership categories:
  - Merchant electricity generator
  - Electricity marketer
  - Large end-use electricity customer
  - Small end-use electricity customer
  - Independent system operator/regional transmission organization
  - Regional Entity
  - Government Representative

# Hierarchy Showing Relationship of NERC Members to Board of Trustees



# NERC Regions



# Eight NERC Regions

- Perform delegated functions:
  - Compliance
  - Regional standards
  - Organization registration
  - Reliability assessments
- Regional consistency key for transparency, predictability, and uniform outcomes

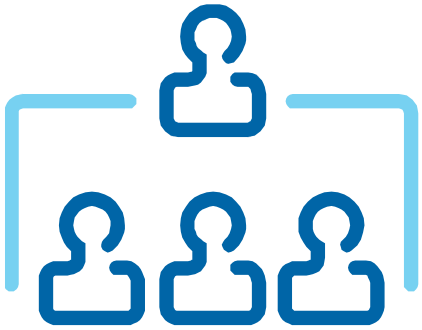
# NERC Funding

- NERC and Regional Entities allocate operating costs to load-serving entities (LSEs):
  - LSEs are owners, operators, and users of the bulk power system responsible for delivering electricity to retail customers



# NERC Departments

- Bulk Power System Awareness
- Compliance Enforcement
- Compliance Operations
- Critical Infrastructure Protection (CIP)
- Events Analysis
- Human Performance
- Investigations
- Legal and Regulatory
- Policy/External Affairs and Communications
- Reliability Assessment and Performance Analysis (RAPA)
- Reliability Initiatives and System Analysis (RISA)
- Standards
- Training



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Standards Process

Mallory Huggins, Standards Specialist

RELIABILITY | ACCOUNTABILITY






# Stakeholder Accountability



- Standard development process depends on active participation of stakeholders
- Stakeholder technical expertise is essential to standard development process
- Order 672: Commission must give “due weight to technical expertise of ERO”

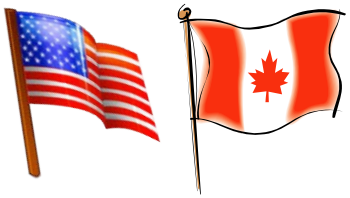
# NERC's Standards Process

- In 2010, a new process was developed with input from Standards Committee, Results-Based Process Ad Hoc Team, stakeholders, and regulators
- FERC approved the Standard Processes Manual on September 3, 2010
- Goals:
  - Improve efficiency
  - Improve quality
  - Preserve American National Standards Institute (ANSI) accreditation

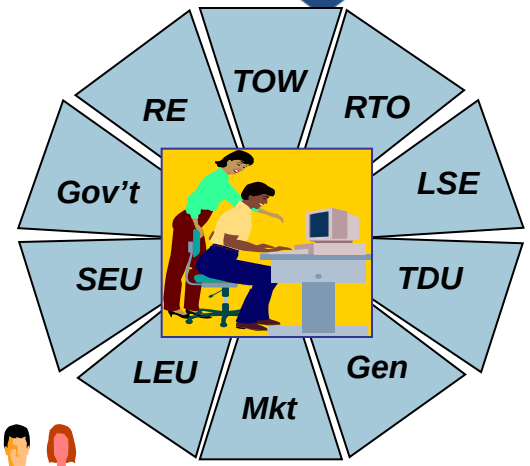
# Roles and Responsibilities



Board of Trustees



Regulators




Ballot Body



Standards Committee



Drafting Teams



Stakeholders



Standards Staff

Ballot Pools



# Standards Committee

- Prioritizing standards development activities
- Reviews actions to ensure the standards development process is followed
- Reviews and authorizes Standard Authorization Requests (SARs)
- Manages progress of SARs and standards development efforts
- Reviews and authorizes drafting new or revised standards and their supporting documents
- Makes appointments to drafting teams




Authorize Posting SAR

Appoint DT

Draft Standard

Collect Informal Feedback

Revise

Submit Standard for QR

Revise

Post for Comment

Consider/ Respond/Revise

Submit Standard for QR

Revise

Post for Comment/ Ballot

Consider/ Respond/Revise



Post for Recirculation Ballot

Board Adopts

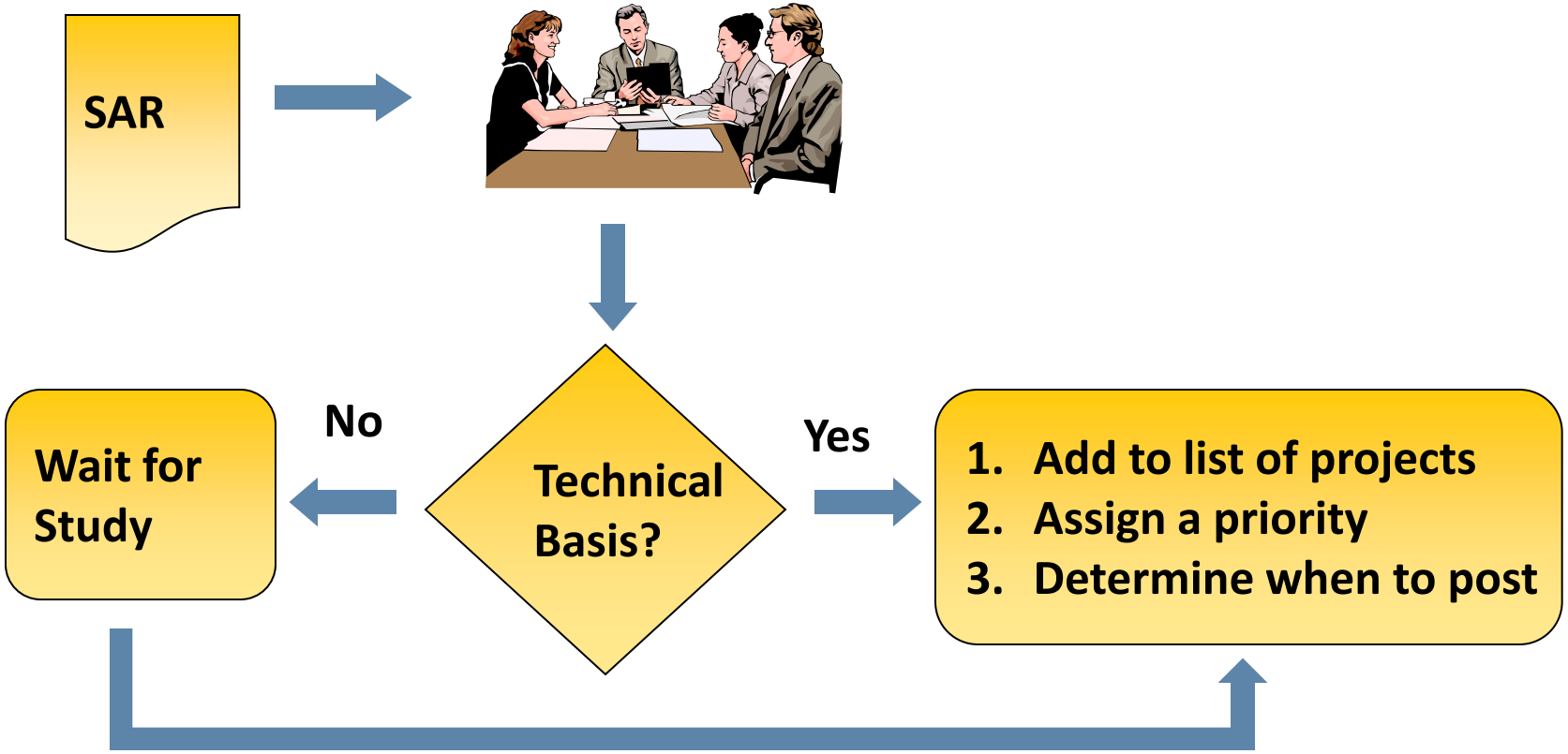
Regulatory Agencies Approve

Implement

# Standard Authorization Requests (SARs)

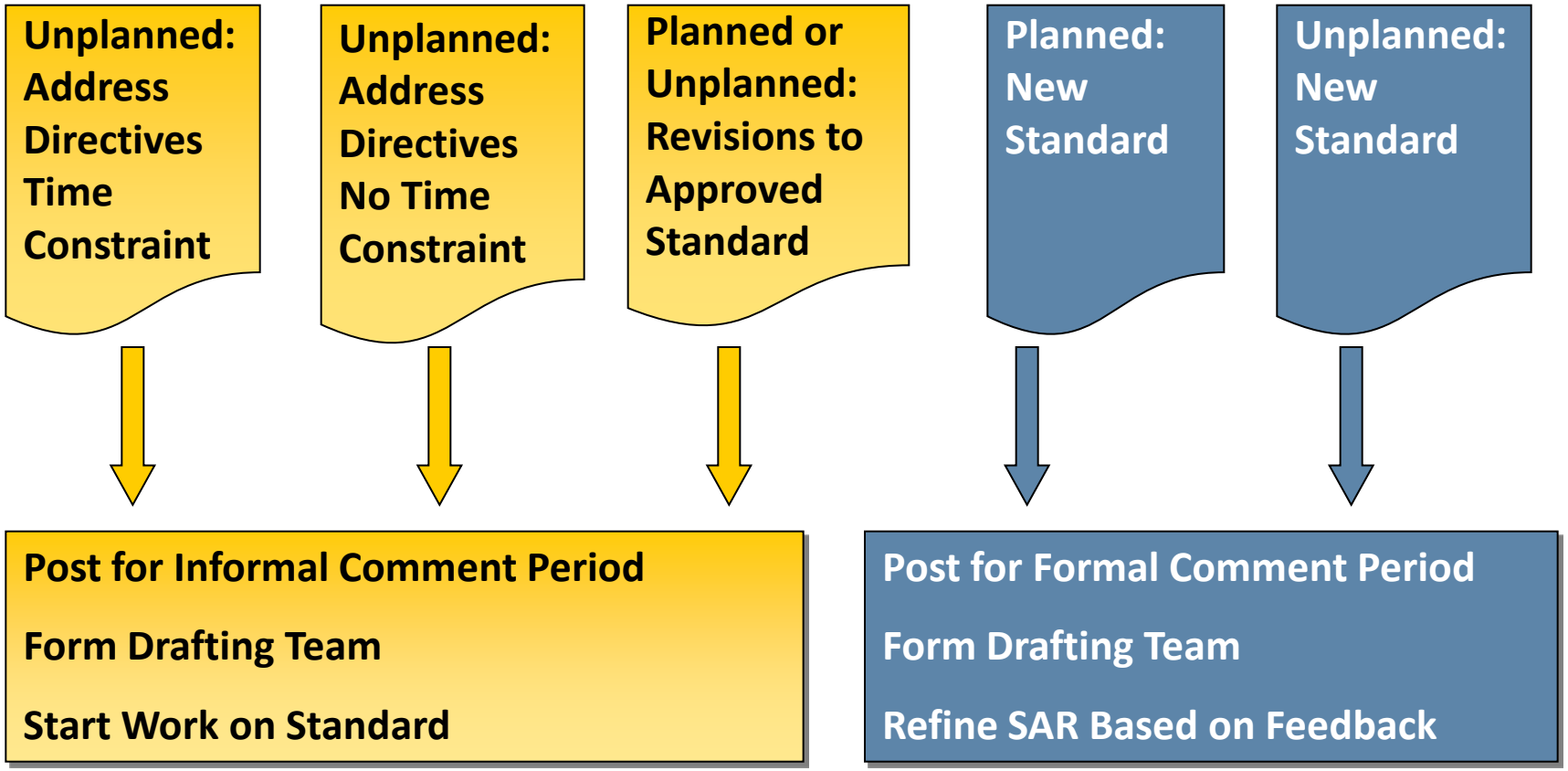
**Every valid SAR is accepted.**

**SARs need a technical basis and are posted based priority.**



# Processing of SARs

Post proposals for “new” standards for formal comment period; collect informal comments for others.



# Roles and Responsibilities of Drafting Teams

- Develop an excellent, technically correct standard that helps provide an adequate level of bulk power system reliability and achieves stakeholder consensus
  - Stay within the scope of the SAR
  - Address regulatory directives and stakeholder issues
  - Ensure standard meets criteria for approval
- Develop initial set of Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs) and associated reasoning
- Produce a realistic implementation plan
- Develop supporting documents (optional)

# Drafting Team Formation and Support

- If a team is formed to address the SAR, the same team develops the standard
- Includes a technical writer, if needed
- Technical experts provide content for requirements
- Technical writer drafts language for technical experts
- Technical experts have “power of veto”



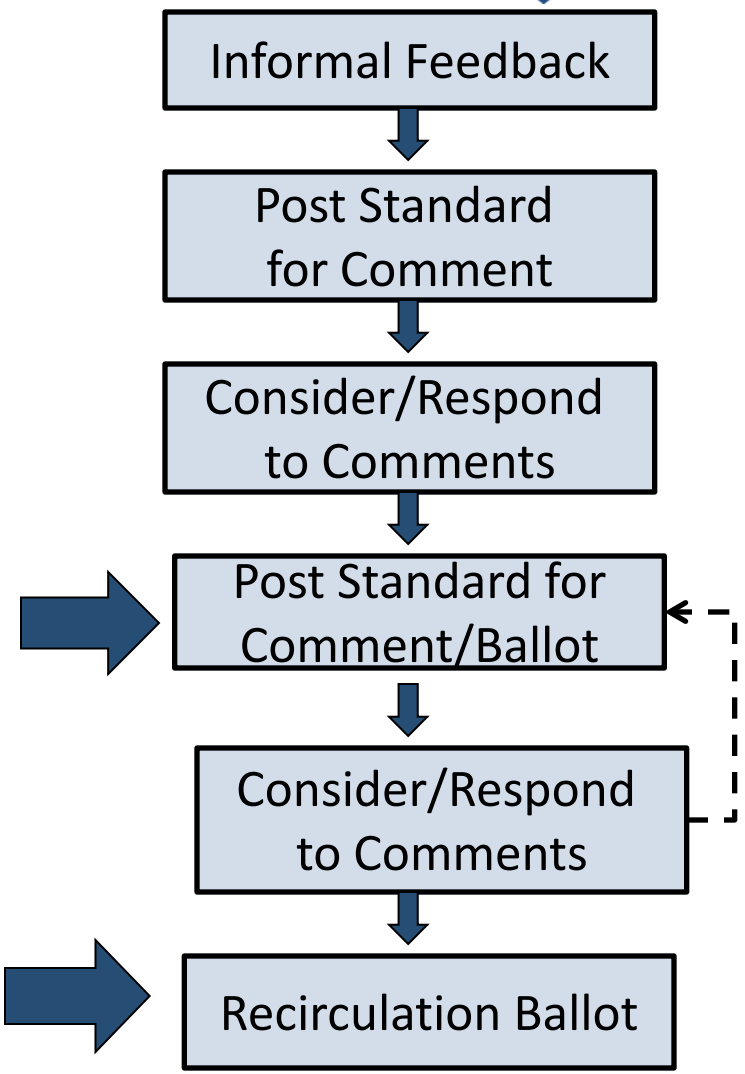
# Stakeholder Consensus Process

**New/Successive Ballot:**

At this step, the standard is either "new" or significantly changed from the last version posted for comment/ ballot. The ballot record starts with no votes and no comments.

**Recirculation Ballot:**

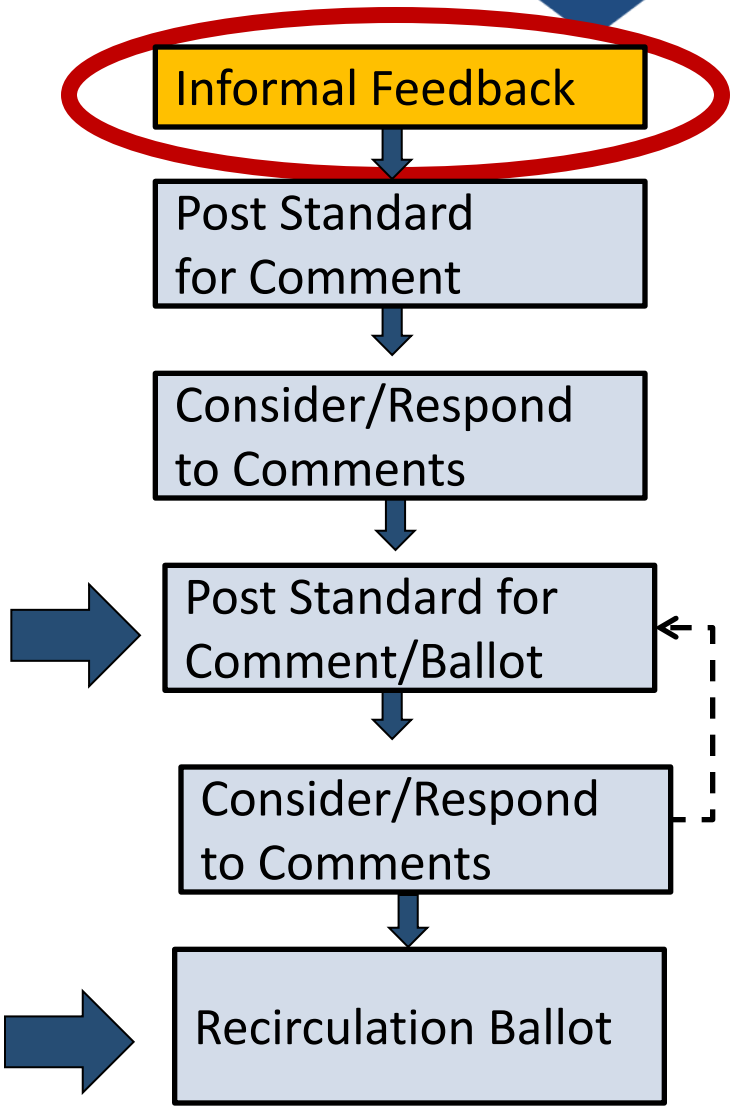
At this step, there have been no significant changes to the standard from the last ballot. The ballot record starts with all votes and comments from the previous ballot.



# Stakeholder Consensus Process

**New/Successive Ballot:**
At this step, the standard is either "new" or significantly changed from the last version posted for comment/ ballot. The ballot record starts with no votes and no comments.

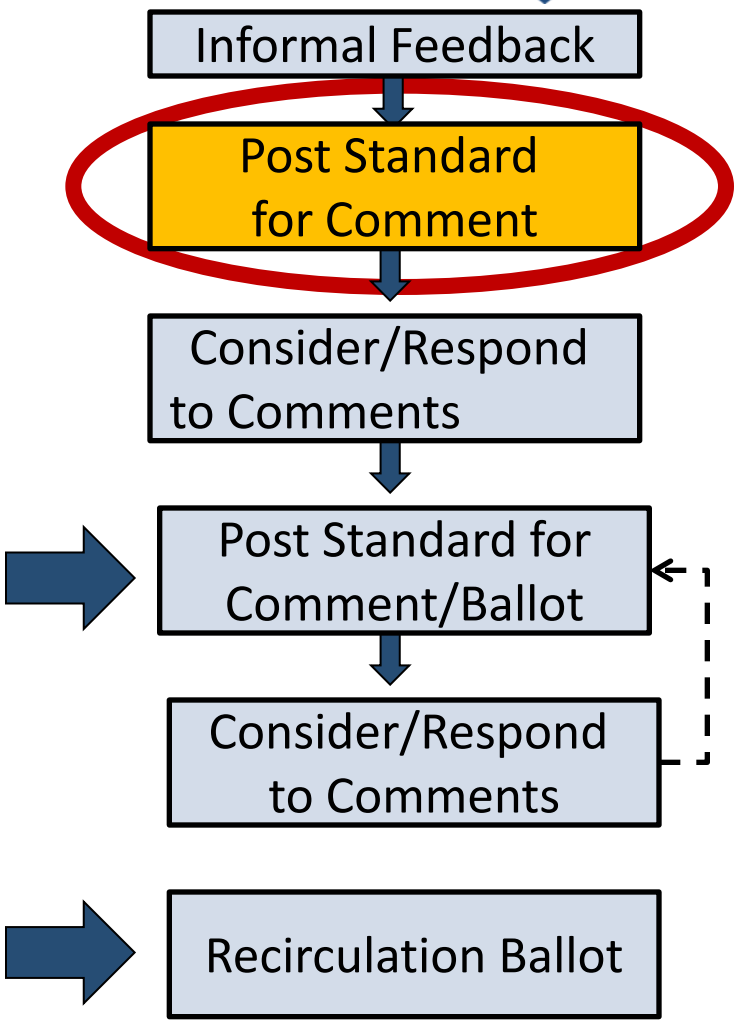
**Recirculation Ballot:**
At this step, there have been no significant changes to the standard from the last ballot. The ballot record starts with all votes and comments from the previous ballot.



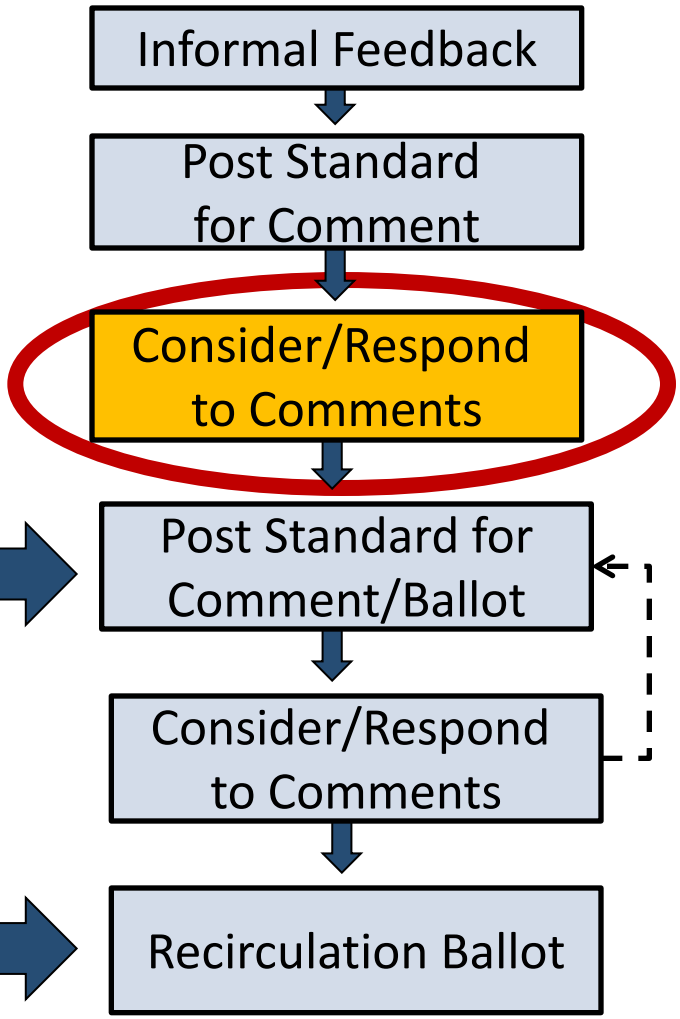
# Stakeholder Consensus Process

**New/Successive Ballot:**
At this step, the standard is either "new" or significantly changed from the last version posted for comment/ ballot. The ballot record starts with no votes and no comments.

**Recirculation Ballot:**
At this step, there have been no significant changes to the standard from the last ballot. The ballot record starts with all votes and comments from the previous ballot.



# Stakeholder Consensus Process




**New/Successive Ballot:**
At this step, the standard is either "new" or significantly changed from the last version posted for comment/ ballot. The ballot record starts with no votes and no comments.

**Recirculation Ballot:**
At this step, there have been no significant changes to the standard from the last ballot. The ballot record starts with all votes and comments from the previous ballot.

# Building Consensus with Comments

- Stakeholder feedback is essential
- The best comments offer suggested replacement language first and then support that suggested language with rationale
- If a stakeholder cannot suggest alternate language, he or she should still make sure to support his or her claim with sound technical rationale

# Sample Comments

- In Attachments 1, 2, and 3 the six-month requirement for notice is too short in many cases. We suggest nine months to one year. Six months is not enough time for budgeting and construction scheduling
- The Generator Owner (GO) appears to be the logical choice. GO has the access to the equipment records, Generator Operator (GOP) may not

# Sample Comments

- Disagree with R2 as written
- Disagree with assigning requirement to the GO
- Definition is a little loose

# Drafting Team Responses to Comments

| If Comment: | Then: | And: |
|---|---|---|
| Unrelated | Note that comment is unrelated | No action needed |
| Proposes change beyond scope | Note that comment is proposing an expansion | Add "issues database" |
| Proposes modification based on new technical issue | Provide team's analysis of the proposal | If accepted, modify standard |
| Proposed modification based on already vetted technical issue | Provide summary of vetting and resolution | No action needed |
| Proposes modification to provide greater clarity | Provide team's view as to whether the proposed modification improves clarity | If accepted, modify the standard |

# Navigating a Comment Report

If Time is limited:

- Read the first section
- For each question, read the Summary Response
- Find responses to your comments

If Time is not limited:

- Read entire report



# Navigating a Comment Report

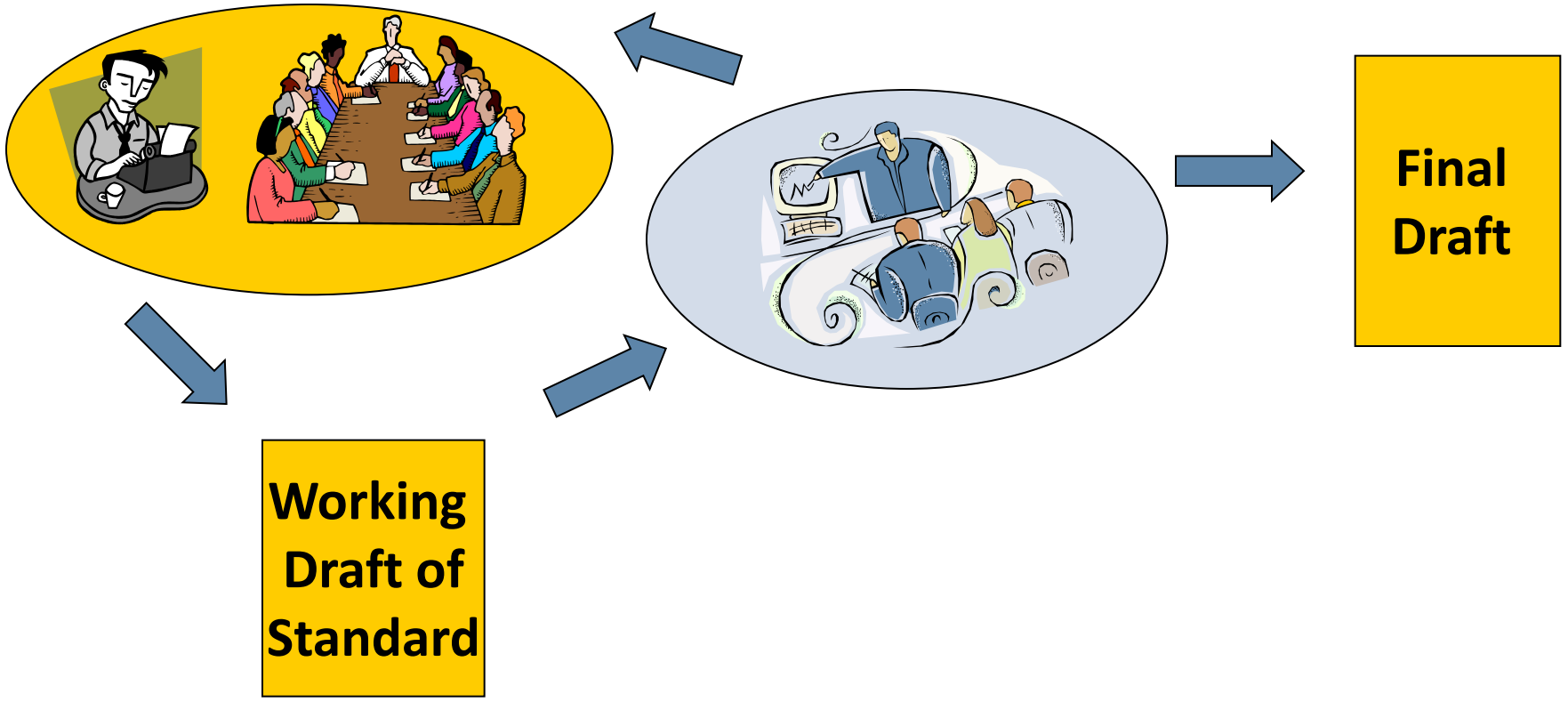
Sections of Comment Report:

- Executive Overview (what was posted when; who commented; what was changed and why; unresolved minority issues; link to unformatted comments; reminder of Appeals Process)
- Index to questions
- List of Commenter's
- Questions and Responses

# Emphasis on Quality Before Posting Final Drafts

Quality review required before “final” draft posted.

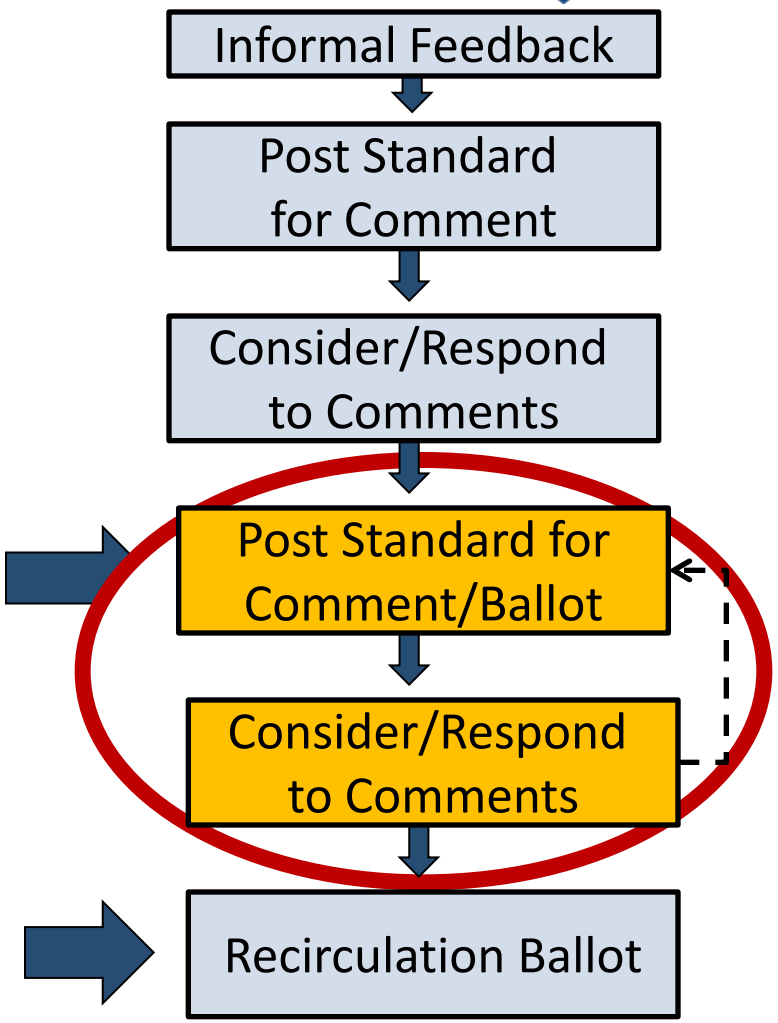
Results of review sent to Standards Committee and drafting team.



# Stakeholder Consensus Process

**New/Successive Ballot:**
At this step, the standard is either "new" or significantly changed from the last version posted for comment/ ballot. The ballot record starts with no votes and no comments.

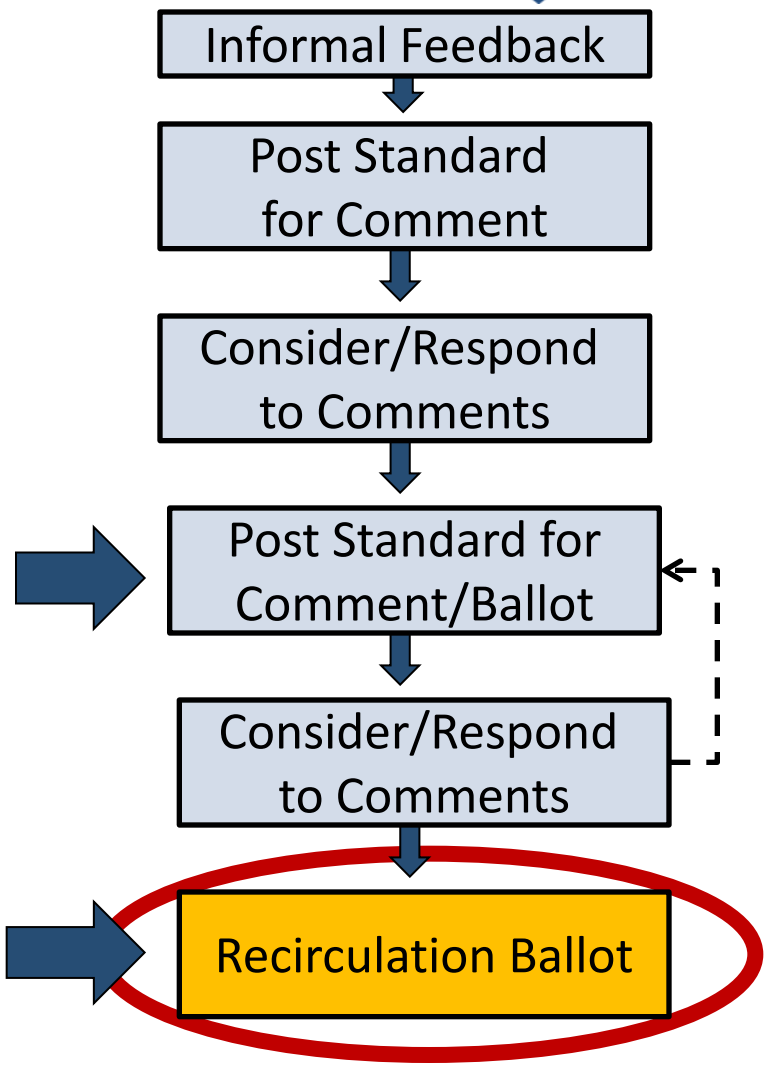
**Recirculation Ballot:**
At this step, there have been no significant changes to the standard from the last ballot. The ballot record starts with all votes and comments from the previous ballot.



# Stakeholder Consensus Process

**New/Successive Ballot:**
At this step, the standard is either "new" or significantly changed from the last version posted for comment/ ballot. The ballot record starts with no votes and no comments.

**Recirculation Ballot:**
At this step, there have been no significant changes to the standard from the last ballot. The ballot record starts with all votes and comments from the previous ballot.



# Recirculation Ballot

- Balloter accountability
  - Review changes made to the standard
  - Review unresolved minority issues
  - Last chance to see if you should change your vote



# FERC's Approval Process for Standards

Standard and Tech Details → FERC Analysis → NOPR → FERC Analysis → Order










# Interpretations

- A valid interpretation request seeks additional clarity about one or more requirements in approved NERC Reliability Standards
- An entity or individual may submit a **Request for Interpretation** using the form on NERC's website
- The interpretation development process is similar to the standard development process
- An interpretation response provides clarity on the requirement(s) but does not expand on the requirement(s) or explain how to comply

# Getting Involved

- Add yourself to mailing lists
- Respond to requests for comments on draft standards; review comments from others
- Participate in webinars and workshops
- Have your company join the Registered Ballot Body and Ballot Pools
- Vote on standards
- Volunteer for drafting teams
- Volunteer for the Standards Committee



# Standards Staff Contacts

- Feedback on the standards process: **Laura Hussey** at laura.hussey@nerc.net or fill out a Suggestions and Comments form.
- Help joining NERC Registered Ballot Body or participation in comment periods: **Monica Benson** at monica.benson@nerc.net
- To be added to (one or more of) NERC's email lists: **Suzanne Smith-Wigfall** at suzanne.smith-wigfall@nerc.net
- Suggestions for website improvements: **Kristin Iwanechko** at kristin.iwanechko@nerc.net
- Suggestions for improved communication: **Mallory Huggins** at mallory.huggins@nerc.net
- If you ever feel there was an error or omission during the consideration of comments process: **Herb Schrayshuen** at herb.schrayshuen@nerc.net.

# Questions?



**Mallory Huggins**

Standards Specialist

(202) 644-8062

mallory.huggins@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Compliance and Enforcement

Caroline Clouse, Compliance Specialist

RELIABILITY | ACCOUNTABILITY






# Agenda

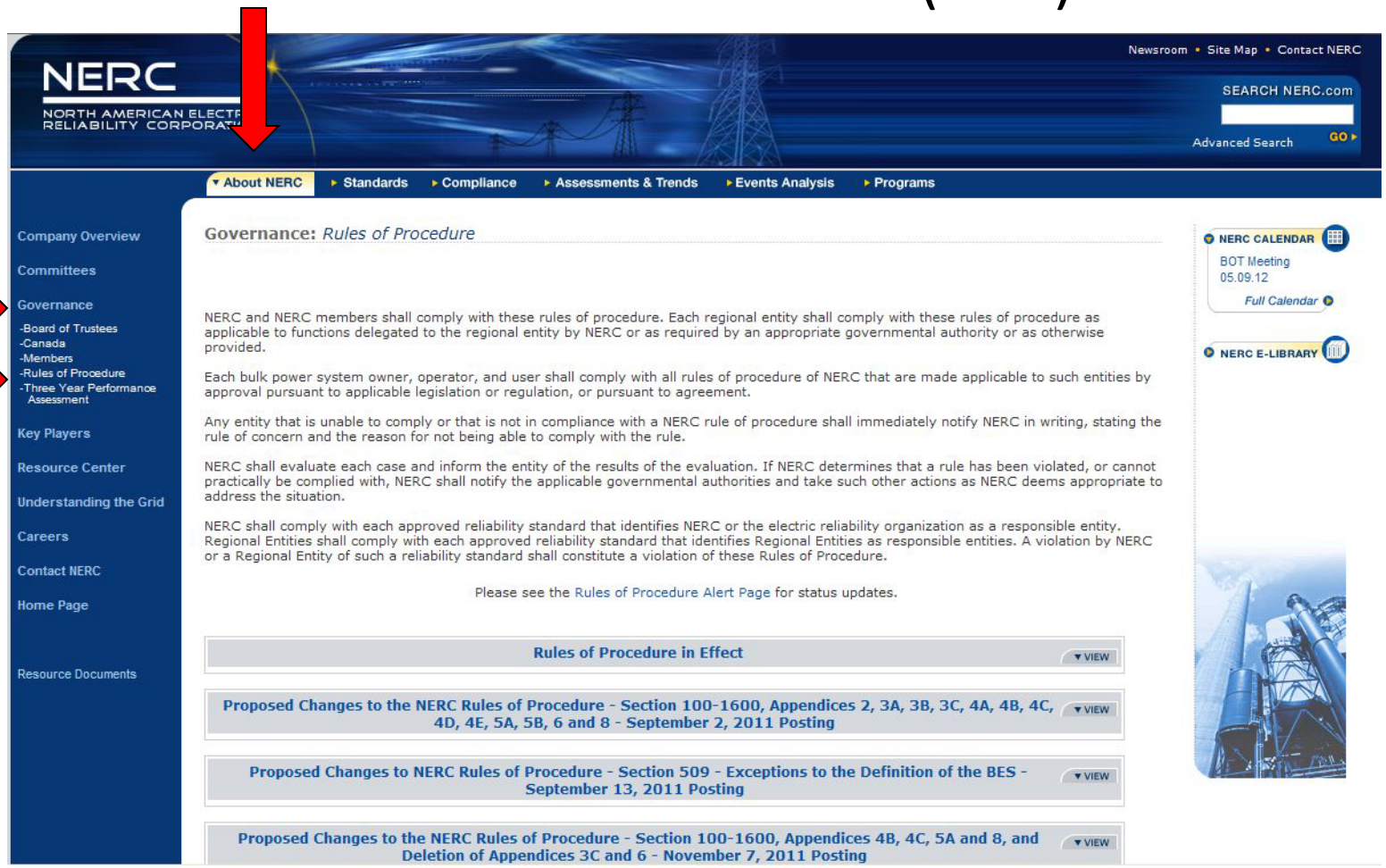
- Compliance Processes and Rules of Procedure
- Compliance Monitoring
- Enforcement Methods
- Compliance Statistics
- Tools Available for Compliance Guidance
- Events Analysis

# Acronyms

- **ERO**: Electric Reliability Organization
- **RAPA**: Reliability Assessment and Performance Analysis
- **CMEP**: Compliance Monitoring and Enforcement Program
- **PV**: Possible Violation
- **CEA**: Compliance Enforcement Authority
- **AML**: Actively Monitored List
- **RSAW**: Reliability Standard Audit Worksheet
- **ICP**: Internal Control Program
- **FFT**: Find, Fix, Track
- **CARs**: Compliance Analysis Reports
- **CEI**: Compliance Enforcement Initiative
- **CANs**: Compliance Application Notices

# Compliance Process and Rules

## Rules of Procedure (ROP)



# Compliance Process and Rules

## Rules of Procedure in Effect

▼ VIEW

| Number | Title/Summary | Date | |
|---|---|---|---|
| All | Rules of Procedure (Complete Document)<br>Rules of Procedures - without the Appendices<br><br>Effective: March 15, 2012 | 03.15.2012 | pdf |
| Appendix 2 | Definitions Used in the Rules of Procedure<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3A | Standard Processes Manual<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3B | Election Procedure for Members of NERC Standards Committee<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3C | Procedure for Coordinating Reliability Standards Approvals, Remands, and Directives<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3D | Registered Ballot Body Criteria<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4A | Audit of Regional Entity Compliance Programs<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4B | Sanction Guidelines<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4C | Uniform Compliance Monitoring and Enforcement Program<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4D | Procedure for Requesting and Receiving Technical Feasibility Exceptions to NERC Critical Infrastructure Protection Standards<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4E | Compliance and Certification Committee Hearing Procedures, Hearing Procedures for Use in Appeals, and Mediation Procedures<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 5A | Organization Registration and Certification Manual<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 5B | Statement of Compliance Registry Criteria<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 6 | System Operator Certification Program Manual<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 8 | NERC Blackout and Disturbance Response Procedures<br>Effective: January 31, 2012 | 01.31.2012 | pdf |

# Compliance Process and Rules

## Compliance Monitoring and Enforcement Program (CMEP) (Appendix 4C of ROP)

**Rules of Procedure in Effect** ▼VIEW

| Number | Title/Summary | Date | |
|---|---|---|---|
| All | Rules of Procedure (Complete Document)<br>Rules of Procedures - without the Appendices<br><br>Effective: March 15, 2012 | 03.15.2012 | pdf |
| Appendix 2 | Definitions Used in the Rules of Procedure<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3A | Standard Processes Manual<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3B | Election Procedure for Members of NERC Standards Committee<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3C | Procedure for Coordinating Reliability Standards Approvals, Remands, and Directives<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3D | Registered Ballot Body Criteria<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4A | Audit of Regional Entity Compliance Programs<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4B | Sanction Guidelines<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4C | Uniform Compliance Monitoring and Enforcement Program<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4D | Procedure for Requesting and Receiving Technical Feasibility Exceptions to NERC Critical Infrastructure Protection Standards<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4E | Compliance and Certification Committee Hearing Procedures, Hearing Procedures for Use in Appeals, and Mediation Procedures<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 5A | Organization Registration and Certification Manual<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 5B | Statement of Compliance Registry Criteria<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 6 | System Operator Certification Program Manual<br>Effective: January 31, 2012 | 01.31.2012 | pdf |

# Compliance Process and Rules

## Sanction Guidelines (Appendix 4B of ROP)

**Rules of Procedure in Effect** ▼VIEW

| Number | Title/Summary | Date | |
|---|---|---|---|
| All | Rules of Procedure (Complete Document)<br>Rules of Procedures - without the Appendices<br><br>Effective: March 15, 2012 | 03.15.2012 | pdf |
| Appendix 2 | Definitions Used in the Rules of Procedure<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3A | Standard Processes Manual<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3B | Election Procedure for Members of NERC Standards Committee<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3C | Procedure for Coordinating Reliability Standards Approvals, Remands, and Directives<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 3D | Registered Ballot Body Criteria<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4A | Audit of Regional Entity Compliance Programs<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4B | Sanction Guidelines<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4C | Uniform Compliance Monitoring and Enforcement Program<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4D | Procedure for Requesting and Receiving Technical Feasibility Exceptions to NERC Critical Infrastructure Protection Standards<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 4E | Compliance and Certification Committee Hearing Procedures, Hearing Procedures for Use in Appeals, and Mediation Procedures<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 5A | Organization Registration and Certification Manual<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 5B | Statement of Compliance Registry Criteria<br>Effective: January 31, 2012 | 01.31.2012 | pdf |
| Appendix 6 | System Operator Certification Program Manual<br>Effective: January 31, 2012 | 01.31.2012 | pdf |

# Compliance Process and Rules

- Regional Auditors and Enforcement
  - Auditors
    - Fact-finders
    - Determine if there is a Possible Violation (PV)
    - Present Enforcement with reasoning for the PV
    - Auditors recommend risk level for the violation
  - Enforcement
    - Determines if there is a violation
    - Determines the penalty and works with the registered entity
    - Submits enforcement actions to NERC

# Compliance Process and Rules

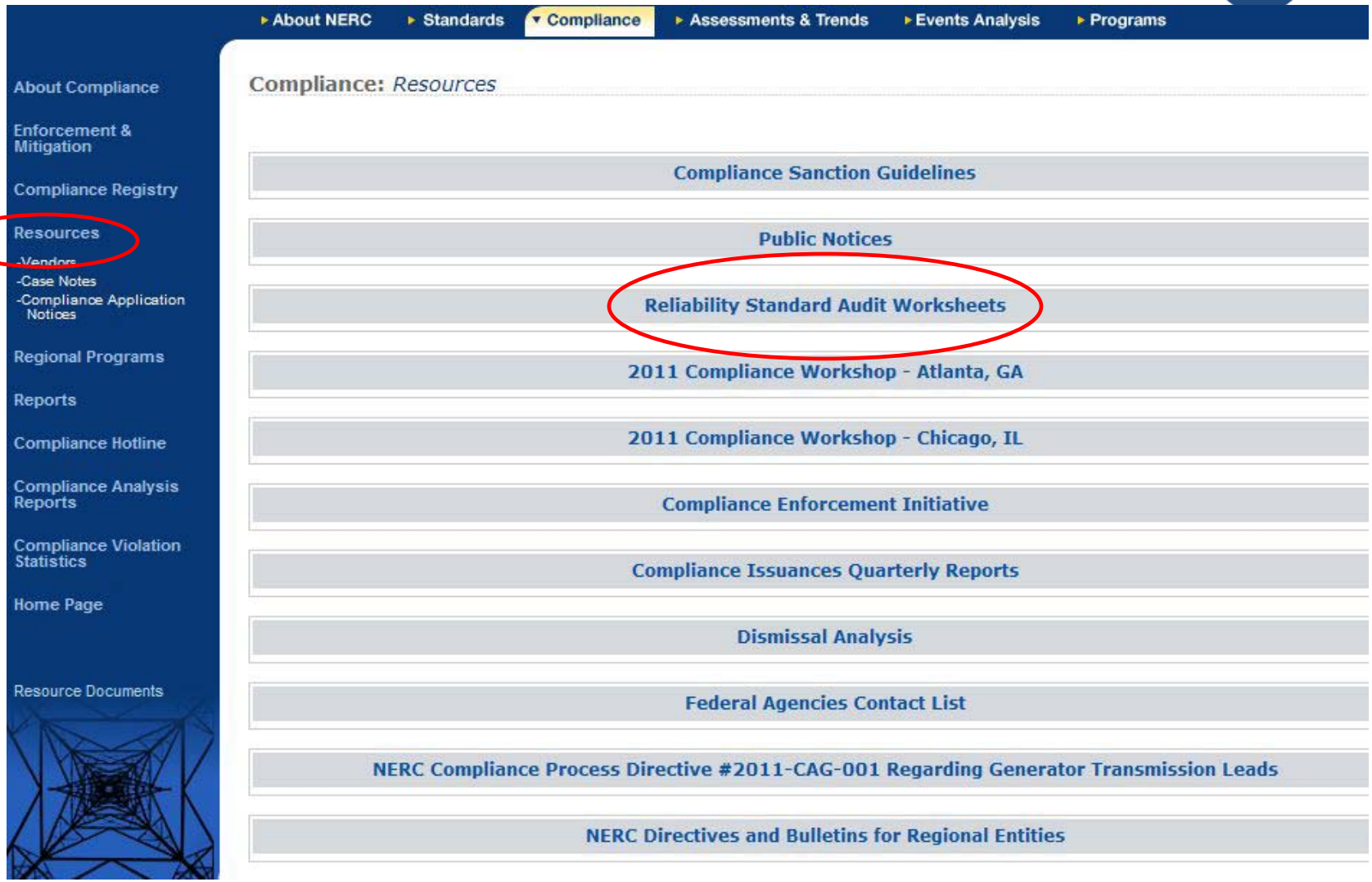
- Discovery methods
  - Internally identified
    - Self-certification
    - Self-reporting
    - Periodic  data submittals
    - Exception reporting
  - Externally identified
    - Compliance audits
    - Spot checking
    - Compliance investigations
    - Complaints

# Compliance Monitoring

- Auditing
  - Actively Monitored List (AML)
    - Regions audited to AML
    - Could expand scope if deemed necessary, but couldn't reduce scope without NERC approval
  - Risk-based approach
    - Compliance monitoring based on risk to the Bulk Power System
    - ERO developing continent-wide template for registered entity assessments

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Compliance Monitoring

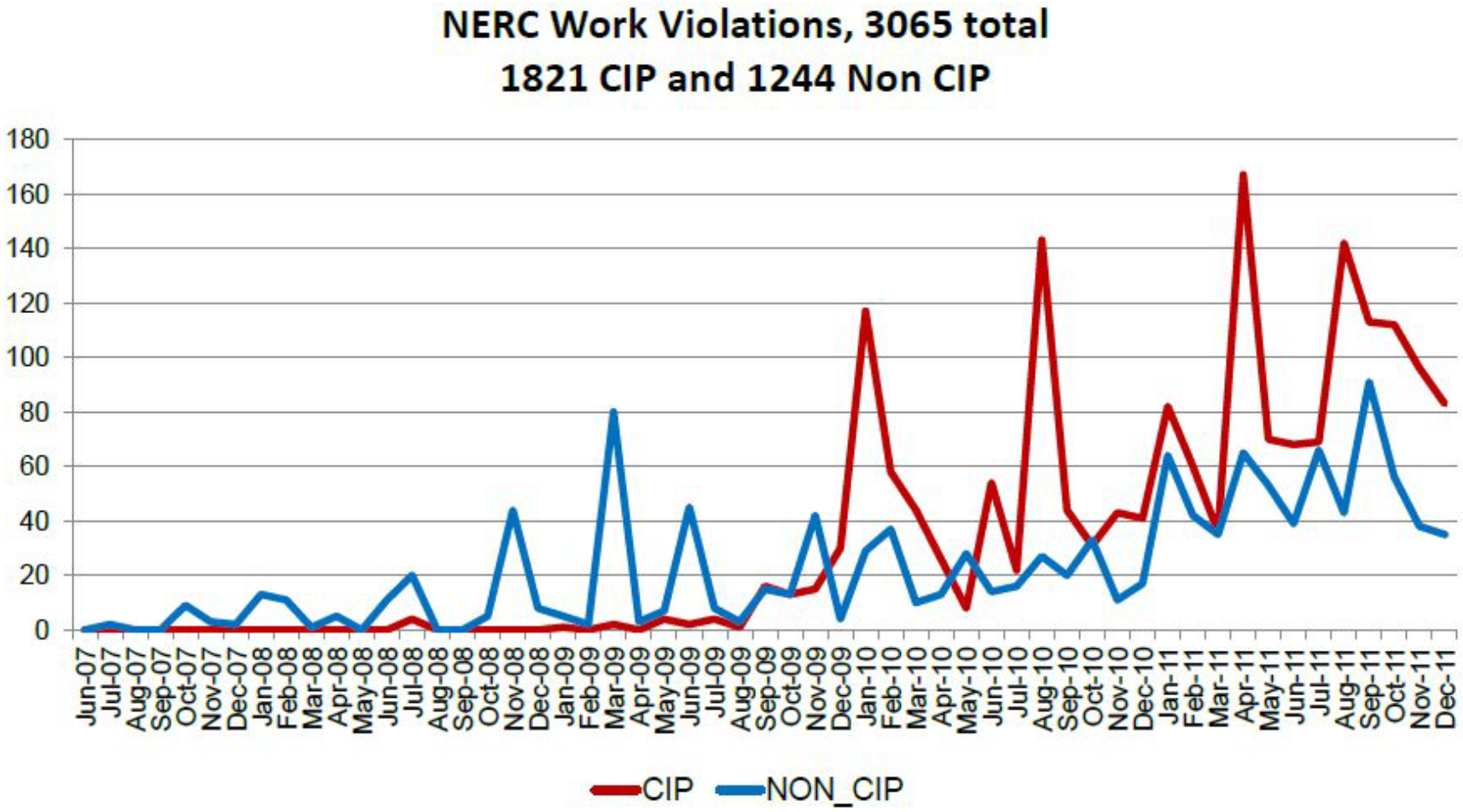


# Enforcement Methods

- Process methods Have evolved
  - Originally, all violations were processed as:
    - Notices of Confirmed Violations (NOCV)
    - Settlement Agreements
- Risk-based methodology
  - Compliance Enforcement Initiative (CEI) Phase I
    - Institution of FFT process
    - Determination made by Enforcement
  - CEI Phase II
    - Same basic process
    - Determination made by Auditors

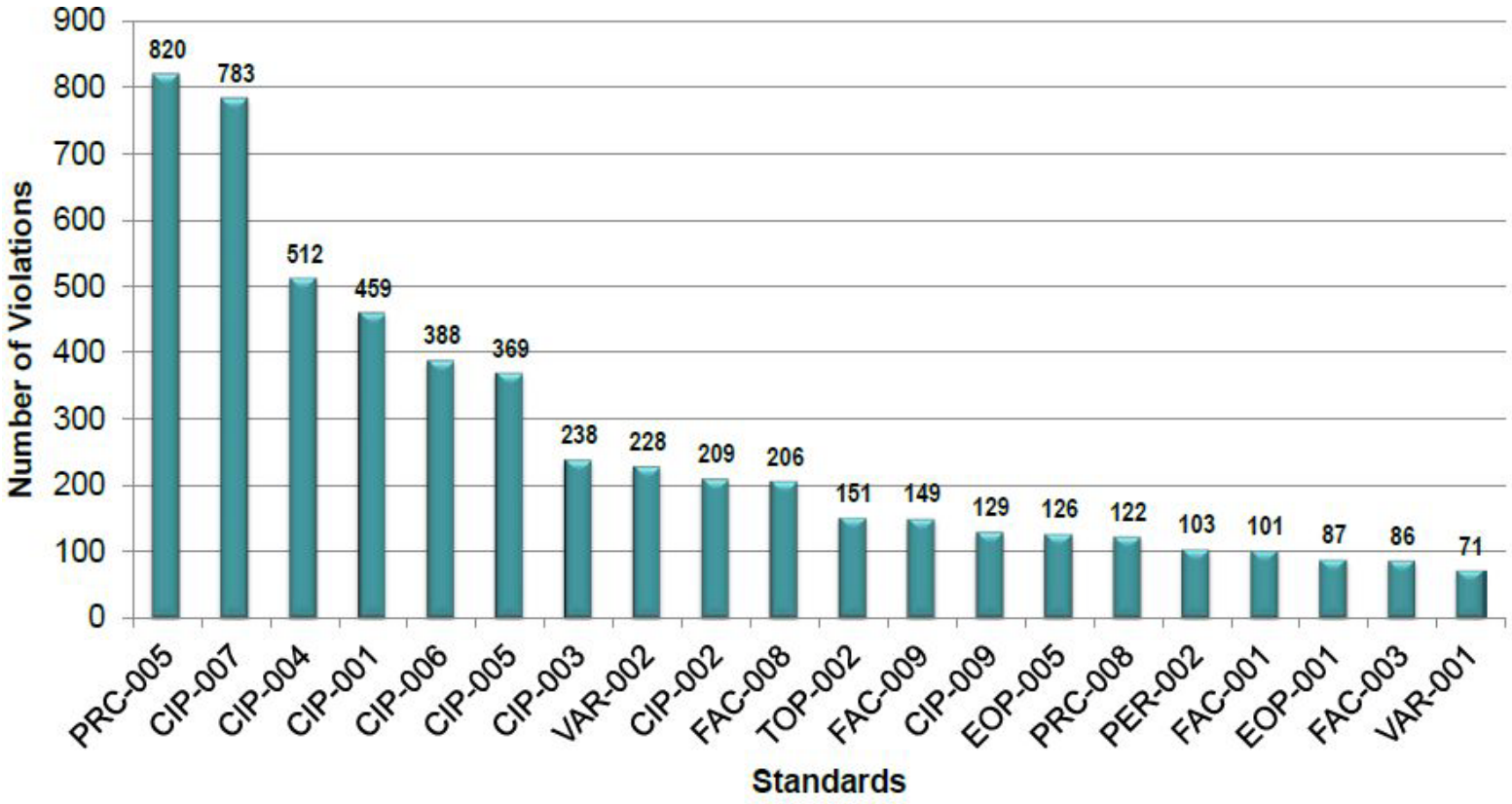
# Compliance Statistics

## Statistics from June 2007 – December 2011

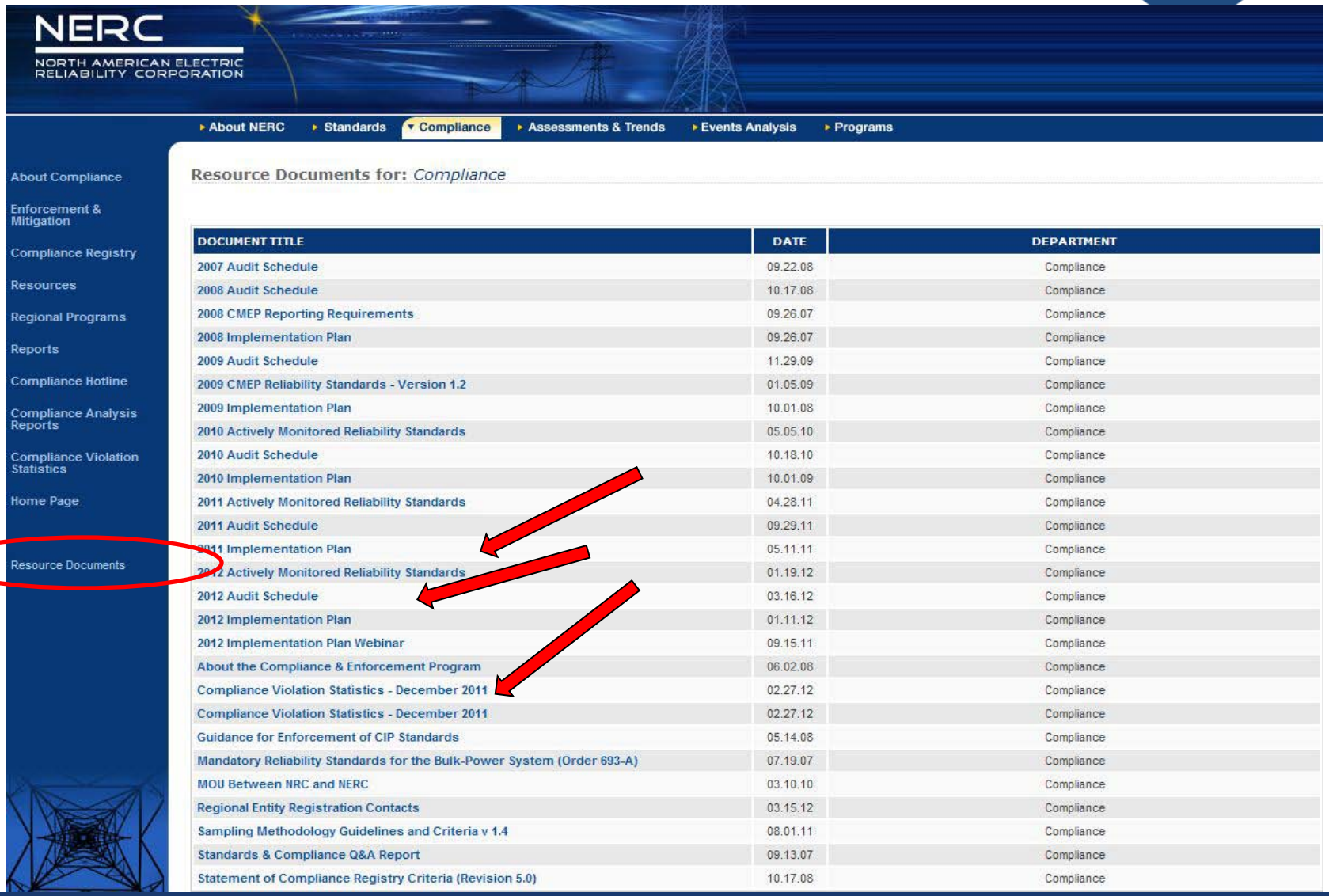


# Compliance Statistics

## Top 20 Enforceable Standards: Violated, Active and Closed Violations through 12/31/11



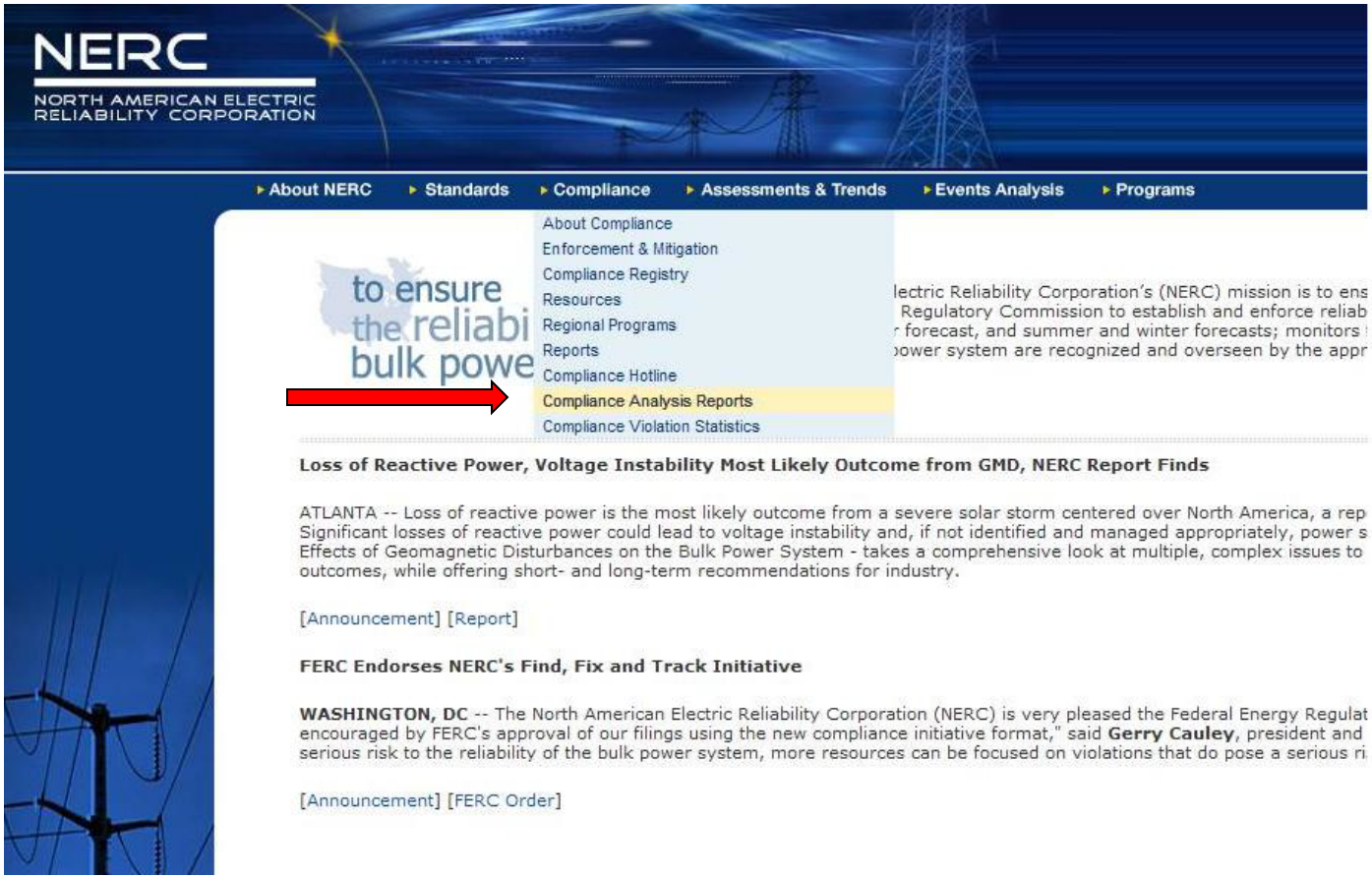
# Tools for Compliance Guidance




| DOCUMENT TITLE | DATE | DEPARTMENT |
|---|---|---|
| 2007 Audit Schedule | 09.22.08 | Compliance |
| 2008 Audit Schedule | 10.17.08 | Compliance |
| 2008 CMEP Reporting Requirements | 09.26.07 | Compliance |
| 2008 Implementation Plan | 09.26.07 | Compliance |
| 2009 Audit Schedule | 11.29.09 | Compliance |
| 2009 CMEP Reliability Standards - Version 1.2 | 01.05.09 | Compliance |
| 2009 Implementation Plan | 10.01.08 | Compliance |
| 2010 Actively Monitored Reliability Standards | 05.05.10 | Compliance |
| 2010 Audit Schedule | 10.18.10 | Compliance |
| 2010 Implementation Plan | 10.01.09 | Compliance |
| 2011 Actively Monitored Reliability Standards | 04.28.11 | Compliance |
| 2011 Audit Schedule | 09.29.11 | Compliance |
| 2011 Implementation Plan | 05.11.11 | Compliance |
| 2012 Actively Monitored Reliability Standards | 01.19.12 | Compliance |
| 2012 Audit Schedule | 03.16.12 | Compliance |
| 2012 Implementation Plan | 01.11.12 | Compliance |
| 2012 Implementation Plan Webinar | 09.15.11 | Compliance |
| About the Compliance & Enforcement Program | 06.02.08 | Compliance |
| Compliance Violation Statistics - December 2011 | 02.27.12 | Compliance |
| Compliance Violation Statistics - December 2011 | 02.27.12 | Compliance |
| Guidance for Enforcement of CIP Standards | 05.14.08 | Compliance |
| Mandatory Reliability Standards for the Bulk-Power System (Order 693-A) | 07.19.07 | Compliance |
| MOU Between NRC and NERC | 03.10.10 | Compliance |
| Regional Entity Registration Contacts | 03.15.12 | Compliance |
| Sampling Methodology Guidelines and Criteria v 1.4 | 08.01.11 | Compliance |
| Standards & Compliance Q&A Report | 09.13.07 | Compliance |
| Statement of Compliance Registry Criteria (Revision 5.0) | 10.17.08 | Compliance |

# Tools for Compliance Guidance

NERC.com → Compliance → CARs



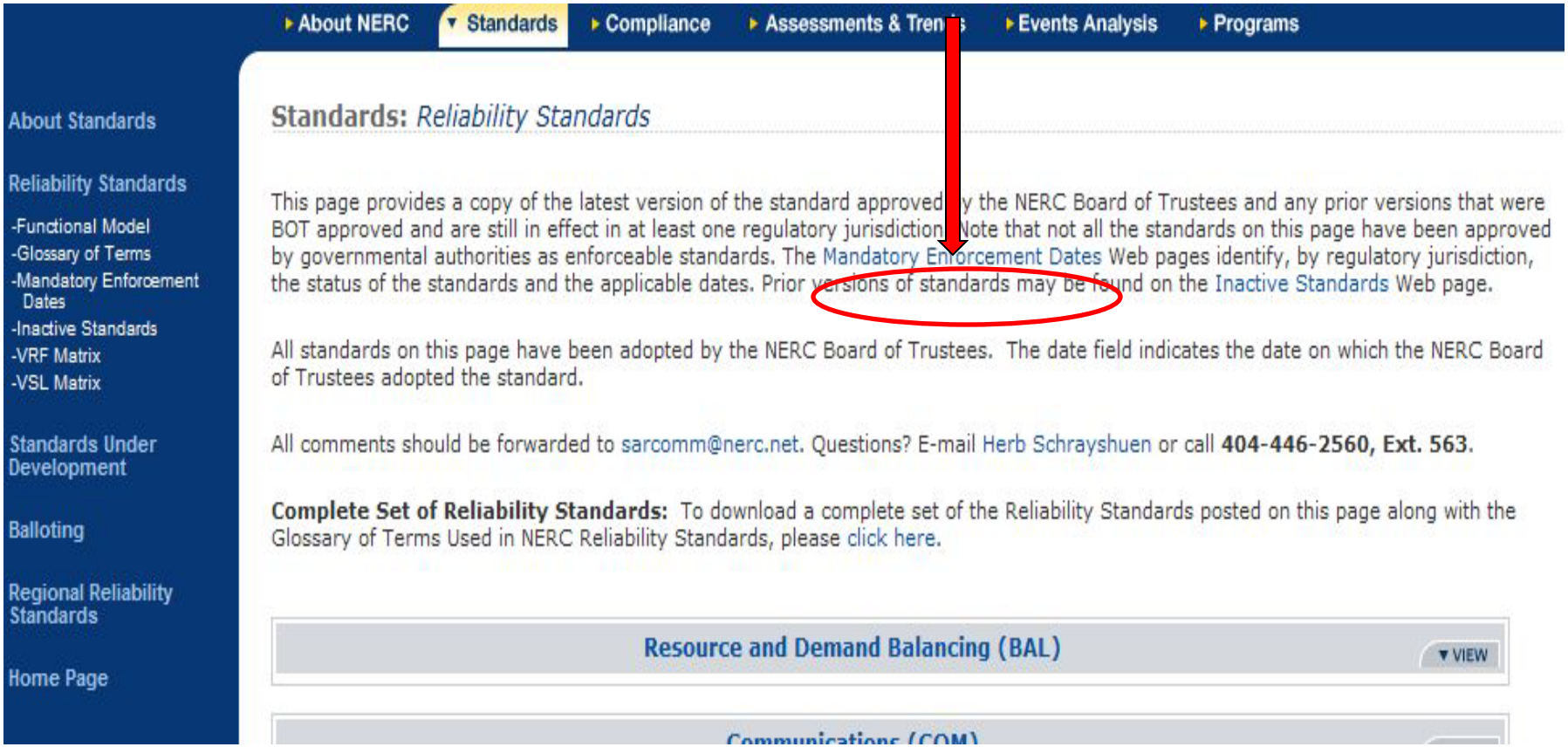
# Tools for Compliance Guidance

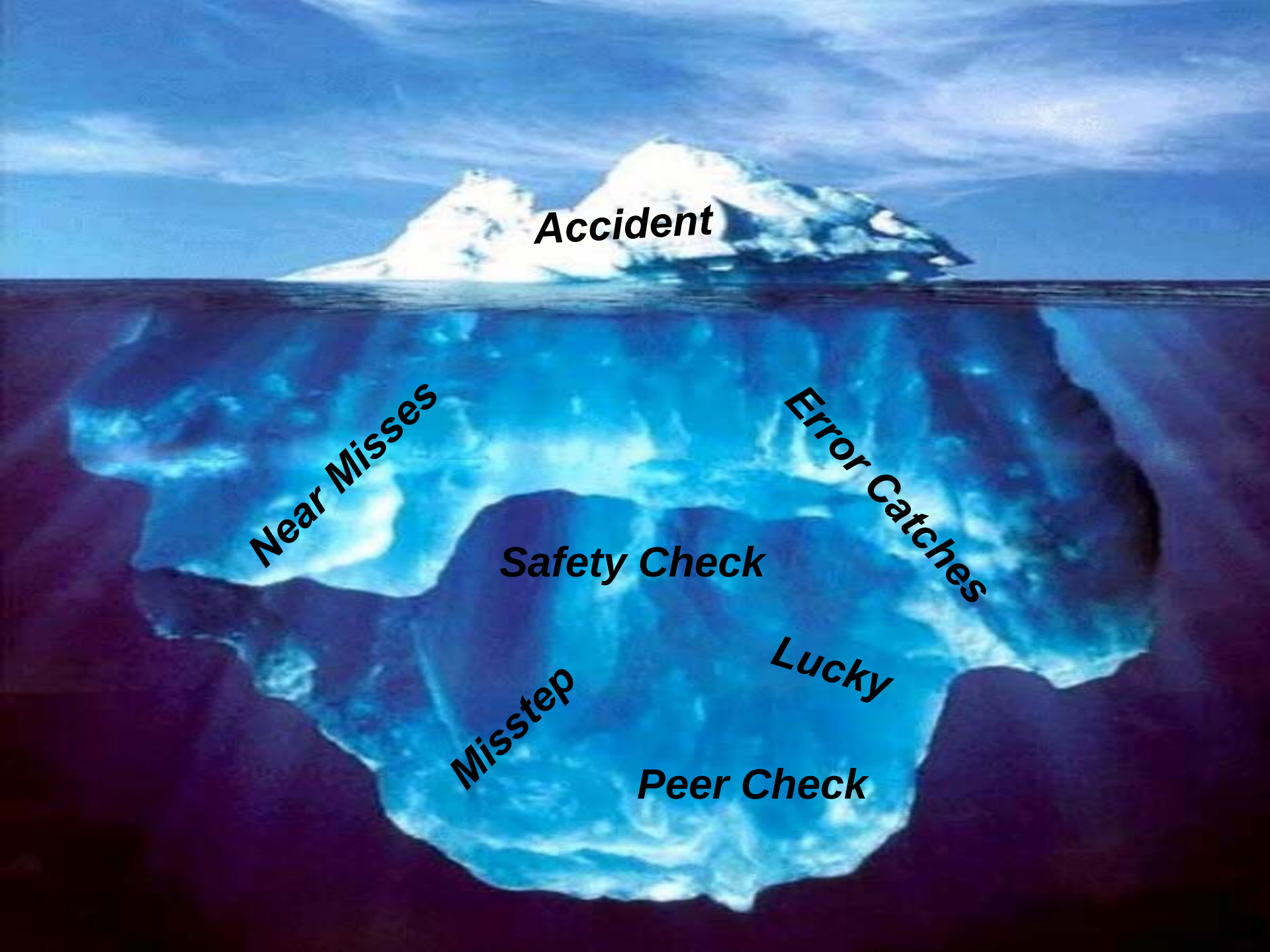
NERC.com → Compliance → Resources



# Tools for Compliance Guidance

NERC.com → Standards → Reliability Standards → Mandatory Enforcement Dates




Accident
Near Misses
Error Catches
Safety Check
Lucky
Misstep
Peer Check

# Event Analysis

- Event Analysis is not compliance mechanism
  - Event Analysis Process
  - *http://www.nerc.com/page.php?cid=5|365*
- Learning opportunities
  - Lessons Learned
  - Best Practices

# Event Analysis

## NERC.com → Event Analysis



# Questions?



**Caroline Clouse**

Compliance Specialist

(404) 446-2588

caroline.clouse@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Keynote Remarks

Standards and Compliance Workshop

Kenneth Peterson, NERC Board of Trustees

April 16, 2012

RELIABILITY | ACCOUNTABILITY






NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Risk-Based Compliance Monitoring:

## A Focus on Reliability and Emphasis on Internal Controls

Michael Moon, Director of Compliance Operations

April 16, 2012

RELIABILITY | ACCOUNTABILITY






# Agenda

- Purpose
- Background
- Compliance as a tool to support reliability
- What would success look like?
- Internal Controls
- Potential Rules of Procedure Changes

# Purpose

- To provide a comprehensive overview of the Risk-Based Compliance Monitoring Initiative and its components
- This supports corporate goals:
  - 11 – Educate Industry on effective compliance programs and effective reliability risk controls
  - 12 – Develop risk-based compliance monitoring approaches to maximize reliability benefits and improve efficiencies and to encourage effective internal controls at registered entities

# Background

- Industry and NERC Staff began discussion of risk-based compliance monitoring in 2010 with a goal of refining compliance efforts to support reliability efforts.
- Initial efforts included:
  - Greater analysis to support development of the Annual Implementation Plan and Actively Monitored List (AML)
  - Discussion of refined compliance monitoring concepts to include appropriately scoped audits and spot checks
  - White paper developed by Tom Burgess
  - NERC Compliance and Certification Committee (CCC) to refine issues and develop options

# What Would Success Look Like?

- Emphasis on reliability and less compliance bureaucracy
- Compliance programs designed to support reliability on a forward-looking basis with greater reliance on internal controls
- Industry monitors, finds, fixes and reports issues
- Allows ERO and Industry to focus resources on high-risk reliability issues
- Allow registered entities to deploy resources to improve reliability as opposed to managing compliance risk
- Effective use of ERO and industry resources

# Auditing Concepts

- As laid out in:
  - "Yellow Book" or Government Auditing Standards
  - Committee of Sponsoring Organizations (COSO) of the Treadway Commission Framework
  - Public Company Accounting Oversight Board (PCAOB)
    - GAAS regulates audit firms

# Auditing Concepts

- Key components
  - Planning/preparation
    - Entity assessments
    - Internal controls
  - Field Work
    - Reasonable assurance
    - Professional judgment
  - Reporting

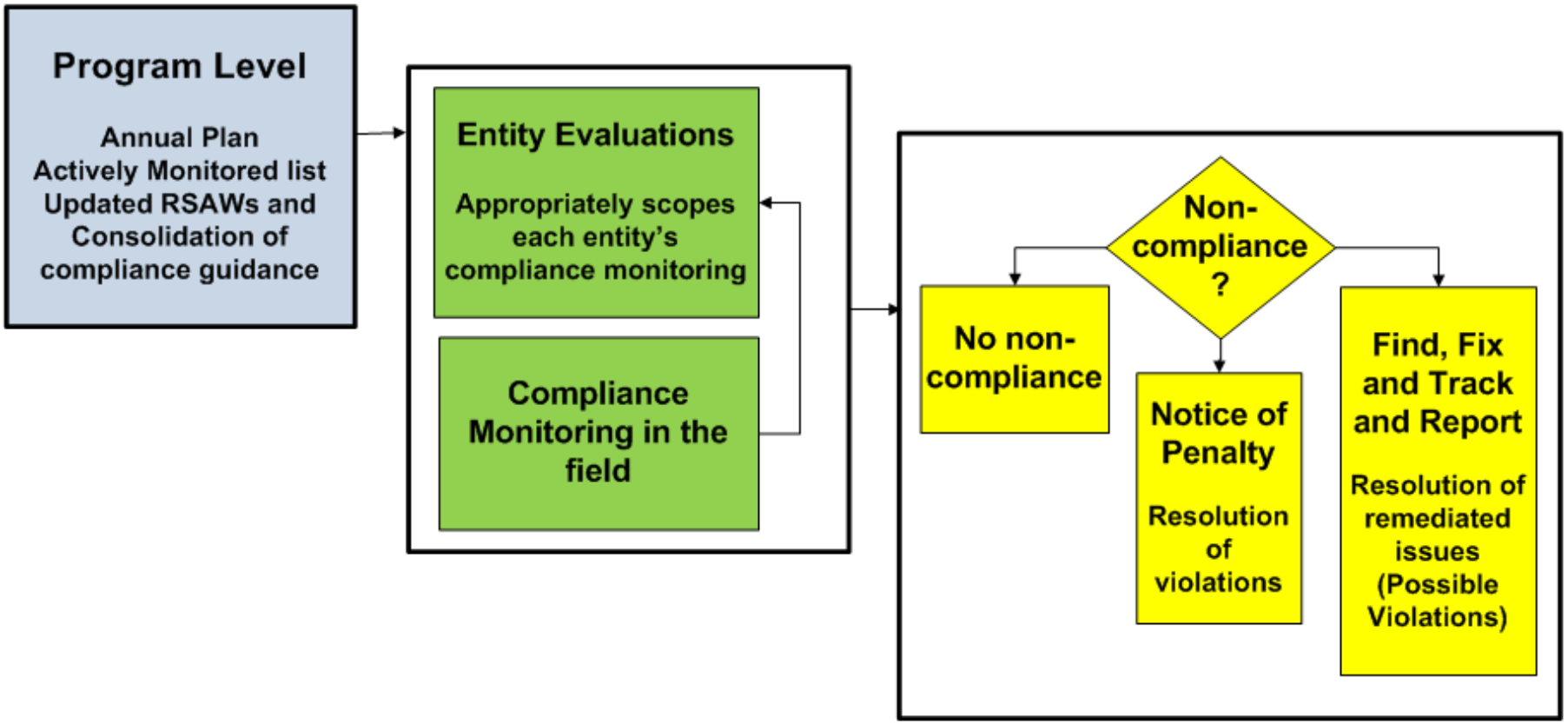
# Reasonable Assurance

- International Federation of Accountants (IFAC) / The International Auditing and Assurance Standards Board (IAASB)'s International Standards on Auditing #200, Introduction:
  - *Reasonable assurance is a high level of assurance. It is obtained when the auditor has obtained sufficient appropriate audit evidence to reduce audit risk… to an acceptably low level. However, reasonable assurance is not an absolute level of assurance, because there are inherent limitations of an audit which result in most of the audit evidence on which the auditor draws conclusions and bases the auditor's opinion being persuasive rather than conclusive.*

# Professional Judgment

- From GAGAS Section 6.03
  - *Objectives for performance audits range from narrow to broad and involve varying types and quality of evidence. In some engagements, sufficient, appropriate evidence is available, but in others, information may have limitations.* Professional judgment assists *auditors in determining the audit scope and methodology needed to address the audit objectives, and in evaluating whether sufficient, appropriate evidence has been obtained to address the audit objectives*

# Risk-Based Levels



# Consideration of Risk

- Program level
  - Annual Implementation Plan and Actively Monitored List
- Entity level
  - Entity assessment – (scope and frequency – planning)
  - Compliance monitoring – (confirm depth – conduct)
- Level of compliance (level of risk may determine what level)
  - Find, Fix, Track (FFT) remediated issues
  - Notice of Penalties (NOPs) – Full NOPs, spreadsheet NOPs

# Entity Assessment

- Two ongoing efforts to develop a generic template:
  - Broad-based project by NERC CCC with NERC and Regional Entity (RE) representatives
  - Focused effort by NERC Staff with RE and CCC representatives to discuss details with actual data
    - Four focus groups scheduled this month:
      - Balancing Authority/Reliability Coordinator
      - Transmission Owner/Operator
      - Generator Owner/Operator
      - Small Entity
- These two efforts will be merged to develop a template for industry review and comment mid-year

# Entity Assessment

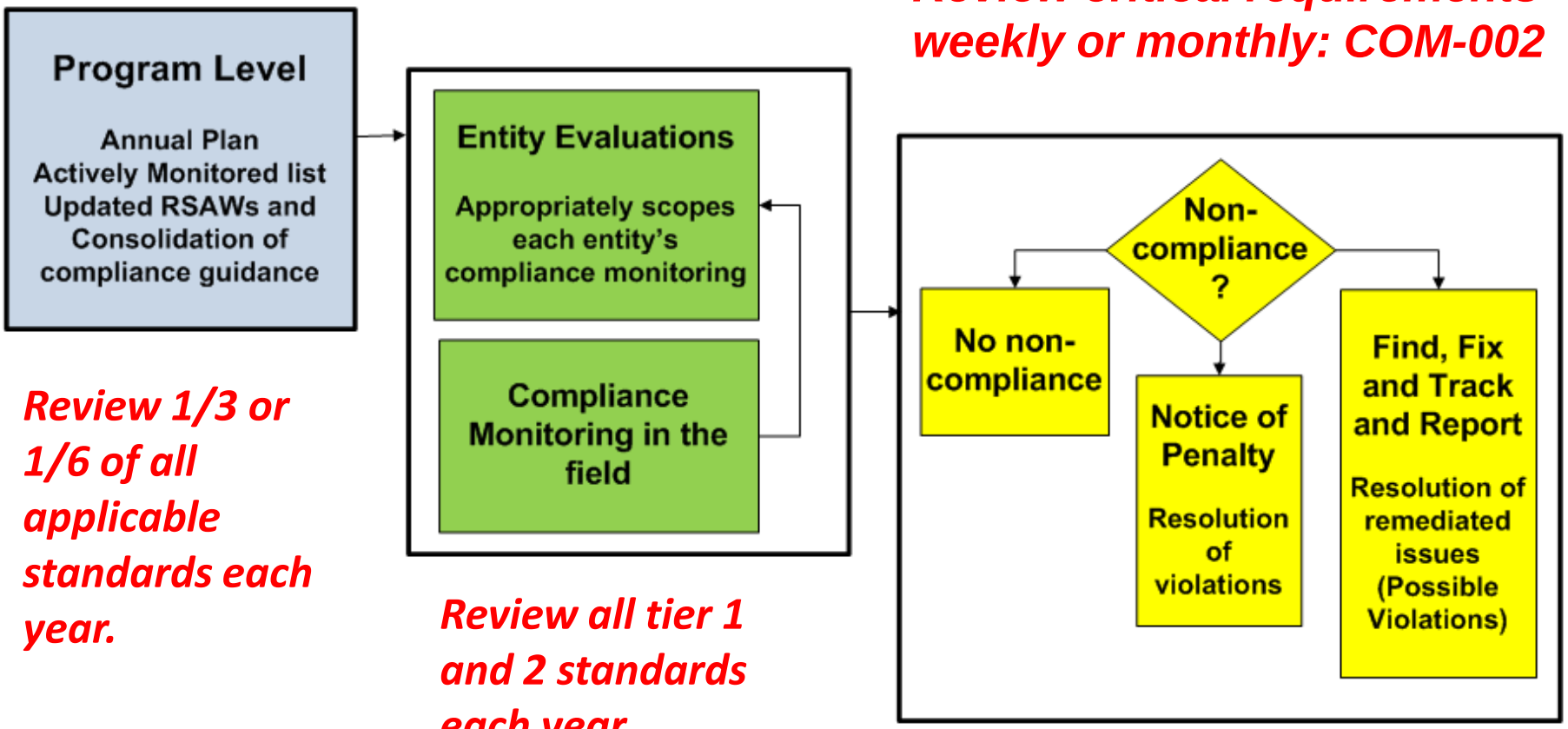
- Potential areas for the template:
  - Technical – size, functions
  - Reliability metrics
  - Internal controls and internal compliance program
  - Compliance history
  - Regional factors/considerations

# Internal Controls

- Different levels
- Purpose: provide a proactive, forward-looking method to focus on reliability
- An entity should have internal controls for their compliance program overall, and for priority standards, like COM-002

# Internal Controls

***Review critical requirements weekly or monthly: COM-002***




***Review 1/3 or 1/6 of all applicable standards each year.***

***Review all tier 1 and 2 standards each year, 10%/month.***

# Internal Controls: Program

- Balancing Authority (BA) audit period three years
  - Total applicable requirements: 410
    - Review in detail 1/3 (137) of all applicable requirements each year or upon approval of revised standard
  - Applicable requirements per 2012 Actively Monitored List (AML) Tier 1: 154
    - Review 10% (16) per month or upon approval of revised standard
  - Conduct assessment of new standard upon approval and establish controls prior to effective date (COM-003)

# Internal Controls: Standard

- Arizona Public Service Company
  - COM-002 R2 controls
  - Requirement:
    - R2. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall issue directives in a clear, concise, and definitive manner; shall ensure the recipient of the directive repeats the information back correctly; and shall acknowledge the response as correct or repeat the original statement to resolve any misunderstandings.
  - Preventative controls
  - Detective controls

# Internal Controls: Standard

- Arizona Public Service Company COM-002 R2 Controls
  - Preventative controls:
    - Accident Prevention Manual
    - Annual Directive Training (Energy Control Center (ECC) Operators)
    - RC Directive Format (ECC Document)
    - Guideline for Proper Communications (ECC Procedure)
    - Safety Stand Down Presentations (Fossil Plants)
    - Module in the “Conduct of Shift Operations & Maintenance Training” (Fossil Plants)
    - Fossil Plant training “3-Way Communication Human Performance Tool”
    - Three way communication signs in control rooms of fossil power plants

# Internal Controls: Standard

- Arizona Public Service Company COM-002 R2 Controls
  - Detective controls
    - Random monitoring of calls by ECC Supervisors
    - Supervisors on the floor in the ECC observations

# Internal Controls

- Not enforceable
- Address in Reliability Standard Audit Worksheets (RSAWs)
- Maximum flexibility for entities: show the auditors what the program is
- Find, Fix, Track and Report the problems
- Train auditors to assess properly, make recommendations and emphasize as a means for greater reliability benefit
- Less emphasis on auditors reviewing mountains of evidence

# How Do We Get There?

- Paradigm change
  - Focus on reliability
    - Shift from strict enforcement of standards to effective use of risk assessment strategy including entity internal controls
  - Empower registered entities
    - to be in control of their own compliance
  - A risk-based Approach
    - to focus attention, resources and actions on issues most important to bulk power system reliability

# How Do We Get There?

- Paradigm change
  - Encourage registered entities to take control of and improve their own compliance monitoring (registered entities working with Regional Entities to complete their own entity assessments)
  - Appropriately scoping compliance monitoring for each entity (based on entity risk assessment / entity impact evaluation)
  - Conduct appropriate level of due diligence during compliance monitoring (based on internal controls)
  - Assess and remediate issues using the FFT mechanism quickly and in the field so low risk issues do not detract from higher risk issues

# Rules of Procedure Changes

- Changes for consideration
  - Section 3.1.4.2 Period Covered; compliance audits, data retention and demonstration of compliance
  - Section 11 Compliance Audits of Bulk Power System Owners, Operators, and Users

# Rules of Procedure Changes

- Section 3.1.4.2 Period Covered
  - However, if a Reliability Standard specifies a document retention period that does not cover the entire period described above, the registered entity will not be found in noncompliance solely on the basis of the lack of specific information that has rightfully not been retained based on the retention period specified in the Reliability Standard. However, in such cases, the Compliance Enforcement Authority will require the registered entity to demonstrate compliance through other means

# Rules of Procedure Changes

- Section 11 Compliance Audits of Bulk Power System Owners, Operators and Users
  - 11.1 For an entity registered as a Balancing Authority, Reliability Coordinator, or Transmission Operator, the Compliance Audit will be performed at least once every three years

# Summary

- Use of Risk-Based Compliance Monitoring and emphasis on internal controls can provide an alternative that:
  - Is forward-looking
  - Encourages focus on reliability and associated risks

# Questions?



**Mike Moon**

Director of Compliance Operations

(404) 446-2567

michael.moon@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# The Compliance Enforcement Initiative and Enforcement Discretion

Ed Kichline
NERC Manager of Enforcement Processing

April 16, 2012

RELIABILITY | ACCOUNTABILITY






# CEI Order

- All six Find, Fix, and Track (FFT) filings submitted to FERC from September 2011 to February 2012 were approved in the March 15, 2012 Order
- Six-month and one-year status reports due to FERC
  - Six-month report due May 14, 2012
  - One-year report due in March 2013 – Commission will consider changes to the March 15 Order conditions
- A compliance filing also is due May 14, 2012 related to compliance history and further implementation

# Limited Conditions

- Conditions related to eligibility for FFT treatment
  - Prospectively, only Possible Violations that pose a minimal risk are eligible
  - If an FFT matter is not mitigated as certified, it will be treated as a continuing Possible Violation not eligible for FFT treatment

# Limited Conditions

- Conditions related to Documentation
  - A registered entity that receives FFT treatment must certify that mitigation is completed
- Condition related to Accountability and Deterrence
  - FFT informational filings must publicly identify the registered entity with a Possible Violation.
    - Exception for CIP violations remains

# Finality

- An FFT matter will be closed 60 days after the FFT informational filing is submitted to FERC
- FERC will not reopen it for review unless it provides notice that it will review a specific matter
- Within the 60-day window, FERC expects to exercise review infrequently and in limited and rare circumstances
  - Insufficient mitigation
  - Greater than minimal risk
  - Pattern of non-compliance

# Further Implementation

- NERC may extend FFT discretion to compliance monitoring
  - Training and qualification of personnel
  - Coordination and collaboration among regions
  - Consistency in application

# Guidance on Risk Assessment

- No adverse impact ≠ minimal risk
  - However, other factors may lead to minimal risk
- Do not base risk assessments on assumptions
  - Stick to the facts
- Programmatic shortcomings ≠ minimal risk

# Guidance on Risk Assessment

- Assess risk at the time of the possible violation
- Existing processes and contemporaneous actions can make actual risk < potential risk

# Importance of Self-Reports

- NERC's "Guidance for Self-Reports" available on its website
  - Provide complete information early in process
- FFT should promote better internal reviews and self-reporting
  - Percentage of self-identified violations should continue to grow
- Move compliance monitoring responsibilities and decisions on disposition to earlier points
  - Demonstrable cultures of compliance and internal controls

# Culture of Reliability Excellence

- Expectations for increased compliance as experience with mandatory Reliability Standards grows
- Likelihood of higher average penalties as minimal risk violations do not receive sanctions
- Serious treatment for violations that should have been self-identified
- The ERO and registered entities must continue to perform in order to exercise additional discretion

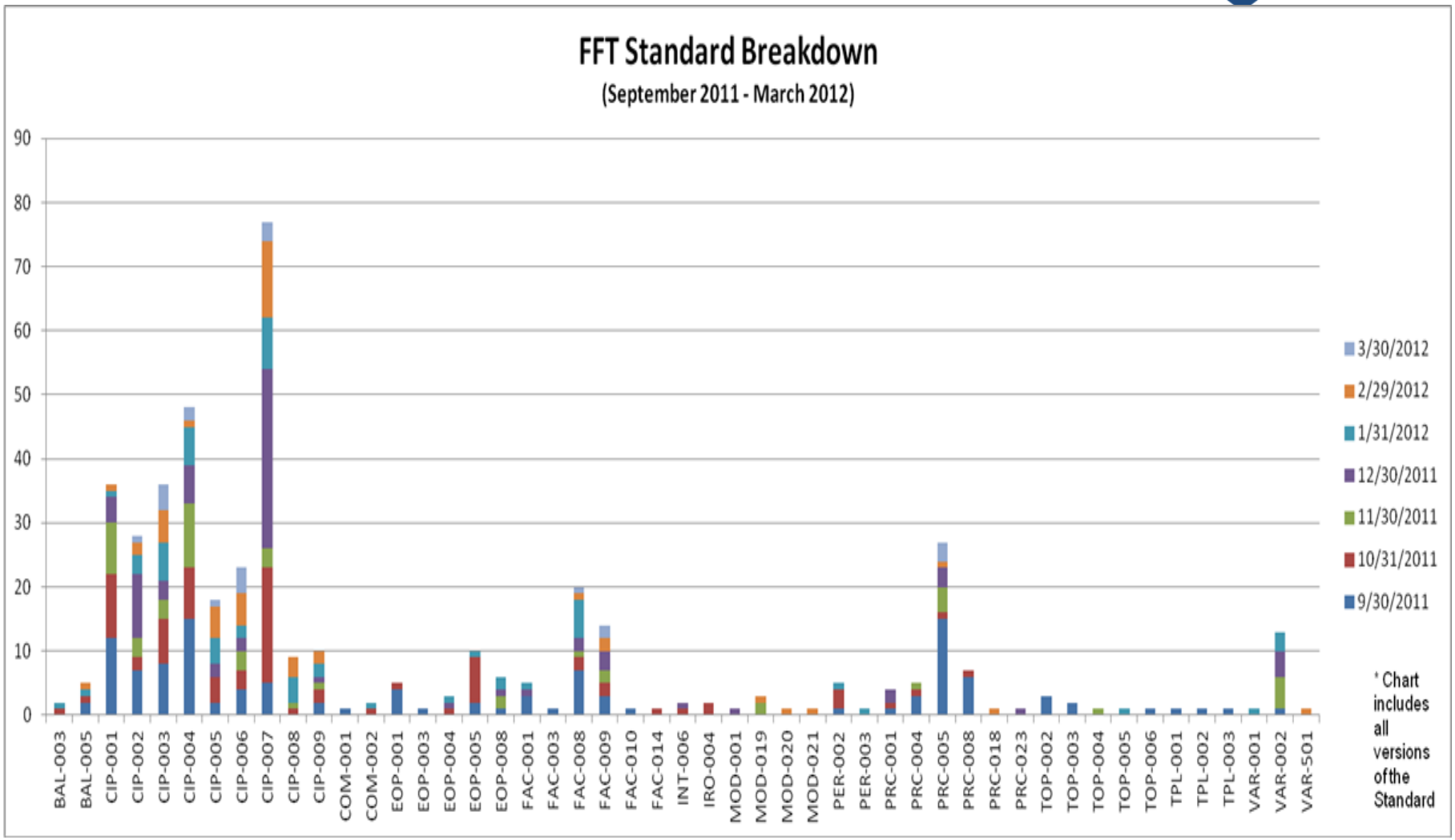
# FFT Accountability

- FERC and the ERO will randomly sample FFTs
- Certification of completion of mitigating activities
- Unmitigated issues become ineligible for FFT

# Review of Existing Requirements

- FFT may highlight requirements that do little to protect reliability
  - Removing requirements = greater compliance efficiency
- Identification of requirements for revision or removal
  - Concurrent submittals to FERC

# Data Trends


FFT Standard Breakdown
(September 2011 - March 2012)
90
80
70
60
50
40
30
20
10
0
BAL-003
BAL-005
CIP-001
CIP-002
CIP-003
CIP-004
CIP-005
CIP-006
CIP-007
CIP-008
CIP-009
COM-001
COM-002
EOP-001
EOP-003
EOP-004
EOP-005
EOP-008
FAC-001
FAC-003
FAC-008
FAC-009
FAC-010
FAC-014
INT-006
IRO-004
MOD-001
MOD-019
MOD-020
MOD-021
PER-002
PER-003
PRC-001
PRC-004
PRC-005
PRC-008
PRC-018
PRC-023
TOP-002
TOP-003
TOP-004
TOP-005
TOP-006
TPL-001
TPL-002
TPL-003
VAR-001
VAR-002
VAR-501
3/30/2012
2/29/2012
1/31/2012
12/30/2011
11/30/2011
10/31/2011
9/30/2011
* Chart includes all versions of the Standard

# FFT Examples: BAL-003-0.1b R3

## BAL-003

**Issue:** For six hours, the Automatic Generation Control was operated in Constant Frequency mode rather than Tie Line Bias mode; discovered through self-report.

**Risk:** The improper mode did not result in undue deviation in the system frequency, **which was being monitored by the entity's Energy Management System (EMS) operators**.

**Mitigation:** Revised procedures for displaying Area Control Error (ACE) and controlling ACE during Automatic Generation Control (AGC) switching.

# FFT Examples: CIP-001-1 R1

CIP-001

**Issue:** Emergency Response Plan did not explicitly provide for sabotage response guidelines; found at audit.

**Risk:** Informal procedures existed, and entity does not own any Bulk Electric System elements.

**Mitigation:** Updated current procedure and retrained all personnel.

# FFT Examples: CIP-004-1 R3

## CIP-004

**Issue:** Personnel Risk Assessment (PRAs) not completed within 30 days of granting access to Critical Cyber Assets; found at spot check.

**Risk:** Delays only ranged from one to five days; affected individuals were long-standing employees who had received background checks on hiring.

**Mitigation:** Entity completed the PRAs and addressed gaps in its PRA program.

# FFT Examples: CIP-006-1 R1

## CIP-006

**Issue:** Entity failed to include all Critical Assets located within an Electronic Security Perimeter (ESP) within the six-wall border of a Physical Security Perimeter (PSP); found at spot check

**Risk:** Multiple layers of physical security protected access to the PSP.

**Mitigation:** Entity secured the six-wall border of the PSP before conclusion of the spot check.

# FFT Examples: CIP-007-1 R3

## CIP-007

**Issue:** Entity did not have a patch management procedure in place and updates were not documented; discovered through self-report.

**Risk:** Patches *were* performed informally using an application to identify vulnerabilities in third-party applications.

**Mitigation:** Ticket tracking system put in place and documented; all devices and updates now tracked and documented.

# FFT Examples: PRC-005-1 R1

PRC-005

**Issue:** Entity could not provide basis for maintenance and testing intervals for Protection System devices; found at audit.

**Risk:** Entity did have intervals in the program, but only failed to document the basis; performed testing in accordance with the intervals.

**Mitigation:** Entity added the basis for its maintenance and testing intervals to its program.

# FFT Examples: PRC-001-1 R5

PRC-001

**Issue:** Substation tech disabled primary and backup relaying on a 345 kV line in the adjacent panel when drilling without notifying its TOP; discovered through self-report.

**Risk**: Relaying was disabled four minutes prior to notifying the registered TOP, but high-speed clearing of the fault still would have occurred because only a portion of the protection system was disabled. Moderate risk to Bulk Power System reliability.

**Mitigation:** Operating personnel were retrained on proper notification procedures.

# How to Spot an FFT

- Mostly self-identified issues
- Lesser risk to Bulk Electric System (BES) elements
- Informal/automatic procedures existed
- Very few devices excluded
- Operated within good utility practice
- Short duration/promptly corrected
- Backup protection/process in place
- Trusted/experienced employee
- No event occurred during violation period

# Summary

- Enforcement is evolving to focus resources on the highest-risk violations
  - Everyone benefits from more efficient disposition
- Registered entities can affect disposition of their possible violations based on their internal controls and the information they provide to the ERO
- Enforcement discretion can grow with the continued positive participation of registered entities, the ERO, and FERC

# Questions?



**Ed Kichline**

Manager of Enforcement Processing

(202) 400-3025

ed.kichline@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Standards Update

Andy Rodriquez
Director of Standards Development

April 16, 2012

RELIABILITY | ACCOUNTABILITY






# Overview

- Current Standards Projects
- Other Projects Planned for 2012
- New Standards Initiatives
- Challenges to Standards Development
- The Reliability Standards Development Plan

# Projects In Development

- 2006-06 Reliability Coordination
- 2007-02 Operating Personnel Communication Protocols
- 2007-03 Real-time Transmission Operations
- 2007-06 System Protection Coordination
- 2007-09 Generator Verification
- 2007-12 Frequency Response
- 2007-17 Protection System Maintenance and Testing

# Projects In Development

- 2008-06 Cyber Security Order 706
- 2009-01 Disturbance and Sabotage Reporting
- 2010-05.1 Phase 1 of Protection Systems: Misoperations
- 2010-07 Generator Requirements at the Transmission Interface
- 2010-14.1 Balancing Authority Reliability-based Controls: Reserves
- 2010-17 Definition of Bulk Electric System (BES) – Part 2

# Other Work Planned for 2012

- 2008-02 Undervoltage Load Shedding
- 2009-02 Real-time Reliability Monitoring and Analysis Capabilities
- 2009-03 Emergency Operations
- 2009-07 Reliability of Protection Systems
- 2010-01 Support Personnel Training
- 2010-05.2 Phase 2 of Protection Systems: Special Protection System (SPS) and Remedial Action Scheme (RAS)
- 2010-13.2 Phase 2 of Relay Loadability: Generation
- 2012-04 Protection System Commissioning Testing

# Rapid Development

- Piloted with 2010-05.1 Phase 1 of Protection Systems: Misoperations
- Leverages flexibility in current Standard Processes Manual
- Used results-based approach to ensure focused work efforts
- Lessons learned:
  - No change to the process needed
  - Must ensure appropriate representation
  - Must communicate expectations and goals

# Rapid Revision

- Piloted with 2011-INT-01 Interpretation of MOD-028 R3.1 for Florida Power & Light (FPL)
- Now being used with other interpretation requests, possibly other uses
- Leverages flexibility in current Standard Processes Manual
- Developing “quick fix” to standard in lieu of Interpretation

# Challenges

- Getting EVERYTHING done
  - NERC is working to improve its project management skills
  - We are also looking at ways we can improve how we work
  - Standards Process Input Group (SPIG)
- Implementing results-based standards
  - You don't have to be working on a "results-based standard" to implement results-based requirements
  - Just because you use a results-based template does not mean your standard is results-based

# Results-Based Standards

- Structure
  - Who (applicability)
  - Under what conditions (if any)
  - Shall perform what action (requirement)
  - To achieve what particular result or outcome that reduces a stated risk to the reliability of the bulk power system
  - Administrative (document something)
  - Commercial (business practice)
- Results-based Requirements
  - Performance-Based
  - Risk-Based
  - Competency-Based

# Needs, Goals, and Objectives

- Need
  - Answers “what is the problem we are trying to solve?”
- Goal
  - “The solution we have chosen to address the problem.”
- Objective
  - “The initiatives that are implemented to meet goals.”
  - How you know when you get there

- Need + Goal = Purpose
- Purpose for the standard answers “What we are doing and why we are doing it”

# Results-Based Standards

- Will Eliminate Requirements that Are:
  - Prescriptive ("how to")
  - Administrative (document something)
  - Commercial (business practice)
- Will NOT:
  - Reduce the number of requirements to a predetermined number of key reliability requirements
  - Reduce obligations for a reliable bulk power system
  - Water down standards to least common denominator
  - Reduce number of requirements for sake of reducing the number

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Reliability Standards Development Plan 2013-2015

RELIABILITY | ACCOUNTABILITY






# Reliability Standards Development Plan

## 310. Reliability Standards Annual Work Plan

NERC shall develop and provide an annual work plan for development of reliability standards to the applicable ERO governmental authorities. NERC shall consider the comments and priorities of the ERO governmental authorities in developing and updating the work plan. Each annual work plan shall include a progress report comparing results achieved to the prior year's plan.

# Prioritization

- Annual process, coordinated with Reliability Standards Development Plan (RSDP)
- Intra-year adjustments as necessary
- Projects are scored and ranked using a spreadsheet-based tool
- Rankings are reviewed, compared, and confirmed by the Standards Committee

# Prioritization

- Prioritization looks at several aspects
  - Reliability benefit
  - Cost considerations
  - Time sensitivity
  - Practicality

# Reliability Benefit

- Addresses an ERO strategic priority
- Addresses a reliability risk not covered by an existing standard
- Improves one or more existing standards
- Results in a score between zero and 250

# Cost Considerations

- Cost of Implementation
- Cost of Administration
- Results in a score between zero and 100

# Time Sensitivity

- Number of months to due date, if any
- Projects due in >five years treated as zero
- Results in a score between zero and 100

# Practicality

- Addresses compliance issues from NERC staff or stakeholders
- Addresses a failed Interpretation or Standard Drafting Team's inability to develop an Interpretation
- Other practicality concern
- Results in a score between zero and 150

# Total

| | | | |
|---|---|---|---|
| • Reliability | 0 | - | 250 |
| • Cost Considerations | 0 | - | 100 |
| • Time Sensitivity | 0 | - | 100 |
| • Practicality | 0 | - | 150 |
| • TOTAL | 0 | - | 600 |

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Prioritization Tool

# From Prioritization to RSDP

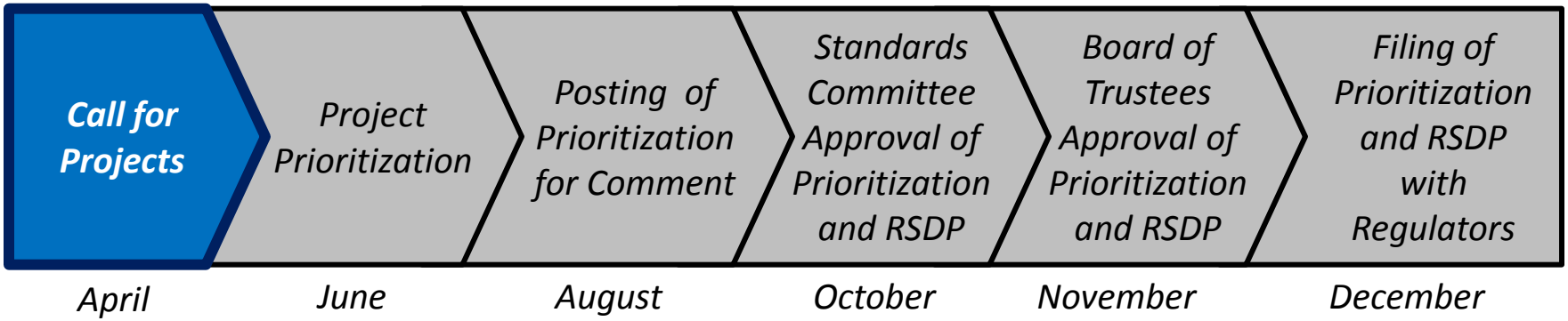
- NERC and the Standards Committee consider several other factors as it moves from the prioritization results to the plan:
  - Regulatory directives
  - Existing project commitments
  - The overall resource pool
  - Availability of specific expertise within the industry

# Plan Development

| ID | Task Name |
|---|---|
| 1 | **Reliability Projects: 8 Slots** |
| 2 | **Project 2008-06 Cyber Security - Order 706 (ACTIVE)** |
| 3 | **Project 2007-17 Protection System Maintenance & Testing (ACTIVE)** |
| 4 | **Project 2007-02 Operating Personnel Communications Protocols (ACTIVE)** |
| 5 | **Project 2007-06 System Protection Coordination (ACTIVE)** |
| 6 | **Project 2009-01 Disturbance and Sabotage Reporting (ACTIVE)** |
| 7 | **Project 2010-05.1 Phase 1 of Protection Systems: Misoperations (ACTIVE)** |
| 8 | **Project 2006-06 Reliability Coordination (ACTIVE)** |
| 9 | **Project 2007-09 Generator Verification (ACTIVE)** |
| 10 | ***Project 2012-04 Protection System Commissioning Testing*** |
| 11 | Standing Committee Research |
| 12 | Standards Development |
| 13 | **Project 2008-02 Undervoltage Load Shedding** |
| 14 | **Project 2010-05.2 Phase 2 of Protections Systems: SPS and RAS** |
| 15 | Standing Committee Research |
| 16 | Standards Development |
| 17 | **Project 2010-01 Support Personnel Training** |
| 18 | Standing Committee Research |
| 19 | Standards Development |
| 20 | **Project 2009-03 Emergency Operations (INFORMAL)** |
| 21 | **Project 2012-06 Generator Capabilities** |
| 22 | Standing Committee Research |
| 23 | Standards Development |
| 24 | **Project 2012-01 Equipment Monitoring and Diagnostic Devices** |
| 25 | Standing Committee Research |
| 26 | Standards Development |
| 27 | **Project 2009-07 Reliability of Protection Systems** |
| 28 | Standing Committee Research |
| 29 | Standards Development |
| 30 | **Project 2009-04 Phasor Measurements** |
| 31 | Standing Committee Research |
| 32 | Standards Development |
| 33 | **Project 2009-05 Resource Adequacy Assessments** |
| 34 | **Project 2010-16 Definition of System Operator** |
| 35 | **Project 2010-08 Functional Model Glossary Revisions** |
| 36 | **Project 2010-13.3 Phase 3 of Relay Loadability: Stable Power Swings** |
| 37 | Standing Committee Research |
| 38 | Standards Development |



# RSDP




*Call for potential projects for standards development issued **April 16***

*Deadline for submission – **May 11, 2012***

# Conclusion

- We have a lot of work ahead of us
- We cannot do it without you – *we are **all** part of the ERO*
- We need volunteers to:
  - Help us find important problems and fix them
  - Help us plan our work so we get the best value form the investment of our time and money
  - Help us deliver standards so we create clear, unambiguous requirements  that are enforceable and not confusing
  - Help us implement reliability so we continue to set an example for the rest of the world

# Questions?



**Andy Rodriquez**

Director of Standards Development

(404) 446-9741

andy.rodriquez@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Registration, Certification and Appeals

Jack Wiseman
Manager of Organization Registration and Certification

April 18, 2012

RELIABILITY | ACCOUNTABILITY






# Overview of Topics

- Registration Letters and New Changes
- Multi-Region Registered Entity Single Regional Entity, Compliance Enforcement Authority Lead
- Certification Team Training
- Certification Templates Available
- Pending Appeals
- Impact of New or Revised Standards on Registration and Certification

# Purpose

- To provide transparency in the workings of the registration and certification processes
- To provide information on how registration and certification programs are moving forward to support the risk-based approach to improved reliability

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Four Pillars for Success

- **Reliability** – to address events and identifiable risks, thereby improving the reliability of the bulk power system
- **Assurance** – to provide assurance to the public, industry, and government for the reliable performance of the bulk power system
- **Learning** – to promote learning and continuous improvement of operations and adapt to lessons learned for improvement of bulk power system reliability
- **A Risk-based Approach** – to focus attention, resources and actions on issues most important to bulk power system reliability

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Registration Letters and Changes

RELIABILITY | ACCOUNTABILITY






# Registration Letters

- Types of registration letters
  - New registrant
  - Change of name
  - Acquisition/transfer of assets
  - Function added or deleted
  - Registrant deactivation
  - Joint Registration Organization (JRO)
    - Application; add or delete a member; deactivation
  - Coordinated Functional Registration (CFR)
    - Application; add or delete a member; deactivation; change of responsibility (internal re-allocation or new standards)

# Where Can I Find the Templates?

- The full suite of letters is being reviewed by the Compliance Review Working Group (CRWG) and the Organization Registration and Certification Subcommittee (ORCS)
- The templates will be posted on NERC's website as soon as this review is complete

# Change to Old Template

- As a separate part of the NERC registration process and inclusion on the NERC Compliance Registry (NCR), please contact NERC via email at NERC.Alert@nerc.net to register or revise your listing for the NERC Alert System
- Alternately, you may call the NERC Alerts Hotline at 404.446.9797 to speak with someone. Each Registered Entity identified in the NCR is required to notify NERC of any corrections, revisions, deletions, changes in ownership, corporate structure, or similar matters that affect the registered entity's responsibilities with respect to the Reliability Standards

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Multi-Region Registered Entity

RELIABILITY | ACCOUNTABILITY






# Multi-Region Registered Entity Program

- Multi-Region Registered Entity Program (MRRE)
  - Introduced - put on hold due to logistical issues
  - Registered Entities have approached NERC with strong interest in re-instituting the program
- Advantages:
  - Deal with only one Compliance Enforcement Authority (CEA)
  - Audit program is coordinated
  - Contact is reduced to one
  - Caution:
    - Region Standards may apply and appropriate Region would participate but coordinated with lead CEA

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Certification Team Training

RELIABILITY | ACCOUNTABILITY






# Certification Team Training

- Added modules to audit team leader training and Electric Reliability Organization (ERO) workshops to include issues relative to certification teams

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Certification Templates

RELIABILITY | ACCOUNTABILITY






# Certification Templates



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Certification Templates

| | DOCUMENT | DOCUMENT | |
|---|---|---|---|
| 1 | ERO Certification Process Manual | 16 | Questionnaire BA |
| 2 | ERO Certification Process Manual Comment Form | 17 | Questionnaire TOP |
| 3 | Certification Application Form | 18 | Questionnaire Neighboring Entity |
| 4 | Certification Project Checklist | 19 | Certification Master Matrix |
| 5 | CT Leader Training Record | 20 | Certification Schedule |
| 6 | CT Member Training Record | 21 | On-site Agenda |
| 7 | ERO Conflict of Interest Form | 22 | Presentation - Opening |
| 8 | ERO Confidentially Agreement Form | 23 | Presentation Closing |
| 9 | CT Biography Sheet | 24 | On-site Attendance Sheet |
| 10 | CT Roster RC | 25 | Feedback Form - Entity |
| 11 | CT Roster BA | 26 | Feedback Form - CT Team Member |
| 12 | CT Roster TOP | 27 | Final Report Format |
| 13 | RE to entity for non-objection of CT Members | 28 | RE Recommendation Letter |
| 14 | Questionaire ICP | 29 | NERC Certification Certificate Letter |
| 15 | Questionnaire RC | 30 | Certification Certificate |
| 16 | Questionnaire BA | 31 | NERC Certification Approval Letter |

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Pending Appeals

RELIABILITY | ACCOUNTABILITY






# Pending Appeals

- Cedar Creek
- Milford Wind

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

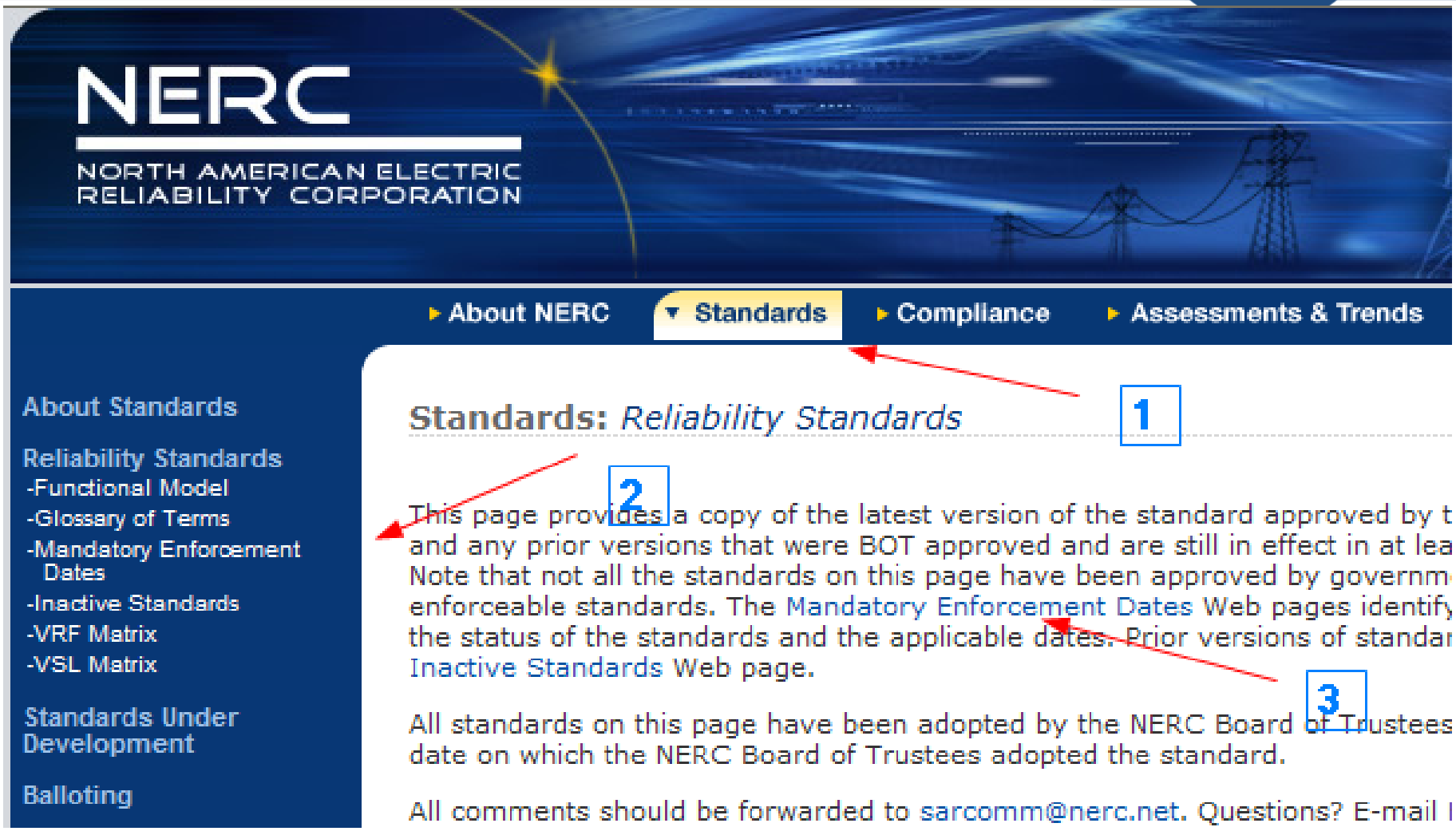
# Future Standards and their Impact on Registration and Certification

RELIABILITY | ACCOUNTABILITY






# Future Standards



# Future Standards




**Reliability Standards — Mandatory Enforcement Dates**

The reliability standards listed on the pages below can be downloaded from the Reliability Standards w

Currently, the legislative framework to make standards mandatory and enforceable exists through action of the regulatory authority in the United Sta
Alberta, British Columbia, Nova Scotia, and Quebec. Of these, only FERC has taken action to approve reliability standards as mandatory and enforcea
enforceable upon NERC board action in the Canadian provinces of Manitoba (Manitoba Hydro only), New Brunswick, Ontario, and Saskatchewan.

| Mandatory Enforcement Dates | |
|---|---|
| Alberta | Nova Scotia |
| British Columbia | Ontario |
| Manitoba | Québec |
| New Brunswick | Saskatchewan |
| Newfoundland | United States |

**All comments should be forwarded to sarcomm@nerc.net.**

# Future Standards




## Standards Subject to Future Enforcement

Section 215 of the Federal Power Act requires the Electric Reliability Organization (ERO) to develop mandatory and enforceable reliability standards, which are subject to Commission review and approval. Commission-approved reliability standards become mandatory and enforceable in the U.S. on a date established in the Orders approving the standards.

**Enforcement Date:** the date on which the standard becomes mandatory and enforceable in accordance with the existing laws of the jurisdiction and the approval granted by the regulatory authority.

**Detail:** when a standard has requirements with different enforcement/inactive dates, a 'Detail' link will be shown in this column that links to a pop-up which shows the specific enforcement and inactive dates for each of the requirements of that standard.

| United States<br>Standards Subject to Future Enforcement | | | | |
|---|---|---|---|---|
| Standard Number | Title | Enforcement Date | Detail | Notes |

# Future Standards

| United States<br>Standards Subject to Future Enforcement | | |
|---|---|---|
| **Standard Number** | **Title** | **Enforcement Date** |
| **Resource and Demand Balancing (BAL)** | | |
| BAL-002-1 | Disturbance Control Performance | 4/1/2012 |
| **Emergency Preparedness and Operations (EOP)** | | |
| EOP-001-2b | Emergency Operations Planning | 7/1/2013 |
| EOP-005-2 | System Restoration from Blackstart Resources | 7/1/2013 |
| EOP-006-2 | System Restoration Coordination | 7/1/2013 |
| EOP-008-1 | Loss of Control Center Functionality | 7/1/2013 |
| **Facilities Design, Connections, and Maintenance (FAC )** | | |
| FAC-008-3 | Facility Ratings | 1/1/2013 |
| FAC-013-2 | Assessment of Transfer Capability for the Near-Term Transmission Planning Horizon | 4/1/2013 |
| **Personnel Performance, Training, and Qualifications (PER )** | | |
| PER-003-1 | Operating Personnel Credentials | 10/1/2012 |
| **Protection and Control (PRC)** | | |
| PRC-004-2a | Analysis and Mitigation of Transmission and Generation Protection System Misoperations | 4/1/2012 |
| PRC-005-1b | Transmission and Generation Protection System Maintenance and Testing | 3/14/2012 |

# Changes in 2012 and 2013

- 2012 Reliability Standards Changes
  - PRC-004-2a Analysis and Mitigation of Transmission and Generation Protection System Misoperations
  - BAL-002-1 Disturbance Control Performance
  - PER-003-01 Operating Personnel Credentials
- 2013 Reliability Standards Changes
  - FAC-008-3 Facility Ratings
  - FAC-013-2 Assessment of Transfer Capability for the Near-term Transmission Planning Horizon
  - EOP-001-2 Emergency Operations Planning
  - EOP-005-2 System Restoration from Blackstart Resources
  - EOP-006-2 System Restoration Coordination
  - EOP-008-1 Loss of Control Center Functionality

# BAL-002-1

## Effective in the U.S. on April 1, 2012

- Eliminated a provision from requirements R4.2 and R6.2, which allowed the Operating Committee (OC) to modify the disturbance recovery period
- Any change to the disturbance recovery period will need to be done through the NERC standards development process

# PER-003-1

## Effective in the U.S. October 1, 2012

- Version 1 contains specific requirements for each Reliability Coordinator (R1), Transmission Operator (R2), and Balancing Authority (R3)
- Applicable registered entities shall use NERC-certified operating personnel unless:
  - Non-certified personnel are under direct supervision of a NERC Certified System Operator stationed at that operating position
- Each requirement lists competency areas and specific certificates acceptable to demonstrate competency

# FAC-013-2
## Effective in the U.S. April 1, 2013

- Previous versions (FAC-012-1, FAC-013-1) did not contain much detail
- The Reliability Coordinator shall:
  - Have a transfer capability methodology that meets a set of criteria
  - Share it with others and respond to their feedback
  - Use it and share the results
- New version merges the two standards
  - Assigns responsibility ONLY to the planning authority

# PER-005-1
## R1, R2 Effective in the U.S. April 1, 2013

- This is a new standard
- Requires systematic approach to training, task capability verification, and emergency ops training hours
- "Systematic approach" process defined by entity and used to produce company - specific operator task lists and associated training programs
- Part of R3 (required 32 hours of emergency ops training) already effective as of April 1, 2011
- R3.1 (required use of simulation technology) effective in the U.S. on April 1, 2014

# PER-005-1
## Effective in the U.S. April 1, 2013

- M1. evidence of using a systematic approach to training to establish and implement a training program
  - M1.1 company-specific reliability-related task list
  - M1.2 learning objectives and training materials
  - M1.3 training records showing the names of the people trained, the title of the training delivered and the dates of delivery
  - M1.4 annual training program evaluation (such as instructor observations, trainee feedback, supervisor feedback, course evaluations, learning assessments, or internal audit results)

# PER-005-1
## Effective in the U.S. April 1, 2013

- M2. training records showing completion of tasks
- M3. training records that show that each system operator has 32 hours of emergency operations training
  - M3.1 training records that each system operator received emergency operations training using simulation technology

# EOP-001-2, EOP-005-2, and EOP-006-2
## Effective in the U.S. July 1, 2013

- Significant rewrite of several EOP standards
- EOP-001-2 requirement R2.4 (to have plans for system restoration) was deleted, as EOP-005-2 and EOP-006-2 now replace it
- EOP-005-2 merges requirements of EOP-007-0 and EOP-009-0
  - Requirement to have a plan for restoration using Blackstart Resources
  - Required testing of Blackstart Resources
  - Required documentation of those tests

# EOP-005-2

## Effective in the U.S. on July 1, 2013

- Restoration plan must be approved by the reliability coordinator
- Must include specific processes for reconnection and bringing on key load facilities
- Plans must be in primary and back-up sites
- Agreements with and responsibilities of Generator Operators (GOs)
- Emphasis on training, simulation, drills, and exercises

# EOP-006-2
# Effective in the U.S. on July 1, 2013

- Restoration plan requires more detail – including strategies, coordination details, criteria for reconnecting, and information sharing
- Share plan with neighbors
- Mandatory self-review every 13 months
- Additional obligation to review neighbors' plans
- Plans must be in primary and back-up sites
- Emphasis on training, simulation, drills, and exercises

# EOP-008-1

## Effective in the U.S. on July 1, 2013

- EOP-008-0 required a detailed contingency plan in the event a primary control center becomes inoperable
- EOP-008-1 is more specific:
  - How to implement the back-up plans
  - A description of key elements needed to support the back-up plan
  - Processes for keeping the back-up functionality consistent with the primary control center
  - Rules about how to decide (and who decides) when to move to back-up operations
  - How long the transition period from primary to back-up is, and what should be occurring during that time
  - What parties are to be notified of the transition
  - Specific roles and responsibilities during the transition

# EOP-008-1

## Effective in the US on July 1, 2013

- New version requires significantly more in the plan as well:
  - How to implement the back-up plans
  - A description of key elements needed to support the back-up plan
  - Processes for keeping the back-up functionality consistent with the primary
  - Rules about how to decide (and who decides) when to move to back-up operations
  - How long the transition period from primary to back-up is, and what should be occurring during that time
  - Who to notify of the transition
  - Specific roles and responsibilities during the transition

# EOP-008-1

## Effective in the US on July 1, 2013

- Other significant changes:
  - Requires an ongoing, annual approval of the plan, and an approval if the plan is changed intra-year
  - Requires a back-up site and back-up capabilities sufficient to maintain compliance with the reliability standards
  - Explicitly requires no dependencies between sites for maintaining compliance with the Reliability Standards
  - Moves annual testing out of the plan and into an explicit requirement
  - Requires a plan to recover fault tolerance when either the primary or back-up site is lost for an extended period of time
  - Requires entities have copies of the plan in their primary and back-up sites

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# New Approach to Certification

RELIABILITY | ACCOUNTABILITY






# New Approach Using Auditing Principles

- Added a credentialed auditor to the Registration and Certification staff
- The intent is to review all of the ERO processes relative to Registration and Certification to assure FERC, NERC and you that we're doing what we are both obligated to do and what we need to be doing to continue to improve the reliability of the bulk power system

# Conclusion

- A lot of changes ahead
- NERC is continually working to improve our processes so they are transparent, clear and unambiguous
- We want - no, we **need** YOU!
  - To help us learn where the issues are
  - To tell us what is and is not working
  - To help us all maintain reliability and keep the lights on

# Questions?



**Jack Wiseman**

Manager of Registration and Certification

(404) 446-9721

jack.wiseman@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Systematic Approaches to Training and Other Training Opportunities

Pete Knoetgen
Director of Training

April 18, 2012

RELIABILITY | ACCOUNTABILITY






# Agenda

- What does Systematic Approaches to Training (SAT) mean?
- How can we use SAT?
- Where are we now?
- Next steps
- Other training opportunities

# Objectives

By the end of our session together, you will be able to:

- Describe the background and benefits of SAT
- Discuss the essential elements of SAT
- Identify SAT training outputs
- Discuss training opportunities for 2012

# Background and Benefits

- Systematic approach to training
  - Also known as Instructional System Design (or development), Training System Development, ADDIE (refers to Analysis, Design, Development, Implementation, Evaluation), and others
  - Focus is on performance (actions) rather than general education
- Appropriate when
  - Poor performance is costly, has undesirable consequences
  - Performance needs to be consistent, reliable
  - Training needs to be efficient, effective, timely
  - Complex systems are involved
  - People are involved

# What is SAT?

- ***S***ystematic ***A***pproach to ***T***raining
  - Planned, documented, repeatable
  - Method or process
  - Providing instruction that achieves desired levels of performance
- Used for *performance-based* training
  - Focused on what the performer needs to *do*
    - *Knowledge, skills and attitudes needed to perform a task or to meet a desired outcome*
  - Provides a plan or roadmap that describes the training process from start to finish

# What is SAT?

A training process that typically includes activities to:

- Identify what training should be provided
- Design and develop the training with learning objectives and appropriate content
- Conduct training as designed
- Ensure that trainees master the learning objectives before they begin working in their assigned positions
- Evaluate training effectiveness and use the results to improve training

# Common Elements - *ADDIE*

- **Analysis** – Identifying training/performance requirements; the major output of the analysis phases are task lists
- **Design** – Provides a "blueprint" for developing training; outputs are learning objectives and test items
- **Development** – Incorporates the results of design activities; the outputs are completed lesson plans and training aids
- **Implementation** – Conducting the training, including testing knowledge and skills; the output is trained personnel
- **Evaluation** – Periodic review of training materials and feedback on the effectiveness of training; the outputs are decisions to improve the training program

# PER Reliability Standards

- Strengthen the quality of operator training for the reliability of the Bulk Electric System (BES)
- PER-005-1 Purpose
  - To ensure that System Operators performing real-time, reliability-related tasks on the North American BES are competent to perform those reliability-related tasks. The competency of System Operators is critical to the reliability of the North American BES.

# FERC Order 742

- A systematic approach to training is a widely-accepted methodology that ensures training is efficiently and effectively conducted and is directly related to the needs of the position in question. To achieve training results, the objectives of a systematic approach to training include:
  - Management and administration of training and qualification programs
  - Development and qualification of training staff
  - Trainee entry level requirements
  - Determination of training program content
  - Design and development of training programs
  - Conduct of training
  - Trainee examinations and evaluations
  - Training program evaluation

# PER-005 and ADDIE

…**use a** systematic approach to training to establish and implement a training program for the BES company-specific reliability-related tasks performed by its System Operators

# PER-005 and ADDIE

**A** Create a list of BES company-specific reliability-related tasks

**D** Design learning objectives

**D** Develop training materials based on the task list

**I** Deliver the training; verify operator's capabilities to perform each assigned task

**E** Conduct an annual evaluation of the training program to identify changes to the training program

# What should you be doing?

- Is *your* SAT established?
- Is there a plan to implement SAT?
- Are your operations and training staffs working through ADDIE together?

# Next Steps

- PER-005 Reliability Standard Audit Worksheet (RSAW) development
- SAT/PER training opportunities
- Work through ADDIE
- PER-005 R1 and R2 implementation April 2013

# References for SAT

- Department of Energy training standards http://www.hss.doe.gov/nuclearsafety/techstds/standard.html
  - Training Program Handbook: A Systematic Approach to Training DOE-HDBK-1078-94
  - Alternative Systematic Approaches to Training DOE-HDBK-1074-95
  - Table-Top Job Analysis DOE-HDBK-1076-94
  - Table-Top Needs Analysis DOE-HDBK-1103-96
  - Table-Top Training Program Design DOE-HDBK-1086-95
  - Developing Learning Objectives DOE-HDBK-1200-97
  - Design, Development, and Implementation of Examinations DOE-HDBK-1205-97
  - Evaluation Instrument Examples DOE-HDBK-1201-97

# References for SAT

- American Society for Training & Development www.astd.org – *Instructional Systems Development*
- Robert Mager - *Preparing Instructional Objectives, Analyzing Performance Problems (with Peter Pipe), Developing Vocational Instruction, What Every Manager Should Know About Training*, and others
- Donald Kirkpatrick – *Evaluating Training Programs*
- US Air Force *Air University Library* http://www.au.af.mil/au/awc/awcgate/awcethry.htm
- NERC – *Guide to Writing Learning Objectives* http://www.nerc.com/files/Instructional_guide_writing_Objectives.pdf

# A Quiz!

- Some questions to check on our objectives

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Other Training Opportunities

RELIABILITY | ACCOUNTABILITY






# Standards Application Guides

- Develop technical references or application guides for reliability standards to promote clarity and facilitate implementation
- Priorities based on risk and need for additional information

# Format

- Purpose of Standard
- Key Changes
- Clarification
- Requirements
- Data Retention

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Preparing for EOP-008-1

RELIABILITY | ACCOUNTABILITY






# EOP-008-1 Introduction

- EOP-008-1—Loss of Control Center Functionality is an update of EOP-008-0 to provide more clarity and to capture prior recommendations
- Responsible entities will need to prepare for the new requirements of EOP-008-1
- EOP-008-1 becomes enforceable on July 1, 2013
- This presentation will highlight areas where entities have been found noncompliant with similar existing requirements as a caution

# EOP-008-1 Key Changes

- Reliability Coordinator (RC) must have a fully redundant **independent backup control center** facility capable of operating for a prolonged period of time
- Balancing Authority (BA) and Transmission Operator (TOP) must have **backup functionality** through standing contracts in place to provide for these services or using backup equipment within a separate existing facility

# EOP-008-1 Data Retention

- Each RC, BA and TOP shall retain data to show:
  - Dated evidence for current year
  - One previous year dated records
  - Any Operating Plan for backup functionality
  - Testing of the Operating Plan for backup functionality
  - Evidence of enforcement since last audit
  - Primary and backup are not dependent upon each other
  - Loss of functionality lasting for more than six calendar months
  - Current in force documentation since last audit
  - Plan submitted to Regional Entity within six calendar months

# Cause Analysis Training

- Purpose – To provide an introduction to the fundamentals of systematic event causal analysis using various techniques as described in the NERC "*Cause Analysis Methods for NERC, Regional Entities and Registered Entities.*"
- Schedule – March (completed); 3Q and 4Q – TBD
- Topics covered
  - Terminology
  - Cause analysis methodologies
  - Principles of human performance (HP)
  - Selecting appropriate methods to analyze an event

# Auditor Seminar for Industry

- In conjunction with ERO auditors' workshop
- Next industry seminar September 21, 2012 in Atlanta
- Topics covered – February 2012
  - Compliance audit process
  - Audit methods and techniques
  - Successful audits
  - Standards, Compliance Application Notices (CANs)
- More than 200 industry participants
- Positive feedback

# Compliance Enforcement Initiative (CEI)

- Webinar series
  - Status of Find, Fix, Track (FFT) process
  - Quality self-reporting
  - FFT examples from filings
  - Summary of trends by standard
  - Latest filings
- Continue periodically, watch for announcements

# Human Performance

- March 2011 Workshop
  - *Improving HP and increasing reliability*
  - More than 170 attendees
  - Presenters from industry, government, academia, consulting
- Webinar in Fall
- Topics
  - HP principles, innovative training, best practices, understanding events and human error, sustaining performance, HP tools, situational awareness, organizational aspects of HP

# Summary

- SAT used in many industries
- Systematic approach focus is on job/task performance
- Additional resources, information being developed
- Watch for other training opportunities

# Questions?



**Pete Knoetgen**

Director of Training

(404) 446-9688

Peter.Knoetgen@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Cold Weather Response

Herb Schrayshuen
Vice President and Director, Standards and Training

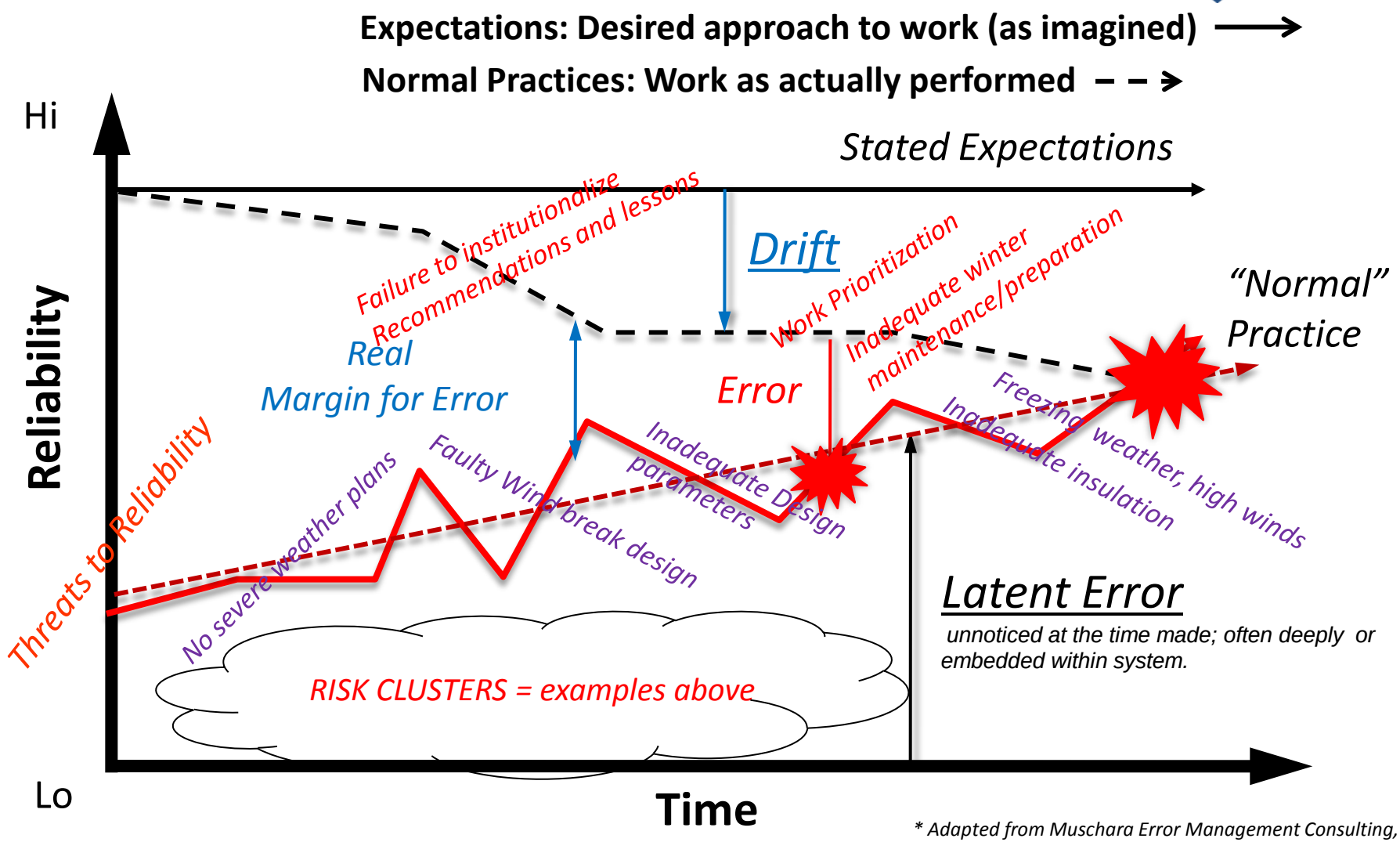
April 17, 2012

RELIABILITY | ACCOUNTABILITY






# Cold Snap Event Drifting to Failure*




* Adapted from Muschara Error Management Consulting, LLC

# Background–Electric

- February 1-5, 2011–event occurred
- August 15, 2011–joint report released
- There were a total of 26 electric recommendations issued:
  - Planning and reserves (5)
  - Coordination with generator owners/operators (5)
  - Winterization (10)
  - Communications (4)
  - Load Shedding (2)
- There were also six gas recommendations

# Theme–Three "Ps"

- August 2003 Blackout delivered three distinct themes called the three "Ts"
  - Trees
  - Tools
  - Training
- The February 2011 Cold Snap event delivered three distinct themes
  - Predict
  - Planning
  - Preparation

# First P–"Predict"

- The storm was not without precedent. There were prior severe cold weather events in the Southwest in 1983, 1989, 2003, 2006, 2008, and 2010
  - Good **analyses** were conducted
  - Good **reports** were written
  - Good **recommendations** were developed
  - **No** institutionalization of the recommendations and lessons

*Can we now predict the same circumstances?*

# Second P–"Planning"

- On-site visits with Generator Owners/Generator Operators revealed:
  - Some plants had inadequate plans and safeguards in place to address severe weather
    - Lack of formal plans, procedures to address severe weather
    - Lack of adequate knowledge of plant temperature design limits and the equipment most effected by freezing
    - Failure to adequately apply and institutionalize knowledge and recommendations from previous severe winter weather events
  - Some plants had rigorous plans and safeguards in place, some required validation

*Can you predict which plants were most successful during the event?*

# Third P–"Preparation"

- Generators were generally reactive as opposed to being proactive in their approach to winterization and preparedness. Many generators failed to adequately prepare for winter, including the following:
  - Failed or inadequate heat traces
  - Missing or inadequate wind breaks
  - Inadequate or lack of insulation
  - Failure to have or to maintain heating elements and heat lamps in instrument cabinets
  - Failure to have necessary resources and supplies

# Lessons Learned

- NERC received a total of 55 lessons learned from entities impacted by the cold snap event
- Lessons learned were reviewed, categorized and consolidated into 22 individual lessons that align with the recommendations outlined in the joint FERC/NERC report “Outages and Curtailments during the Southwest Cold Weather Event” published on August 15, 2011
- On September 30, 2011 the first two cold snap lessons learned were posted to correspond with the fall maintenance program for winter weather preparation
- Two additional lessons learned have been posted

# Standards-Related Activities

- Review the Cold Snap Report recommendations
- Assess, with stakeholders which recommendations lend themselves to a standards-based, long-term response
- Based on the above, develop the scope for a Standards Authorization Request (SAR)
- Develop, with a sponsor, the SAR
- Present to the Standards Committee for approval and prioritization

# Questions?



**Herb Schrayshuen**

VP Standards and Training

(404) 446-2563

herb.schrayshuen@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Compliance Update

Standards and Compliance Workshop

Ben Engelby, Senior Compliance Specialist

April 17, 2012

RELIABILITY | ACCOUNTABILITY






# Agenda

- Reliability Standards Changes
  - Compliance Impacts
- Compliance Application Notices (CANs)
  - Changes to the CAN Process
- Reliability Standards Audit Worksheets (RSAWs)
  - New Enhancements

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Reliability Standards Changes

Standards and Compliance Workshop

Ben Engelby, Senior Compliance Specialist

April 17, 2012

RELIABILITY | ACCOUNTABILITY

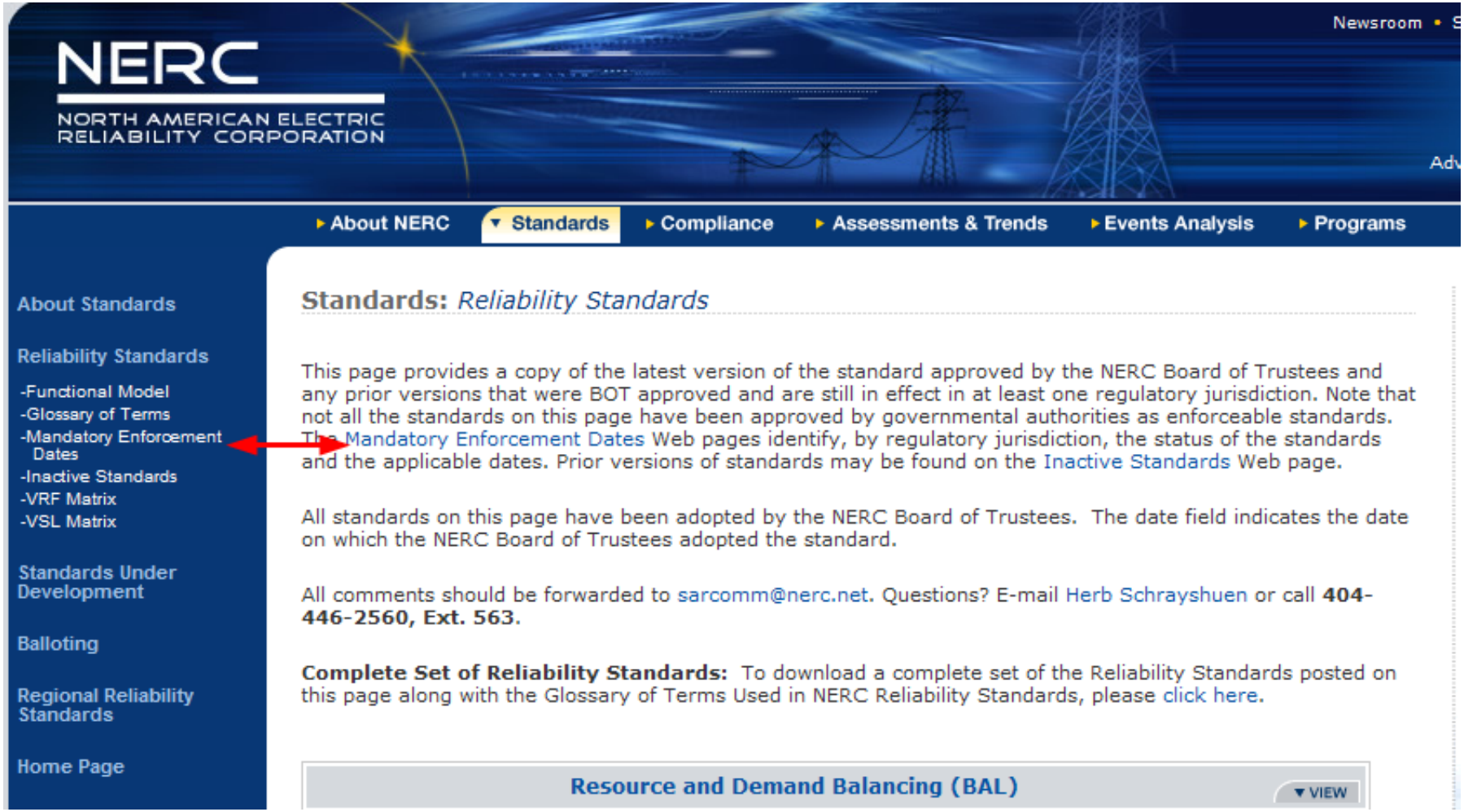





# Purpose

- To provide an update of changing standards so registered entities can make adjustments to their compliance programs to be compliant when the standards become enforceable.

# Future Standards



# Future Standards




**Reliability Standards — Mandatory Enforcement Dates**

The reliability standards listed on the pages below can be downloaded from the Reliability Standards web page.

Currently, the legislative framework to make standards mandatory and enforceable exists through action of the regulatory authority in the United States (through FERC) and in the Canadian provinces of Alberta, British Columbia, Nova Scotia, and Quebec. Of these, only FERC has taken action to approve reliability standards as mandatory and enforceable. In addition, standards become mandatory and enforceable upon NERC board action in the Canadian provinces of Manitoba (Manitoba Hydro only), New Brunswick, Ontario, and Saskatchewan.

| Mandatory Enforcement Dates | |
|---|---|
| Alberta | Nova Scotia |
| British Columbia | Ontario |
| Manitoba | Québec |
| New Brunswick | Saskatchewan |
| Newfoundland | United States |

**All comments should be forwarded to sarcomm@nerc.net.**
**Questions? Contact Kristin Iwanechko – kristin.iwanechko@nerc.net.**

# Future Standards




**Standards Subject to Future Enforcement**

Section 215 of the Federal Power Act requires the Electric Reliability Organization (ERO) to develop mandatory and enforceable reliability standards, which are subject to Commission review and approval. Commission-approved reliability standards become mandatory and enforceable in the U.S. on a date established in the Orders approving the standards.

**Enforcement Date:** the date on which the standard becomes mandatory and enforceable in accordance with the existing laws of the jurisdiction and the approval granted by the regulatory authority.

**Detail:** when a standard has requirements with different enforcement/inactive dates, a 'Detail' link will be shown in this column that links to a pop-up which shows the specific enforcement and inactive dates for each of the requirements of that standard.

| United States<br>Standards Subject to Future Enforcement | | | | |
|---|---|---|---|---|
| Standard Number | Title | Enforcement Date | Detail | Notes |

# Future Standards

| United States<br>Standards Subject to Future Enforcement | | |
|---|---|---|
| **Standard Number** | **Title** | **Enforcement Date** |
| **Resource and Demand Balancing (BAL)** | | |
| BAL-002-1 | Disturbance Control Performance | 4/1/2012 |
| **Emergency Preparedness and Operations (EOP)** | | |
| EOP-001-2b | Emergency Operations Planning | 7/1/2013 |
| EOP-005-2 | System Restoration from Blackstart Resources | 7/1/2013 |
| EOP-006-2 | System Restoration Coordination | 7/1/2013 |
| EOP-008-1 | Loss of Control Center Functionality | 7/1/2013 |
| **Facilities Design, Connections, and Maintenance (FAC )** | | |
| FAC-008-3 | Facility Ratings | 1/1/2013 |
| FAC-013-2 | Assessment of Transfer Capability for the Near-Term Transmission Planning Horizon | 4/1/2013 |
| **Personnel Performance, Training, and Qualifications (PER )** | | |
| PER-003-1 | Operating Personnel Credentials | 10/1/2012 |
| **Protection and Control (PRC)** | | |
| PRC-004-2a | Analysis and Mitigation of Transmission and Generation Protection System Misoperations | 4/1/2012 |
| PRC-005-1b | Transmission and Generation Protection System Maintenance and Testing | 3/14/2012 |

# Changes in 2012 and 2013

- 2012 Reliability Standards changes
  - PRC-004-2a Analysis and Mitigation of Transmission and Generation Protection System Misoperations
  - BAL-002-1 Disturbance Control Performance
  - PER-003-01 Operating Personnel Credentials
- 2013 Reliability Standards changes
  - FAC-008-3 Facility Ratings
  - FAC-013-2 Assessment of Transfer Capability for the Near-term Transmission Planning Horizon
  - EOP-001-2 Emergency Operations Planning
  - EOP-005-2 System Restoration from Blackstart Resources
  - EOP-006-2 System Restoration Coordination
  - EOP-008-1 Loss of Control Center Functionality

# PRC-004-2a
# Effective in the U.S. on April 1, 2012

- Replaced “Regional Reliability Organization” with “Regional Entity” as the compliance monitor
- Eliminated invalid reference to PRC-003, as PRC-003 is not a FERC-approved standard
- Registered entities shall develop Corrective Action Plans for Misoperations “according to the Regional Entity’s procedures”

# BAL-002-1
## Effective in the U.S. on April 1, 2012

- Eliminated a provision from Requirements R4.2 and R6.2, which allowed the Operating Committee to modify the Disturbance Recovery Period
- Any change to the Disturbance Recovery Period will need to be done through the NERC standards development process

# PER-003-1
## Effective in the US on October 1, 2012

- Version 1 contains specific requirements for each Reliability Coordinator (RC) (R1), Transmission Operator (TOP) (R2), and Balancing Authority (BA) (R3)
- Applicable registered entities shall use NERC-certified operating personnel unless:
  - Non-certified personnel are under direct supervision of a NERC Certified System Operator stationed at that operating position
- Each requirement lists competency areas and specific certificates acceptable to demonstrate competency

# FAC-008-3
## Effective in the U.S. on January 1, 2013

- New version has eight requirements instead of three
- Separate requirements for the Generator Owner (GO) and Transmission Owner (TO)
  - Documentation for determining Facility Ratings methodology
  - Methodology used for Equipment Ratings

# FAC-008-3
## Effective in the U.S. on January 1, 2013

- GOs shall have documentation for determining the Facility Ratings of its generators (R1), including:
  - Assumptions (R1.1) based on
    - Design criteria
    - Equipment ratings from manufacturer
    - Commissioning tests
    - Performance testing or historical performance records, or
    - Engineering analysis
- GOs shall have documented Facility Ratings methodology for equipment connected between the location in R1 and the point of interconnection with the TO (R2)
  - Facility Ratings cannot exceed the rating of the most limiting piece of equipment (R1.2 and R2.3)

# FAC-008-3
## Effective in the U.S. on January 1, 2013

- TOs shall have a documented Facility Ratings methodology (R3) that includes:
  - Equipment Ratings from manufacturers, or ratings based on standards, or ratings based on operating performance (R3.1)
  - Assumptions, design criteria, or methods used to identify the equipment ratings (R3.2)
  - Facility Rating cannot exceed the rating of the most limiting piece of equipment (R3.3)
  - Process used to determine the normal and emergency Facility Rating based on the Equipment Ratings (R3.4)

# FAC-008-3
## Effective in the U.S. on January 1, 2013

- If asked, GO or TO must make its Facility Ratings methodology available for technical review to the RC, TOP, Transmission Planner (TP) or Planning Coordinator (PC) within 21 days of request (R4)
- GO or TO must respond to technical feedback regarding Facility Ratings methodology within 45 days (R5)
- Ratings must be consistent with methodology (R6)
- GO shall provide Facility Ratings to applicable entities as scheduled (R7)
- TO shall provide specific information to applicable entities as scheduled (R8), such as:
  - Facility Rating and most limiting element of the Facility (8.1)
  - Next most limiting element and its Thermal Rating (8.2)

# FAC-013-2
## Effective in the U.S. on April 1, 2013

- Assigns responsibility ONLY to the PC
  - Have a transfer capability methodology that meets a set of criteria
  - Share it with others and respond to their feedback
  - Use it and share the results
- Transfer capability methodology specifically applies to years one through five
- Requires an annual assessment of transfer capability
- Requires consistency between assumptions used in planning and those used in the assessment of transfer capability

# FAC-013-2
# Effective in the U.S. on April 1, 2013

- Requires descriptions be included in the methodology, explaining how the following will be addressed in the annual assessment:
  - Generation dispatch (similar to previous)
  - Transmission system Topology (similar to previous)
  - System demand (similar to previous)
  - Transmission usage (similar to previous)
  - Loop flow
  - Contingencies
  - Monitored facilities
  - Simulation of transfers

# PER-005-1 Requirements R1, R2 Effective in the U.S. on April 1, 2013

- Requires systematic approach to training, task capability verification, and emergency operations training hours
- "Systematic approach" process defined by entity and used to produce company specific operator task lists and associated training programs
- Part of R3 (required 32 Hours of emergency operations training) already effective as of April 1, 2011
- R3.1 (required use of simulation technology) effective in the U.S. on April 1, 2014

# EOP-001-1, EOP-005-2, and EOP-006-2 Effective in the U.S. on July 1, 2013

- Significant rewrite of several Emergency Preparedness and Operations (EOP) standards
- EOP-001-2 Requirement R2.4 (to have plans for system restoration) was deleted, as EOP-005-2 and EOP-006-2 now replace it
- EOP-005-2 merges requirements of EOP-007-0 and EOP-009-0
  - Requirement to have a plan for restoration using Blackstart Resources
  - Required testing of Blackstart Resources
  - Required documentation of those tests

# EOP-005-2
## Effective in the U.S. on July 1, 2013

- RC must approve Restoration Plan
- Restoration Plan must include specific processes for reconnection and bringing on key load facilities
- Restoration Plans in primary and back-up sites
- Agreements with and responsibilities of GOs
- Emphasis on training, simulation, drills, and exercises

# EOP-006-2
## Effective in the U.S. on July 1, 2013

- Restoration Plan requires more detail – including strategies, coordination details, criteria for reconnecting, and information sharing
- Share plan with neighbors
- Mandatory self-review every 13 months
- Additional obligation to review neighbors' plans
- Plans must be in primary and back-up sites
- Emphasis on training, simulation, drills, and exercises

# EOP-008-1
## Effective in the U.S. on July 1, 2013

- EOP-008-0 required a detailed contingency plan in the event a primary control center becomes inoperable
- EOP-008-1 is more specific:
  - How to implement the back-up plans
  - A description of key elements needed to support the back-up plan
  - Processes for keeping the back-up functionality consistent with the primary control center
  - Rules about how to decide (and who decides) when to move to back-up operations
  - How long the transition period from primary to back-up is, and what should be occurring during that time
  - What parties are to be notified of the transition
  - Specific roles and responsibilities during the transition

# EOP-008-1
## Effective in the U.S. on July 1, 2013

- Other significant changes:
  - Requires an ongoing, annual approval of the plan, and an approval if the plan is changed intra-year
  - Requires a back-up site and back-up capabilities sufficient to maintain compliance with the Reliability Standards
  - Explicitly requires no dependencies between sites for maintaining compliance with the Reliability Standards
  - Moves annual testing out of the plan and into an explicit requirement
  - Requires a plan to recover fault tolerance when either the primary or back-up site is lost for an extended period of time
  - Requires entities have copies of the plan in their primary and back-up sites

# 2014+ Changes to NERC Standards

- Standards awaiting regulatory approval:
  - CIP-002-4 thru CIP-009-4 (Cyber Security Standards)
  - BAL-004-1 (Time Error Correction)
  - EOP-003-2 (Load Shedding Plans)
  - PRC-006-1 (Automatic Underfrequency Load Shedding)
  - PRC-023-2 (Transmission Relay Loadability)
  - TPL-001 thru TPL-004 (System Performance Standards)

# 2014+ Changes to NERC Standards

## Under development:

Project 2006-06—**Reliability Coordination** — COM-001, COM-002 and IRO-001-3

Project 2007-02—**Operating Personnel Communications Protocols** — COM-003

Project 2007-03—**Real-time Transmission Operations** — TOP-001 through TOP-008 and PER-001

Project 2007-06—**System Protection Coordination** — PRC-001

Project 2007-09—**Generator Verification** — MOD-025-2, MOD-026-1, MOD-027-1, PRC-019-1, PRC-024-1

Project 2007-12—**Frequency Response** – BAL-003-1

Project 2007-17—**Protection System Maintenance & Testing** – PRC-005

Project 2008-06—**Cyber Security — Order 706** — CIP-002-5 through CIP-009-5, CIP-010-1, and CIP-011-1 (Version 5 CIP Standards)

Project 2009-01—**Disturbance and Sabotage Reporting** — CIP-001 and EOP-004

Project 2010-05.1—**Protection Systems: Phase 1 (Misoperations)** – PRC-004-3

Project 2010-14.1—**Phase 1 of Balancing Authority Reliability-based Controls: Reserves**

Project 2010-17—**Definition of Bulk Electric System** (Phase 2)

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Compliance Application Notices (CANs)

Standards and Compliance Workshop

Ben Engelby, Senior Compliance Specialist

April 17, 2012

RELIABILITY | ACCOUNTABILITY





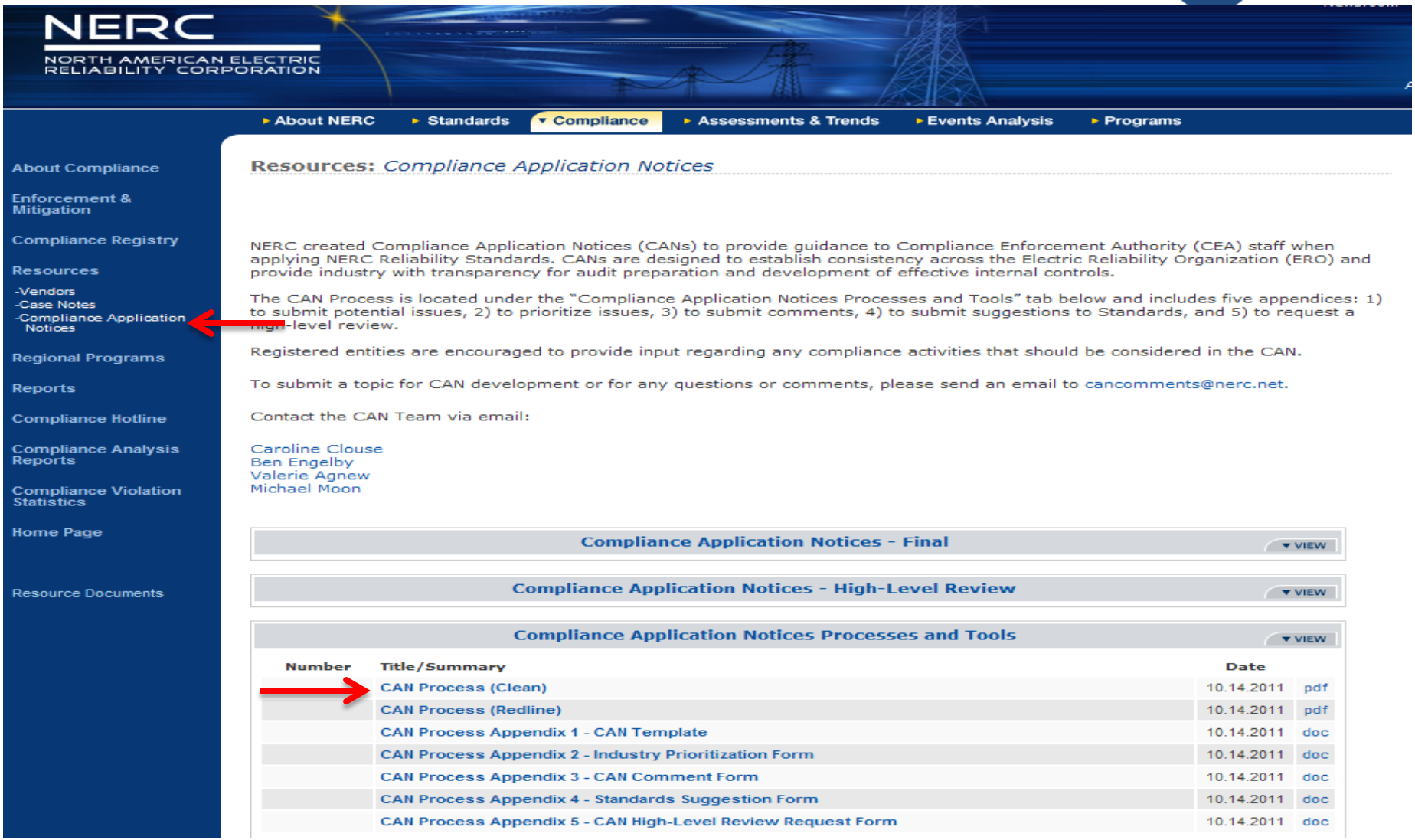

# Agenda

- Compliance Application Notice (CAN) Process
  - Prioritization
  - Additional Transparency for Industry Comments
- High-Level Review
  - CAN-0008 Basis for First Maintenance and Testing Date
  - CAN-0016 Sabotage Reporting Procedure

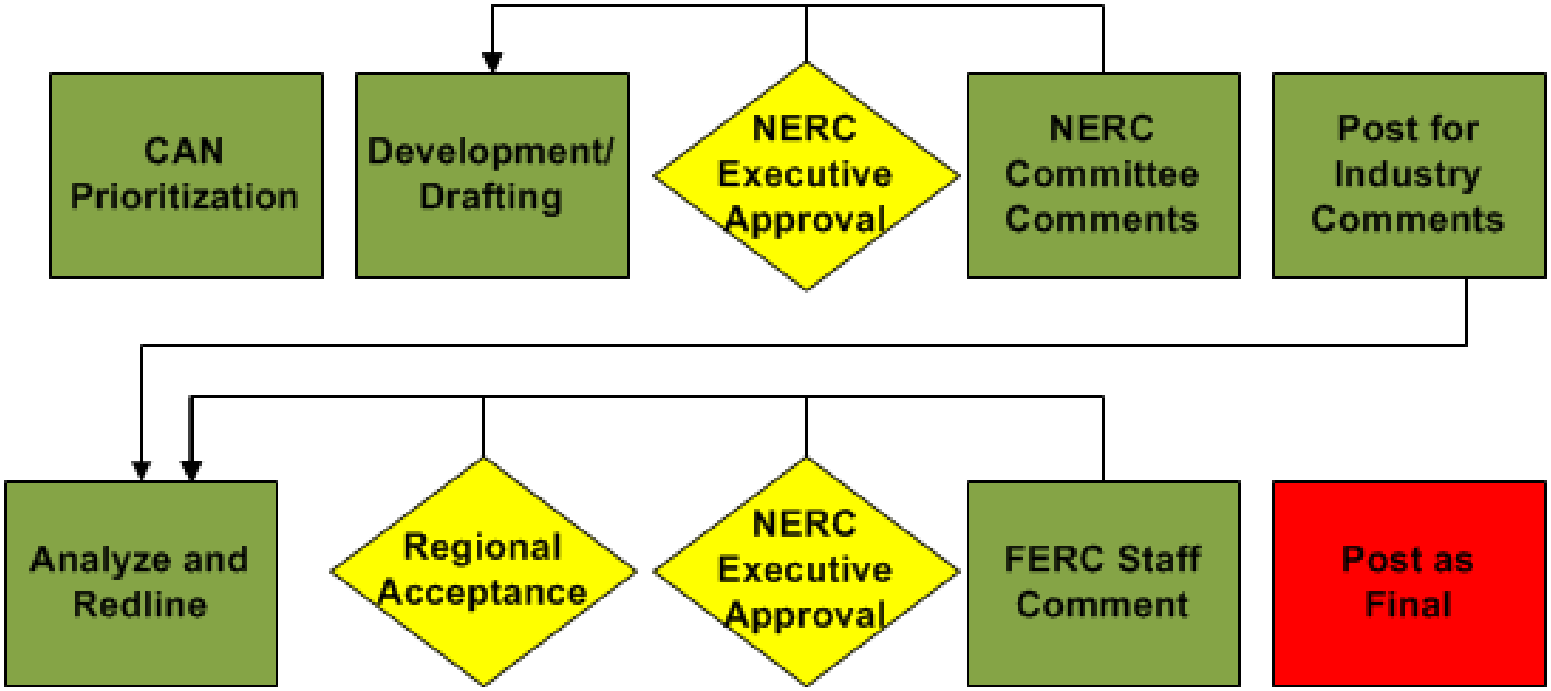
# Purpose

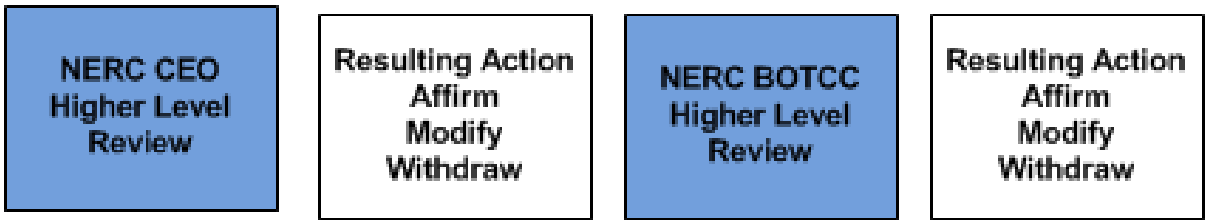
- To provide an update of the recent improvements to the CAN Process and to update industry on the High Level Review process.

# CAN Process


NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION
About NERC
Standards
Compliance
Assessments & Trends
Events Analysis
Programs
About Compliance
Enforcement & Mitigation
Compliance Registry
Resources
-Vendors
-Case Notes
-Compliance Application Notices
Regional Programs
Reports
Compliance Hotline
Compliance Analysis Reports
Compliance Violation Statistics
Home Page
Resource Documents
Resources: Compliance Application Notices
NERC created Compliance Application Notices (CANs) to provide guidance to Compliance Enforcement Authority (CEA) staff when applying NERC Reliability Standards. CANs are designed to establish consistency across the Electric Reliability Organization (ERO) and provide industry with transparency for audit preparation and development of effective internal controls.
The CAN Process is located under the "Compliance Application Notices Processes and Tools" tab below and includes five appendices: 1) to submit potential issues, 2) to prioritize issues, 3) to submit comments, 4) to submit suggestions to Standards, and 5) to request a high-level review.
Registered entities are encouraged to provide input regarding any compliance activities that should be considered in the CAN.
To submit a topic for CAN development or for any questions or comments, please send an email to cancomments@nerc.net.
Contact the CAN Team via email:
Caroline Clouse
Ben Engelby
Valerie Agnew
Michael Moon
Compliance Application Notices - Final
VIEW
Compliance Application Notices - High-Level Review
VIEW
Compliance Application Notices Processes and Tools
VIEW
Number
Title/Summary
Date
CAN Process (Clean) 10.14.2011 pdf
CAN Process (Redline) 10.14.2011 pdf
CAN Process Appendix 1 - CAN Template 10.14.2011 doc
CAN Process Appendix 2 - Industry Prioritization Form 10.14.2011 doc
CAN Process Appendix 3 - CAN Comment Form 10.14.2011 doc
CAN Process Appendix 4 - Standards Suggestion Form 10.14.2011 doc
CAN Process Appendix 5 - CAN High-Level Review Request Form 10.14.2011 doc

# CAN Process Diagram



# High-Level Review

- The high-level review will begin when the registered entity or its representative submits the CAN High-Level Review Form (Appendix 5) to NERC
  - NERC's CEO or his designee will have 14 days to review the CAN and determine whether it will be affirmed, modified or withdrawn
- If a registered entity or its representative decides to pursue the higher level of review to the Board of Trustees Compliance Committee (BOTCC), they must submit a second request for high-level review by completing additional information and submitting a revised Appendix 5
  - The BOTCC will review the comments and the applicable CAN at the next available time during its monthly BOTCC meeting and make a determination whether to affirm, modify or withdraw the CAN

# CAN-0016 High Level Review

- Trade Groups requested the High Level Review on January 25, 2012
  - Edison Electric Institute (EEI)
  - National Rural Electric Cooperative Association (NRECA)
  - The Electric Power Supply Association (EPSA)
  - The Transmission Access Policy Study Group (TAPS)
  - Electricity Consumers Resource Council (ELCON)
  - The American Public Power Association (APPA)

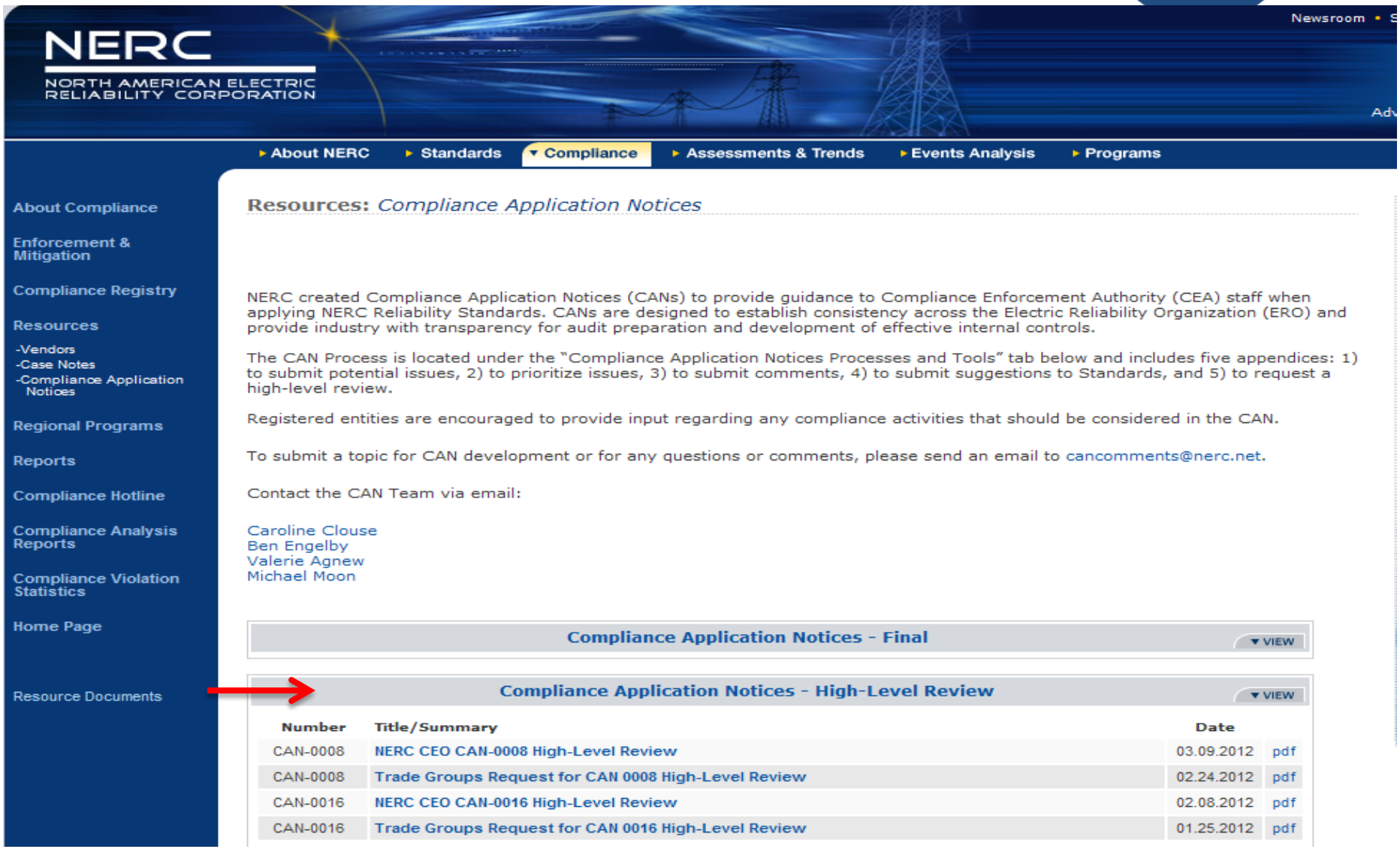
# CAN-0016 High-Level Review

- Review concerning Sabotage Reporting Procedures
- NERC CEO responded on February 8, 2012
- Request and response are posted on CAN website
- CAN-0016 has been withdrawn

# CAN-0008 High-Level Review

- Received request from Trade Groups for NERC CEO review
- Questions concerning evidence of first maintenance and testing date
- Request was received on February 24, 2012
- Request and response are posted on CAN website
- CAN-0008 has been modified

# CAN High-Level Review



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Reliability Standards Audit Worksheets (RSAWs)

Standards and Compliance Workshop

Ben Engelby, Senior Compliance Specialist

April 17, 2012

RELIABILITY | ACCOUNTABILITY






# Agenda

- Purpose of Enhanced RSAWs
- Categories of Standards for Consideration
- RSAW Options
- Industry Involvement

# Purpose

- To enhance RSAWs and to consolidate compliance guidance so both registered entities and Compliance Enforcement Authorities (CEAs) can access all relevant information in a single document while preparing for an audit.

# RSAW Details

- Continued effort for consolidation of all relevant info
  - Standard Drafting Teams' intent
  - Audit approach
  - Internal controls
  - NERC compliance guidance
- Involvement of Subject Matter Experts in development
- Increased transparency to industry

# RSAW Categories

- Category 1: Future Standards
  - RSAW development in conjunction with a new standard project
- Category 2: Revising Standards
  - Regulatory approval, not yet enforceable
  - NERC Board approved, awaiting regulatory approval
  - NERC Board approved interpretation
- Category 3: Existing Standards
  - Consolidation of existing guidance documents

# RSAW Options

Four different alternatives to determine best approach:

- Option #1: RSAW development during a new Standard Drafting Team (SDT) Project
  - SDT works with NERC Compliance to develop RSAW
  - Process reviewed by Standards Committee
  - Sent to Trade Associations and Regions for input
- Option #2: PER-005
  - Initiated by Personnel Subcommittee (Operating Committee), then sent to SDT for development
  - NERC Standing Committees review
  - Industry comment period

# RSAW Options continued

Alternatives to determine best RSAW development approach:

- Option #3: FAC-003
  - Sent to Transmission Forum for input
- Option #4: COM-002
  - Sent to targeted NERC committees (Operating Committee and Compliance and Certification Committee) for feedback

# Conclusion

- RSAW development process is still being determined
- NERC Compliance will continue to have ownership of RSAWs
- Based on the results from the test RSAWs, there may be one or more processes for development
  - Ensure vetting with appropriate industry members
- Expect more information regarding enhanced RSAWs in near future

# Questions?



**Ben Engelby**

Senior Compliance Specialist

(404) 446-2578

ben.engelby@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Cyber Security Standards Update

Steven Noess
Standards Development Advisor

April 17, 2012

RELIABILITY | ACCOUNTABILITY






# Agenda

## CIP Version 5 Update

- Background
- Version 5 Goals
- Process and Schedule
- Advantages

## CIP Interpretation Drafting Team

- Drafting Team
- Projects

## GridEx and GridSecCon

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# CIP Version 5

Steven Noess

April 17, 2012

RELIABILITY | ACCOUNTABILITY






# CIP Version 5 Project Background

**Version 1**

- Filed with FERC August 28, 2006
- Approved by FERC January 18, 2008
- Effective July 1, 2008 through January 1, 2010 (phased)

**Version 2**

- Low-hanging fruit
- Filed with FERC May 22, 2009
- Approved by FERC September 30, 2009
- Effective April 1, 2010

**Version 3**

- Compliance filing to Version 2
- Filed with FERC December 29, 2009
- Approved by FERC March 31, 2010
- Effective October 1, 2010

**Version 4**

- Bright line criteria
- Filed with FERC February 10, 2011

# Version 4

- FERC NOPR posted **September 14, 2011**
  - Propose to have Version 5 address the following:
    - National Institute of Standards and Technology (NIST) framework
    - Misuse of control systems
    - Communications / connectivity
    - Regional Perspective / overview
  - Propose to establish a date for Version 5 filing
    - Proposes end of Q3 2012 (what NERC filed with the Version 4 petition)
  - Comment period closed November 21, 2011
    - Sixteen sets of comments filed
    - Available at FERC website (eLibrary)
- Final Rule not issued as of Q1 2012

# Looking Ahead to Version 5

- The drafting team is finishing work to address all of the issues in Order No. 706
  - Version 5 builds on CIP-002-4 and previous drafts of CIP-010 and 011
  - Uses similar content structure and terminology as previous CIP Standards (CIP-002 through CIP-009)
  - Initial ballot closed on January 6, 2012
  - Successive ballot

# Development Goals

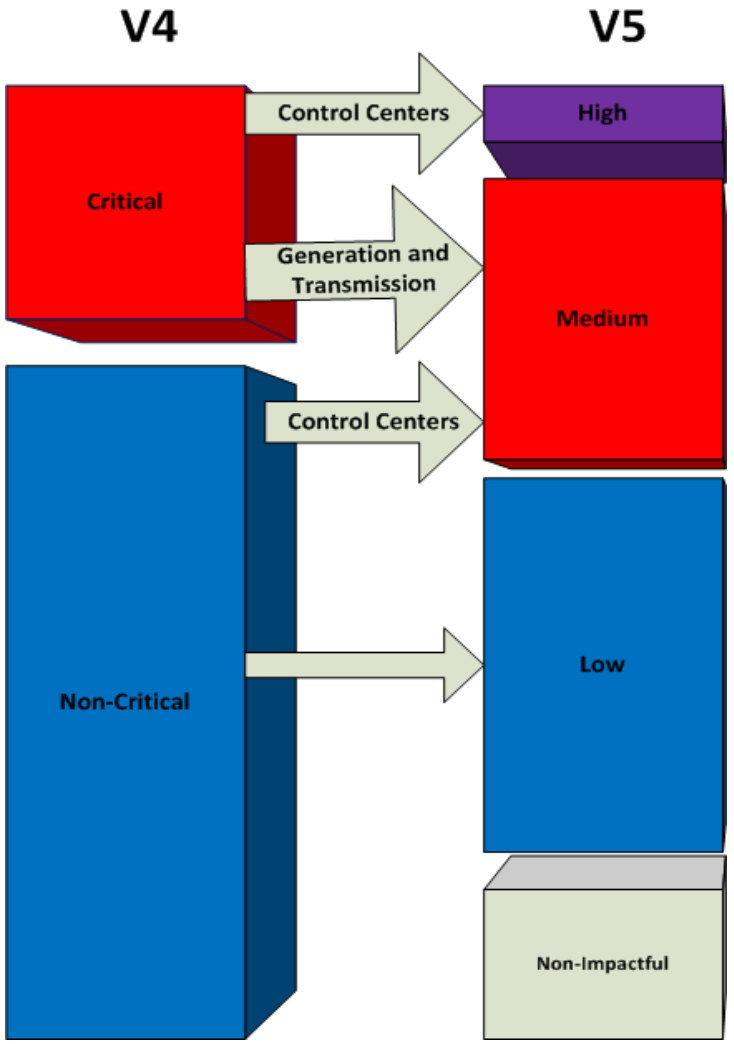
| | |
|---|---|
| **Goal 1**: To address the remaining Requirements-related directives from all CIP related FERC orders, all approved interpretations, and CAN topics within applicable existing requirements. | **Goal 5**: To minimize technical feasibility exceptions. |
| **Goal 2:** To develop consistent identification criteria of BES Cyber Systems and application of cyber security requirements that are appropriate for the risk presented to the BES. | **Goal 6:** To develop requirements that foster a “culture of security” and due diligence in the industry to complement a “culture of compliance”. |
| **Goal 3:** To provide guidance and context for each Standard Requirement | **Goal 7:** To develop a realistic and comprehensible implementation plan for the industry. |
| **Goal 4:** To leverage current stakeholder investments used for complying with existing CIP requirements. | |

# CSO706–Version 5

- CIP-002: BES Cyber Asset and BES Cyber System Categorization
- CIP-003: Security Management Controls
- CIP-004: Personnel and Training
- CIP-005: Electronic Security Perimeter(s)
- CIP-006: Physical Security of BES Cyber Systems
- CIP-007: Systems Security Management
- CIP-008: Incident Reporting and Response Planning
- CIP-009: Recovery Plans for BES Cyber Systems
- CIP-010: Configuration Management and Vulnerability Assessments
- CIP-011: Information Protection

# CSO706 – Version 5

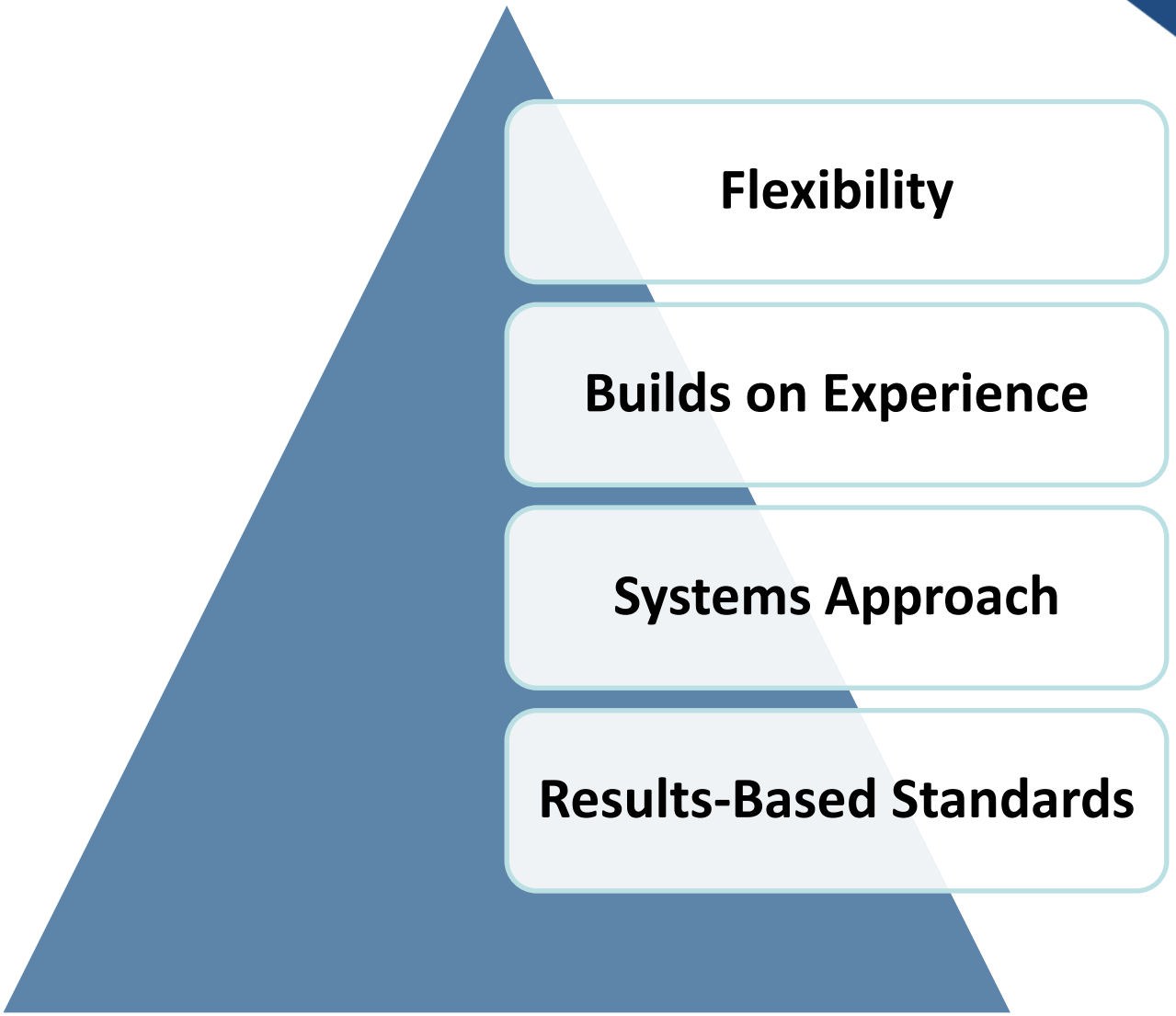
- High Impact
  - Large control centers
  - CIP-003 through 009+
- Medium Impact
  - Generation and transmission
  - Other control centers
  - Similar to CIP-003 to 009 v4
- All other BES Cyber Systems
  - Cyber Security Awareness
  - Physical Access
  - Electronic Access
  - Incident Response



# CIP Version 5 Ballot Process

- Twelve initial ballots
  - Ten standards
  - Definitions
  - Implementation plan
- One ballot pool
  - Flexibility
  - Ensures same group balloting related documents (i.e., definitions and related standards)

# Advantages of Version 5

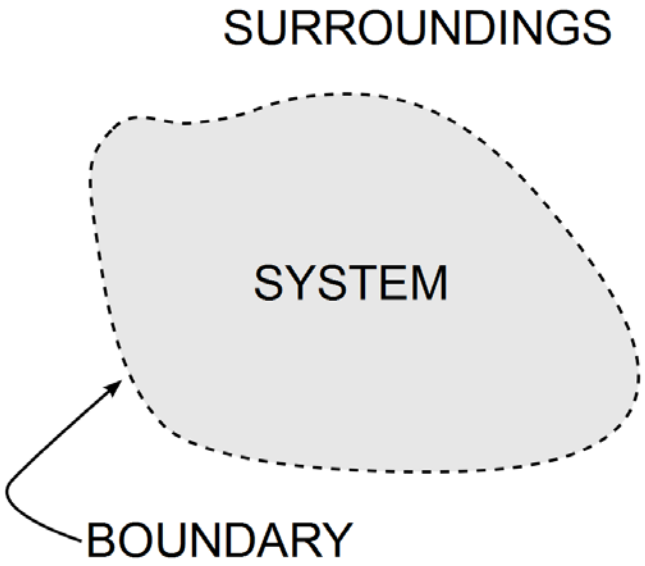


# Advantages of Version 5

- Closes out FERC Order No. 706
- Risk-based standards
  - Focus on reliability and security-related result
  - Non-technology specific
  - Smarter use of Technical Feasibility Exception (TFE) process
- Risk-based systems approach
  - Adopt solutions and tailor security based on function and risk
  - No longer a harsh “in or out” demarcation for applicability
  - Impact and connectivity informs applicability

# Advantages of Version 5

- Systems approach illustration
  - Cyber Assets function together as a complex system
  - Identify the system and apply requirements to the whole rather than the part



# Advantages of Version 5

- Paradigm shift that builds on experience
  - Informed by and responsive to implementation and audit lessons from Version 1 through 3
  - Framework for establishing a culture of security
- Balanced flexibility
  - Demonstrates clear accountability for Critical Infrastructure Protection, yet . . .
  - Allows adaptation of requirements to individual operations
  - Specific in *when* and *what* to achieve but broad in *how* to get there

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# CIP Interpretation Drafting Team

Steven Noess

April 17, 2012

RELIABILITY | ACCOUNTABILITY






# Interpretation Drafting Team

- Composition:
  - Seventeen members (two co-chairs)
  - Five to six member individual project teams
  - Business primarily through teleconference and email
- Benefits
  - Flexible
  - Balances demands from participants
  - Simultaneous projects
  - Leverages existing project experience for subsequent interpretations

# Projects

- Six requests for interpretation with progress in various stages:
  - One complete: Wiring is not a Cyber Asset
  - Two with high approval, not yet complete:
    - CIP-002 clarification: “essential”
    - CIP-004 clarification: Cyber Access
  - Three under initial draft development

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# NERC GridEx and GridSecCon

Steven Noess

April 17, 2012

RELIABILITY | ACCOUNTABILITY






# GridEx 2011 - Objectives

1. *Validate the current readiness of the electricity industry to respond to a cyber incident and provide input for security program improvements*
2. *Exercise NERC and industry crisis response plans and identify gaps in plans, security programs, and skills*
3. *Assess, test, and validate existing Command, Control and Communication Plans for key NERC stakeholders*

**Executive TTX Goal**

*Leverage distributed exercise outcomes to inform and explore senior-level decision making during a coordinated attack on the electric grid*

# GridEx Participation

## GridEx Participants

### Utilities

- Alliant Energy
- Ameren Corporation
- Arkansas Electric Cooperative
- Bonneville Power Administration
- Brookfield Renewable Power
- Burlington Electric Department
- Cal ISO
- Dayton Power and Light Company
- Duke Energy
- Duquesne Light Co.
- EDP Renewables North America, LLC
- Entergy
- ERCOT
- Georgia Transmission Corporation
- Great Lakes Power Transmission
- Hydro One
- Iberdrola Renewables
- Independent Electricity System Operator
- ITC Holdings
- Lakeland Electric
- Long Island Power Authority
- Massachusetts Municipal Wholesale Electric Company
- Midwest ISO
- National Grid
- Nebraska Public Power District
- New York Power Authority
- Northeast Utilities
- Northern Indiana Public Service Corporation
- NY ISO
- Oklahoma Gas & Electric
- Ontario IESO
- Ontario Power Generation
- Orlando Utilities Commission
- Pacific Gas & Electric
- PEPCO Holdings, Inc.
- PJM
- Progress Energy
- Public Service Electric & Gas Company
- Sempra Energy Utilities
- Southern California Edison
- Southern Company
- South Mississippi Electric
- SPP - RTO
- TECO Energy
- Tennessee Valley Authority
- Western Area Power Administration
- Wisconsin Public Service
- Xcel Energy

### Regional Entities

- MRO
- NPCC
- RFC
- SERC
- TRE
- WECC

### Government/Academia/Other

- ABB
- Canadian Electricity Association
- Canadian Incident Response Centre
- Critical Infrastructure Criminal Intelligence/Royal Canadian Mounted Police
- DHS/National Cyber and Communications Integration Center
- DoD/Cyber Crime Center DCISE/DIB-CERT
- DOE
- Edison Electric Institute
- EnergySec
- EnerNex
- FBI
- FERC
- ICS-CERT
- Lofty Perch
- National Guard, Critical Infrastructure Protection Program
- Natural Resources Canada
- North American Transmission Forum
- Pacific Northwest National Lab
- Public Safety Canada
- University of Illinois
- Utility Services

# GridEx-After Action

- NERC received draft report on December 16, 2011
- NERC sanitized and re-issued report to industry in March 2012
- Report's key themes:
  - Significant sharing among registered entities, but vertical information sharing can be improved
  - Need to clarify roles between the Electricity Sector Information Sharing and Analysis Center (ES-ISAC) and NERC System Awareness (SA)
  - Information sharing across entity business units and departments occurred frequently, but response gaps and areas for improvement emerged

# 2012 GridSecCon

- 2012 Grid Security Conference (GridSecCon)
- "Save the Date"–October 16-18, 2012
- San Diego, CA
- One day of training by Idaho National Labs and the SANS Institute
- Two full agenda days covering topics on threats, lessons learned, and industry security perspectives
- For more information, contact brian.harrell@nerc.net

# Questions?



**Steven W. Noess**

Standards Development Advisor

(404) 446-9691

steven.noess@nerc.net

# CIP Peer Sharing

Bob Hoopes, PPL Corporation

April 17, 2012

# Overview

- PPL Corporation Critical Infrastructure Protection (CIP) Audit – May 2011
- CIP Peer Sharing Event – February 2012
- Three CIP Evidence Organization Demonstrations
  - Steven's Mock Audit File
  - CIP Evidence Bookmark File with Actual Evidence Citations
  - CIP Evidence Binder Template – Editable for Peer Use

# PPL CIP Audit

- Full CIP Audit (43 requirements)
  - Seven requirements deleted from audit scope in 90-day letter
  - Parts of the 36 in-scope requirements were “red-lined” by the Reliability*First* Corporation (RFC) audit team before the on-site phase
    - Evidence submitted clearly demonstrated compliance
    - No need to discuss during the on-site phase
  - 100+ Technical Feasibility Exception (TFE) Reviews included in audit scope

# PPL CIP Audit, cont.

- Five Registered Entities included in scope
  - Three without Critical Assets (CAs)
- Audit Results
  - Zero Violations
  - Completed in 3.5 days
  - 12 Data Requests (before and during on-site phase)
  - One documentation issue remediated via Find, Fix and Track (FFT) process

# CIP Audit Background

- Audit Conducted in May 2011
- Detailed Preparation Began in December 2010
- Reliability Standard Audit Worksheets (RSAWs) and Evidence Submitted 40 days prior to audit
- Preparation Work Continued After Evidence Submittal
  - Preparing Back-up documentation
  - Training Subject Matter Experts to present the evidence for their areas of expertise
  - Interfacing with audit team leader

# Audit Scope

- Five Registered Entities (all Generator Owners/Generator Operators in the RFC Region)
  - Originally scheduled across several years
  - Petitioned RFC Audit Manager to combine into one audit
- 36 CIP Requirements In Scope
- 100+ TFE Reviews Included in Scope
  - Batched into 13 groups
  - Facilitated the review process

# Post-Audit Activities

- RFC told us that the quality of the submitted evidence was better than any they saw previously
- RFC requested a presentation on audit evidence preparation at October 2011 RFC workshop
  - Led to follow-up discussions with peers
  - Demand suggested a need to do more
- Discussed concept of CIP Peer Sharing Event with PPL audit team and CIP consultant (Corporate Risk Solutions, Inc., or CRSI)
  - PPL audit team agreed to participate
  - CRSI agreed to participate, including making several presentations and providing free ad hoc consulting advice to participants

# Peer Sharing Event

- Conducted in February, 2012
  - Bethlehem, PA (near PPL Corp. Headquarters)
  - 1.5 Days
- Approximately 140 Participants from 26 Companies
- Agenda
  - One presentation for each CIP standard
  - Presenter for each was the PPL staff individual responsible for assembling the evidence for that standard
    - NERC audit experienced but not CIP experienced
  - Focus was on the interface with the individual SMEs necessary to acquire, review, assemble and package the evidence
  - Lots of time built into schedule for Q&A

# Peer Sharing Event, cont.

- CRSI Background
  - CRSI provides CIP consulting support for Registered Entities, in addition to other corporate security functions
  - Contracted by several Regions to conduct NERC CIP audits
- CRSI Participation
  - Delivered two presentations by NERC CIP auditors
    - Discussed problems observed during NERC CIP audits
    - Discussed CAN-0005 strategies (System Operator Lap Tops)
  - Supported the Q&A sessions
  - Also conducted off-line discussions, on request, with participating companies in an adjacent meeting room
    - Free consulting

# Event Participants

- Max number of participants set by facility limitations
- Event Concept first posted to RFC Compliance Users Group Yahoo Site in December
  - Responses secured approx. half of the available slots
- RFC was asked to communicate the event to RFC Registered Entity contacts
  - Responses quickly filled up the remaining slots
- Waiting list established
  - Every company on the waiting list accommodated

# What Did Participants Receive?

- Great Networking Opportunities
  - Sharing CIP experiences among peers
- Participant List With Contact Information
  - Multiplier Effect
- CIP Evidence Bookmark File with Actual Evidence Citations
  - Contains the CIP evidence citations for the evidence provided to the RFC CIP audit team
- CIP Evidence Binder Template
  - **Editable version, for peer use**

# CIP Evidence Organization Demonstration

- Each file will be posted to the NERC website along with the presentations for this conference
  - Steven's Mock Audit File
  - CIP Evidence Bookmark File with Actual Evidence Citations
  - CIP Evidence Binder Template – Editable for Peer Use

# Steven's Mock Audit File

- Applicable RSAW section for each specific requirement, with explanation of how the requirement is met
- Procedure Flow Sheet(s) – Ties the RSAW explanations to the supporting procedures
- High Level Procedure
- Local Procedure (if applicable)
  - Evidence of Implementation (normally a sample)
  - More evidence of implementation (additional sample)

# Steven's Mock Audit File, cont.

- Backup evidence of implementation
  - Based on proactive anticipation of an auditor's follow-up question(s)
  - Sometimes included in the audit package, sometimes not
  - Readily available in another file upon request
  - **Can preempt formal data requests by the audit team**

→ *Demonstration*

# PPL CIP Evidence Citations Demonstration

- 70 Pages of Bookmarks
- Organized By Standard, Requirement and Sub-requirement
- Heavily Redacted To Remove PPL Sensitive Information
- Clearly Shows the Systematic Presentation of CIP Evidence That The Auditors Want

→ *Demonstration*

# PPL CIP Evidence Binder Template

- This is a “framework” PDF that is editable
  - Provides the PDF bookmarks needed to address the evidence necessary to demonstrate compliance to each CIP requirement
  - Can be tailored for a specific registered entity’s structure
- Available For Peer Use

→ *Demonstration*

# What's Next?

- Other Registered Entities with CIP audit experience are encouraged to sponsor and conduct a similar sharing event
- PPL and/or CRSI can provide guidance
- We (peers) can help ourselves.  Among our collective experience is the knowledge we need to comply with the CIP standards.
- PPL has two more CIP audits in 2012

# Questions?

Robert E. Hoopes
PPL Corporation
610-774-6913
rehoopes@pplweb.com

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# FERC Order No. 754

## The Study of Single Point of Failure

Scott Barfield-McGinnis
Standards Development Advisor

April 17, 2012

RELIABILITY | ACCOUNTABILITY






# Overview

- Summary of FERC Order No. 754 (Order 754)
- FERC Technical Conference outcomes
  - Consensus points
  - Problem statement
  - Approaches
- Request for Interpretation
- Data request
- Informational filing
- Next steps

# Summary of Order 754

- Order 754[1]
  - Commission's approval of Project Interpretation of TPL-002-0b, R1.3.10 — PacifiCorp (Project 2009-14[2])
  - Commission has a concern
    - Study of a single point of failure on protection systems (P.19)
  - Commission issued a directive (P.20)
    - FERC staff to meet with NERC and appropriate Subject Matter Experts
      - Explore the reliability concern
    - NERC to make an informational filing in six months (March 15, 2012)
      - What forum to address the issue
      - What priority based on current initiatives

[1] http://www.ferc.gov/whats-new/comm-meet/2011/091511/E-4.pdf

[2] http://www.nerc.com/filez/standards/Project2009-14_Interpretation_TPL-002-0_PacifiCorp.html

# Consensus Points

- Performance-based issue, not full redundancy issue
- Existing approved standards address requirements to assess single point of failure
- Assessments of single point of failure of non-redundant primary protection (including backup) systems need to be sufficiently comprehensive
- Lack of sufficiently comprehensive assessments of non-redundant primary protection systems is a reliability concern

# Problem Statement

- *"The group perceives a reliability concern regarding the comprehensive assessment of potential protection system failures by registered entities. The group agrees on the need to study if a gap exists regarding the study and resolution of a single point of failure on protection systems."*

# Approaches

- Request For Interpretation – A small group should develop a proposal to be presented to the joint System Analysis and Modeling Subcommittee (SAMS)/System Protection and Control Subcommittee (SPCS) committees
- Data Request – A small group should develop a proposal to the joint SAMS/SPCS committees
- Project 2009-07 – To be considered later after the review of the first two bullets above

# Request for Interpretation

- Confirm extent to which TPL-003-0a and TPL-004-0 require assessment of single points of failure
- Standards Committee Executive Committee
  - Accepted the request on February 3, 2012
  - Directed drafting team formation
  - High priority in addressing the order
- Team is currently drafting an interpretation
- Post for comment (mid-July 2012)

# Data Request

- Assess whether there is a reliability concern associated with the assessment of single points of failure on Protection Systems that is not specifically addressed by existing standards
- Previously posted for comment in December 2011
- Comments submitted by 56 individuals and groups
  - Comments reviewed by NERC and the SAMS/SPCS
  - Responses to comments to be posted soon

# Data Request – Next Steps

- Next steps:
  - SAMS/SPCS conclusions
    - Method and Reporting Template require modification
    - Improve clarity and mitigate burden on responding entities
    - Add examples to promote understanding and consistency in responses
    - Allow additional time; the schedule will be extended to two years with a staged approach by substation kV for reporting
    - Consider a second posting before releasing to the NERC Board of Trustees
  - Post for comment (early May 2012)

# Informational Filing

- NERC prepared an informational filing as directed in Order 754
  - Submitted on-time (March 15, 2012)
  - Provided a status report on the three approaches identified at the Technical Conference
    - Request for Interpretation (Project 2012-INT-02)
    - Data Request (Order 754)
    - Reliability of Protection Systems (Reliability Standard Project 2009-07)

# For More Information

- To receive Order 754 or Request for Interpretation notices please contact Scott Barfield-McGinnis at:
  - Scott.Barfield@nerc.net or (404) 446-9689
- For project status, visit the NERC Project page at:
  - http://www.nerc.com/filez/standards/order_754.html
  - http://www.nerc.com/filez/standards/2012-INT-02_Interpretation_TPL-003-0a_and_TPL-004-0_SPCS.html

# Questions?



**Scott Barfield-McGinnis**

Standards Development Advisor

(404) 446-9689

scott.barfield@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Human Performance

James L. Merlo, PhD
Manager of Human Performance

April 17, 2012

RELIABILITY | ACCOUNTABILITY






NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Reliability Risk Management (RRM) Direction

- **Reliability** – addressing real problems to improve the reliability of the grid
- **Accountability** – being accountable to customers, the industry and government for the performance of the grid
- **Learning** – enabling the industry to learn from experience to improve future reliability performance
- **Risk-based model** – focusing actions and programs on issues most important to grid reliability

# Top Priority Reliability Issues

- Misoperations of relay protection and control systems
- Human errors by field personnel
- Ambiguous or incomplete voice communications
- Right-of-way maintenance
- Changing resource mix
- Integration of new technologies
- Preparedness for high impact, low frequency events
- Non-traditional threats via cyber security vulnerabilities

***NERC President's Top Priority Issues for Bulk Power System Reliability,*** http://www.nerc.com/news_pr.php?npr=723 **at** http://www.nerc.com/fileUploads/File/News/NERC%20President%20Top%20Priority%20BPS%20Reliability%20Issues%201-7-11.pdf

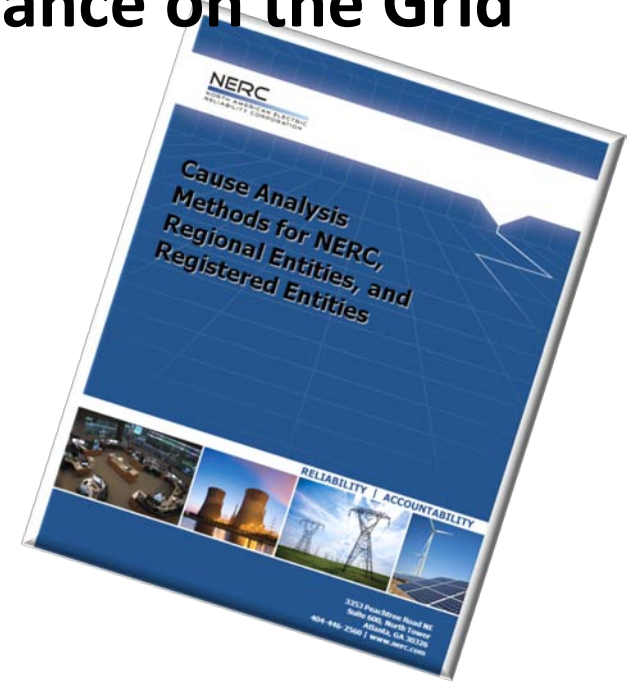
# Top Priority Reliability Issues

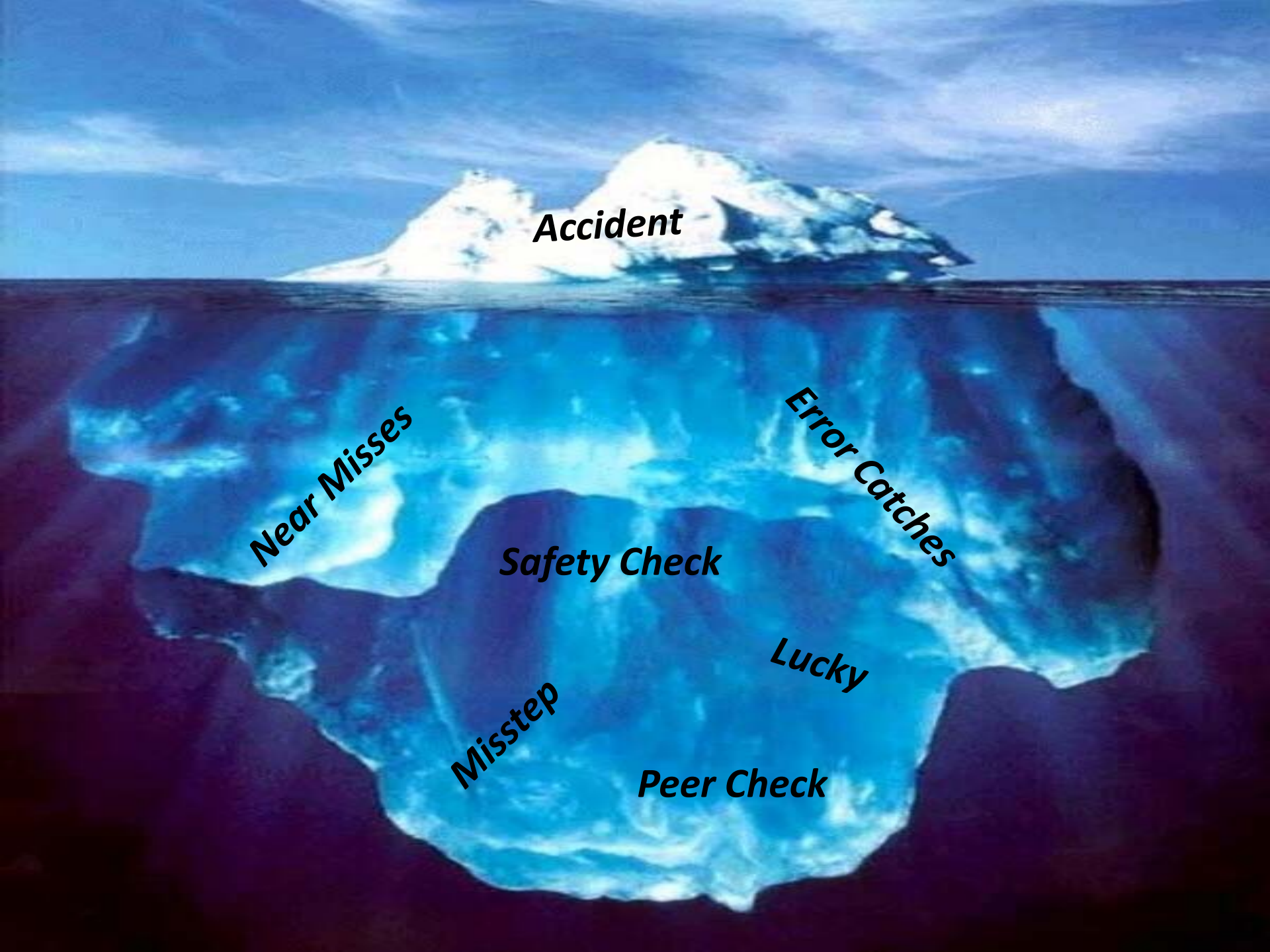
- Misoperations of relay protection and control systems
- Human errors by field personnel
- Ambiguous or incomplete voice communications
- Right-of-way maintenance
- Changing resource mix
- Integration of new technologies
- Preparedness for high impact, low frequency events
- Non-traditional threats via cyber security vulnerabilities

***NERC President's Top Priority Issues for Bulk Power System Reliability,*** http://www.nerc.com/news_pr.php?npr=723 **at** http://www.nerc.com/fileUploads/File/News/NERC%20President%20Top%20Priority%20BPS%20Reliability%20Issues%201-7-11.pdf

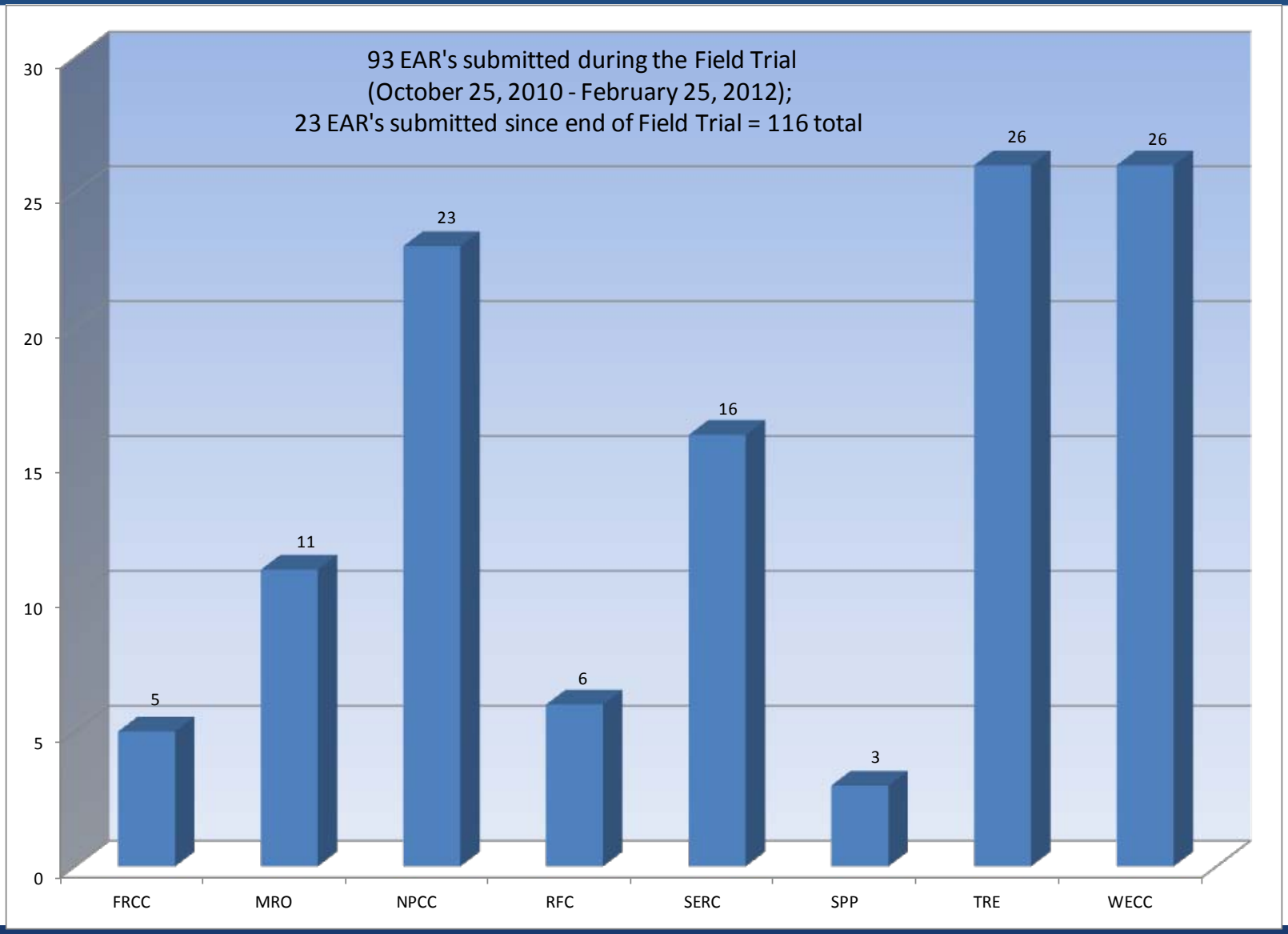
# RRM Initiatives

- **Over 22 Lessons Learned published last year**
- **Published:** Cause Analysis Methods for NERC, Regional Entities, and Registered Entities
- **NERC Improving Human Performance on the Grid Conference**
- **Cause Analysis Course**

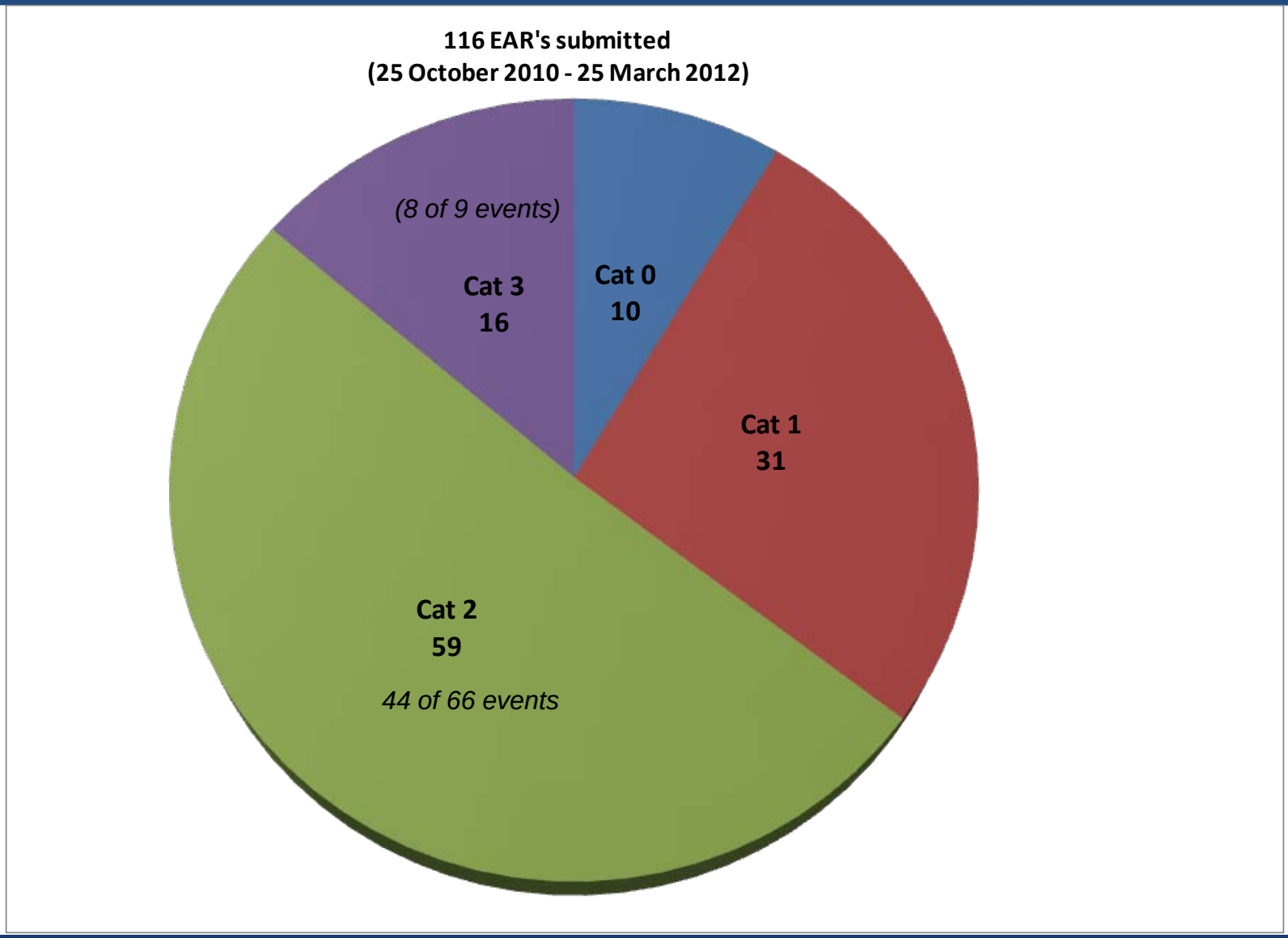



Accident
Near Misses
Error Catches
Safety Check
Lucky
Misstep
Peer Check

# Event Analysis Report (EAR) Submittals



# Event Analysis Report (EAR) Submittals

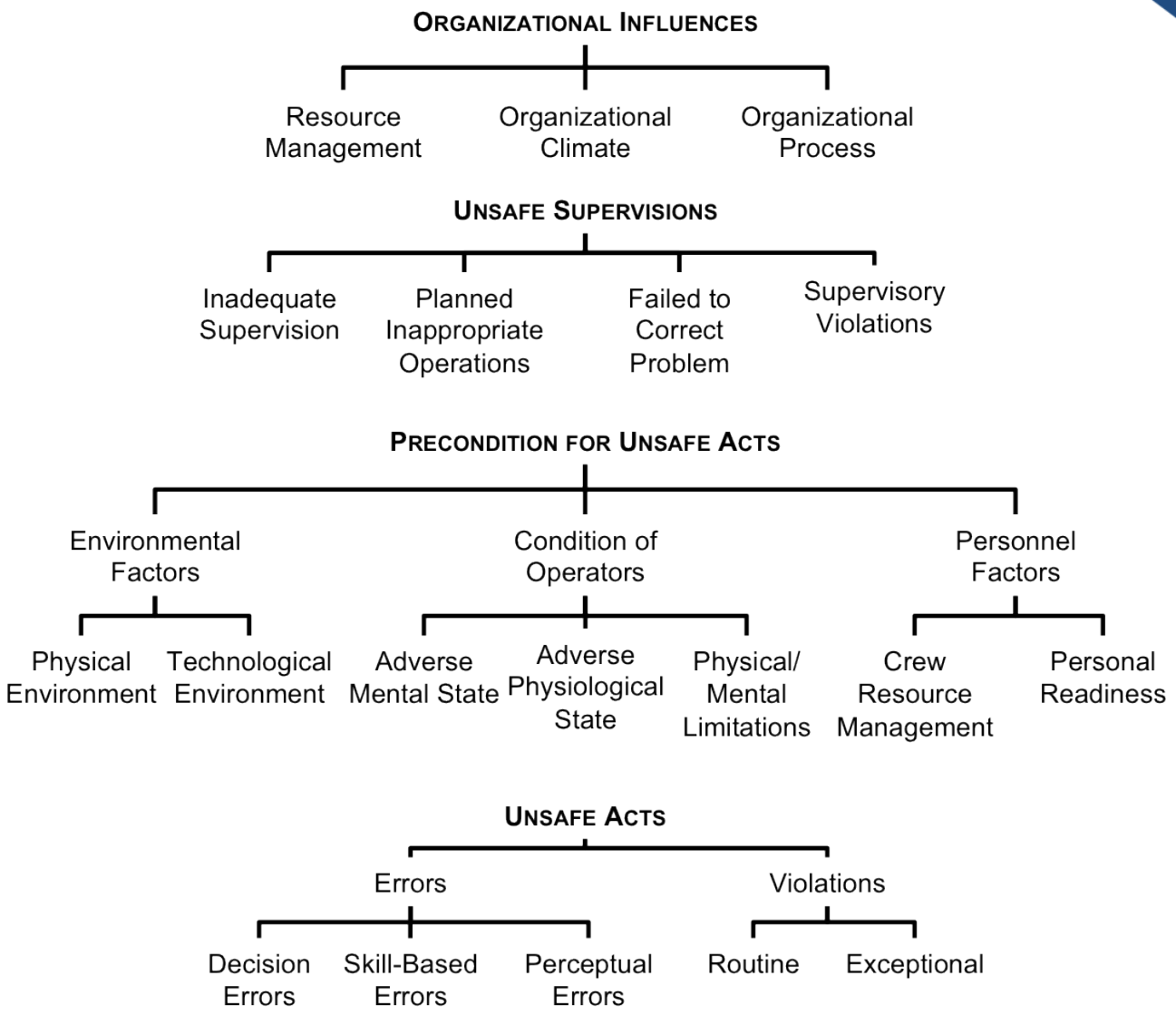


# Candidate Lessons Learned

Not every event on the bulk power system (BPS) has a quality "**Lesson**" to share

- NERC looked at 230 qualifying events (Category 1 and above) and received 119 "candidates" for Lessons Learned
  - 55 of these came from the Cold Snap event of 2011
- Excluding the Cold Snap event, there were 64 other events which resulted in a Lesson Learned being submitted for consideration
- Twenty-two Lessons Learned published in 2011, and three to date in 2012

# Human Factors Analysis and Classification



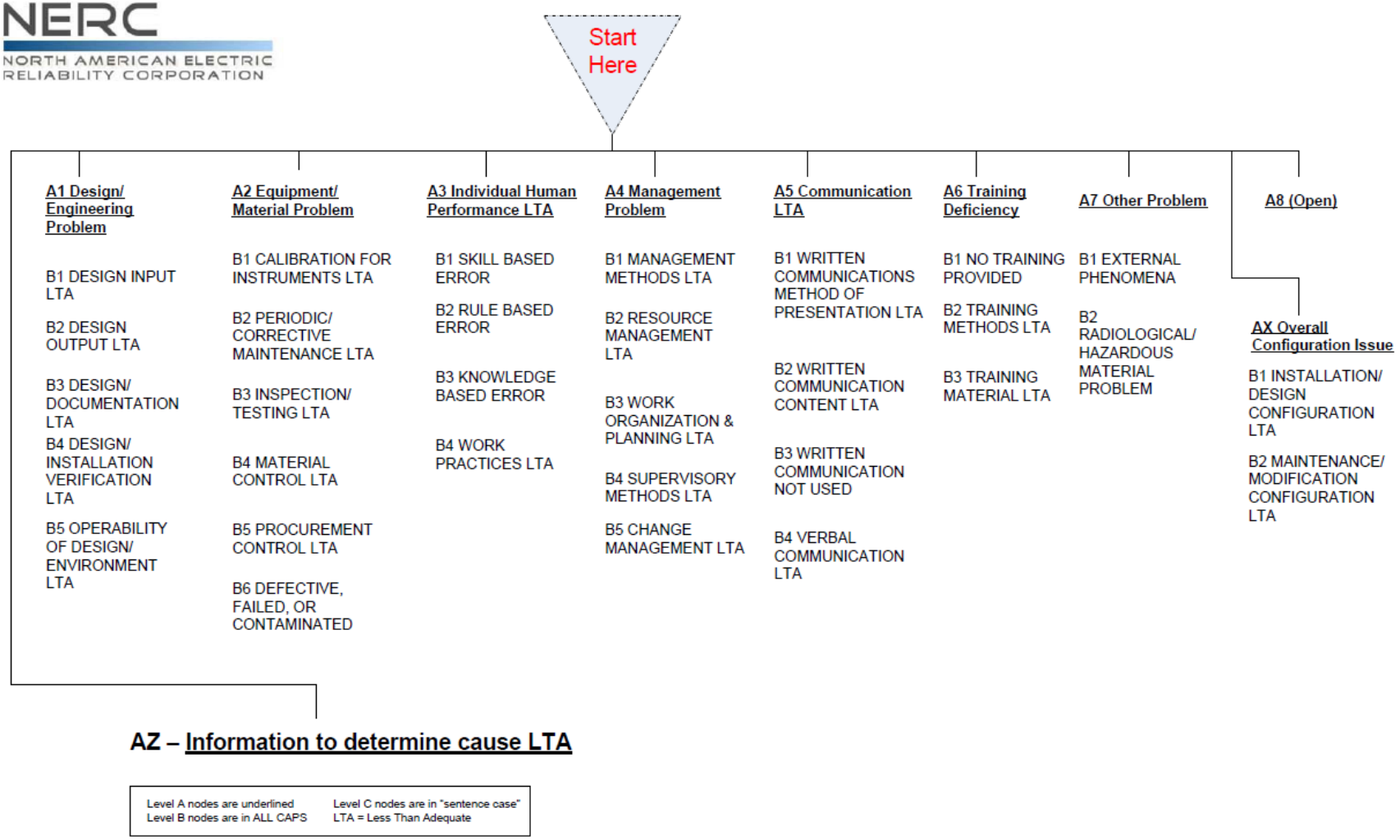
# NERC CCAP
# North American Electric Reliability Corporation Causal Code Assignment Process
## *An event and data analysis tool*

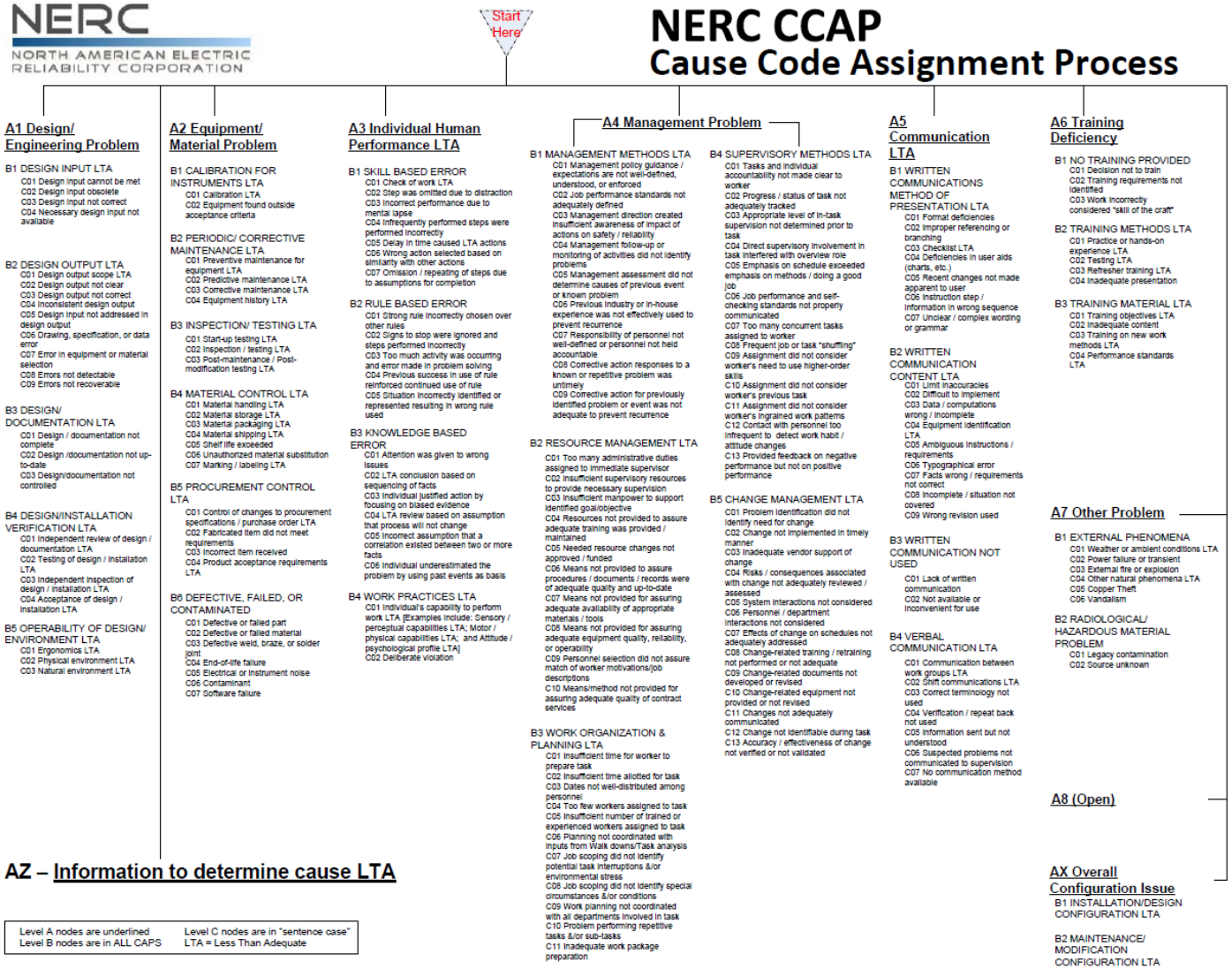
The Reliability Risk Management Group (RRM) has designed, developed, and implemented the North American Energy Reliability Corporation (NERC) Causal Code Assignment Process to allow accurate, efficient trending and subsequent analysis of events for sharing and providing a cooperative forum focused on improving the reliability of the Bulk Power System (BPS).

# Purpose

- Establish NERC causal coding program to guide, assist, and inform industry
- Venue to share data across NERC
- Opportunity to collect and disseminate reliability data
- Expanded communication channel to reach parts of industry and Electric Reliability Organization
- Foster trust and collaboration between Applicable Governmental Agency, ERO and stakeholders

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION




NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION
Start Here
NERC CCAP
Cause Code Assignment Process
A1 Design/ Engineering Problem
B1 DESIGN INPUT LTA
C01 Design input cannot be met
C02 Design input obsolete
C03 Design input not correct
C04 Necessary design input not available
B2 DESIGN OUTPUT LTA
C01 Design output scope LTA
C02 Design output not clear
C03 Design output not correct
C04 Inconsistent design output
C05 Design input not addressed in design output
C06 Drawing, specification, or data error
C07 Error in equipment or material selection
C08 Errors not detectable
C09 Errors not recoverable
B3 DESIGN/ DOCUMENTATION LTA
C01 Design / documentation not complete
C02 Design /documentation not up-to-date
C03 Design/documentation not controlled
B4 DESIGN/INSTALLATION VERIFICATION LTA
C01 Independent review of design / documentation LTA
C02 Testing of design / installation LTA
C03 Independent inspection of design / installation LTA
C04 Acceptance of design / installation LTA
B5 OPERABILITY OF DESIGN/ ENVIRONMENT LTA
C01 Ergonomics LTA
C02 Physical environment LTA
C03 Natural environment LTA
A2 Equipment/ Material Problem
B1 CALIBRATION FOR INSTRUMENTS LTA
C01 Calibration LTA
C02 Equipment found outside acceptance criteria
B2 PERIODIC/ CORRECTIVE MAINTENANCE LTA
C01 Preventive maintenance for equipment LTA
C02 Predictive maintenance LTA
C03 Corrective maintenance LTA
C04 Equipment history LTA
B3 INSPECTION/ TESTING LTA
C01 Start-up testing LTA
C02 Inspection / testing LTA
C03 Post-maintenance / Post-modification testing LTA
B4 MATERIAL CONTROL LTA
C01 Material handling LTA
C02 Material storage LTA
C03 Material packaging LTA
C04 Material shipping LTA
C05 Shelf life exceeded
C06 Unauthorized material substitution
C07 Marking / labeling LTA
B5 PROCUREMENT CONTROL LTA
C01 Control of changes to procurement specifications / purchase order LTA
C02 Fabricated item did not meet requirements
C03 Incorrect item received
C04 Product acceptance requirements LTA
B6 DEFECTIVE, FAILED, OR CONTAMINATED
C01 Defective or failed part
C02 Defective or failed material
C03 Defective weld, braze, or solder joint
C04 End-of-life failure
C05 Electrical or instrument noise
C06 Contaminant
C07 Software failure
A3 Individual Human Performance LTA
B1 SKILL BASED ERROR
C01 Check of work LTA
C02 Step was omitted due to distraction
C03 Incorrect performance due to mental lapse
C04 Infrequently performed steps were performed incorrectly
C05 Delay in time caused LTA actions
C06 Wrong action selected based on similarity with other actions
C07 Omission / repeating of steps due to assumptions for completion
B2 RULE BASED ERROR
C01 Strong rule incorrectly chosen over other rules
C02 Signs to stop were ignored and steps performed incorrectly
C03 Too much activity was occurring and error made in problem solving
C04 Previous success in use of rule reinforced continued use of rule
C05 Situation incorrectly identified or represented resulting in wrong rule used
B3 KNOWLEDGE BASED ERROR
C01 Attention was given to wrong issues
C02 LTA conclusion based on sequencing of facts
C03 Individual justified action by focusing on biased evidence
C04 LTA review based on assumption that process will not change
C05 Incorrect assumption that a correlation existed between two or more facts
C06 Individual underestimated the problem by using past events as basis
B4 WORK PRACTICES LTA
C01 Individual's capability to perform work LTA [Examples include: Sensory / perceptual capabilities LTA; Motor / physical capabilities LTA; and Attitude / psychological profile LTA]
C02 Deliberate violation
A4 Management Problem
B1 MANAGEMENT METHODS LTA
C01 Management policy guidance / expectations are not well-defined, understood, or enforced
C02 Job performance standards not adequately defined
C03 Management direction created insufficient awareness of impact of actions on safety / reliability
C04 Management follow-up or monitoring of activities did not identify problems
C05 Management assessment did not determine causes of previous event or known problem
C06 Previous industry or in-house experience was not effectively used to prevent recurrence
C07 Responsibility of personnel not well-defined or personnel not held accountable
C08 Corrective action responses to a known or repetitive problem was untimely
C09 Corrective action for previously identified problem or event was not adequate to prevent recurrence
B2 RESOURCE MANAGEMENT LTA
C01 Too many administrative duties assigned to immediate supervisor
C02 Insufficient supervisory resources to provide necessary supervision
C03 Insufficient manpower to support identified goal/objective
C04 Resources not provided to assure adequate training was provided / maintained
C05 Needed resource changes not approved / funded
C06 Means not provided to assure procedures / documents / records were of adequate quality and up-to-date
C07 Means not provided for assuring adequate availability of appropriate materials / tools
C08 Means not provided for assuring adequate equipment quality, reliability, or operability
C09 Personnel selection did not assure match of worker motivations/job descriptions
C10 Means/method not provided for assuring adequate quality of contract services
B3 WORK ORGANIZATION & PLANNING LTA
C01 Insufficient time for worker to prepare task
C02 Insufficient time allotted for task
C03 Duties not well-distributed among personnel
C04 Too few workers assigned to task
C05 Insufficient number of trained or experienced workers assigned to task
C06 Planning not coordinated with inputs from Walk downs/Task analysis
C07 Job scoping did not identify potential task interruptions &/or environmental stress
C08 Job scoping did not identify special circumstances &/or conditions
C09 Work planning not coordinated with all departments involved in task
C10 Problem performing repetitive tasks &/or sub-tasks
C11 Inadequate work package preparation
B4 SUPERVISORY METHODS LTA
C01 Tasks and individual accountability not made clear to worker
C02 Progress / status of task not adequately tracked
C03 Appropriate level of in-task supervision not determined prior to task
C04 Direct supervisory involvement in task interfered with overview role
C05 Emphasis on schedule exceeded emphasis on methods / doing a good job
C06 Job performance and self-checking standards not properly communicated
C07 Too many concurrent tasks assigned to worker
C08 Frequent job or task "shuffling"
C09 Assignment did not consider worker's need to use higher-order skills
C10 Assignment did not consider worker's previous task
C11 Assignment did not consider worker's ingrained work patterns
C12 Contact with personnel too infrequent to detect work habit / attitude changes
C13 Provided feedback on negative performance but not on positive performance
B5 CHANGE MANAGEMENT LTA
C01 Problem identification did not identify need for change
C02 Change not implemented in timely manner
C03 Inadequate vendor support of change
C04 Risks / consequences associated with change not adequately reviewed / assessed
C05 System interactions not considered
C06 Personnel / department interactions not considered
C07 Effects of change on schedules not adequately addressed
C08 Change-related training / retraining not performed or not adequate
C09 Change-related documents not developed or revised
C10 Change-related equipment not provided or not revised
C11 Changes not adequately communicated
C12 Change not identifiable during task
C13 Accuracy / effectiveness of change not verified or not validated
A5 Communication LTA
B1 WRITTEN COMMUNICATIONS METHOD OF PRESENTATION LTA
C01 Format deficiencies
C02 Improper referencing or branching
C03 Checklist LTA
C04 Deficiencies in user aids (charts, etc.)
C05 Recent changes not made apparent to user
C06 Instruction step / information in wrong sequence
C07 Unclear / complex wording or grammar
B2 WRITTEN COMMUNICATION CONTENT LTA
C01 Limit inaccuracies
C02 Difficult to implement
C03 Data / computations wrong / incomplete
C04 Equipment identification LTA
C05 Ambiguous instructions / requirements
C06 Typographical error
C07 Facts wrong / requirements not correct
C08 Incomplete / situation not covered
C09 Wrong revision used
B3 WRITTEN COMMUNICATION NOT USED
C01 Lack of written communication
C02 Not available or inconvenient for use
B4 VERBAL COMMUNICATION LTA
C01 Communication between work groups LTA
C02 Shift communications LTA
C03 Correct terminology not used
C04 Verification / repeat back not used
C05 Information sent but not understood
C06 Suspected problems not communicated to supervision
C07 No communication method available
A6 Training Deficiency
B1 NO TRAINING PROVIDED
C01 Decision not to train
C02 Training requirements not identified
C03 Work incorrectly considered "skill of the craft"
B2 TRAINING METHODS LTA
C01 Practice or hands-on experience LTA
C02 Testing LTA
C03 Refresher training LTA
C04 Inadequate presentation
B3 TRAINING MATERIAL LTA
C01 Training objectives LTA
C02 Inadequate content
C03 Training on new work methods LTA
C04 Performance standards LTA
A7 Other Problem
B1 EXTERNAL PHENOMENA
C01 Weather or ambient conditions LTA
C02 Power failure or transient
C03 External fire or explosion
C04 Other natural phenomena LTA
C05 Copper Theft
C06 Vandalism
B2 RADIOLOGICAL/ HAZARDOUS MATERIAL PROBLEM
C01 Legacy contamination
C02 Source unknown
A8 (Open)
AX Overall Configuration Issue
B1 INSTALLATION/DESIGN CONFIGURATION LTA
B2 MAINTENANCE/ MODIFICATION CONFIGURATION LTA
AZ – Information to determine cause LTA
Level A nodes are underlined
Level B nodes are in ALL CAPS
Level C nodes are in "sentence case"
LTA = Less Than Adequate

# NERC Alert-Advisory

**Configuration Control Practices –** Advised industry of events resulting from human performance errors during protection system maintenance

Event examples of inadequate control procedures:

1. Relay technician follow proper procedure to return protection system to normal state resulting in remote trip
2. Construction team failed to use latest construction document resulting in incorrect calibration of equipment
3. Relay technician leaves work site. Returns to resume work but did so at wrong cabinet and trips substation
4. Technician trips a transformer due opening a wrong current shorting switch

# NERC Alert-Advisory

- **EMS Alert Advisory Analysis-** During the Event Analysis (EA) field trial, 28 Category 2b events have occurred where a complete loss of SCADA/EMS lasted for more than 30 minutes. Analysis is currently being conducted to provide emerging trends for the industry
- Current analysis of these events has shown:
  - **Software failure** is a major contributing factor in 50 percent of the events
  - **Testing of the equipment** has been shown to be a factor in over 40 percent of the failures:
    - Test environment did not match the production environment
    - Product design (less than adequate)
  - **Change Management** has had an impact in over 50 percent of the failures:
    - Risk and consequences associated with change not properly managed
    - Identified changes not implemented in a timely manner
  - **Individual operator skill-based error** was involved in 15 percent of the events...

# A Tale of Two Cylinders



# Or…When Good Pistons Go Bad!



# Why Root Cause Versus Apparent Cause?

- Facts:
  - Jeep had 107k miles
  - Cylinders were fine…no abrasions (whew, got lucky)
  - Approximately $2,500 to completely rebuild, same block just new pistons
  - Just mean time between failures for pistons…or maybe not

# The Rest of the Story…

- Mechanic noticed some scalding on other pistons
- No history of ever overheating

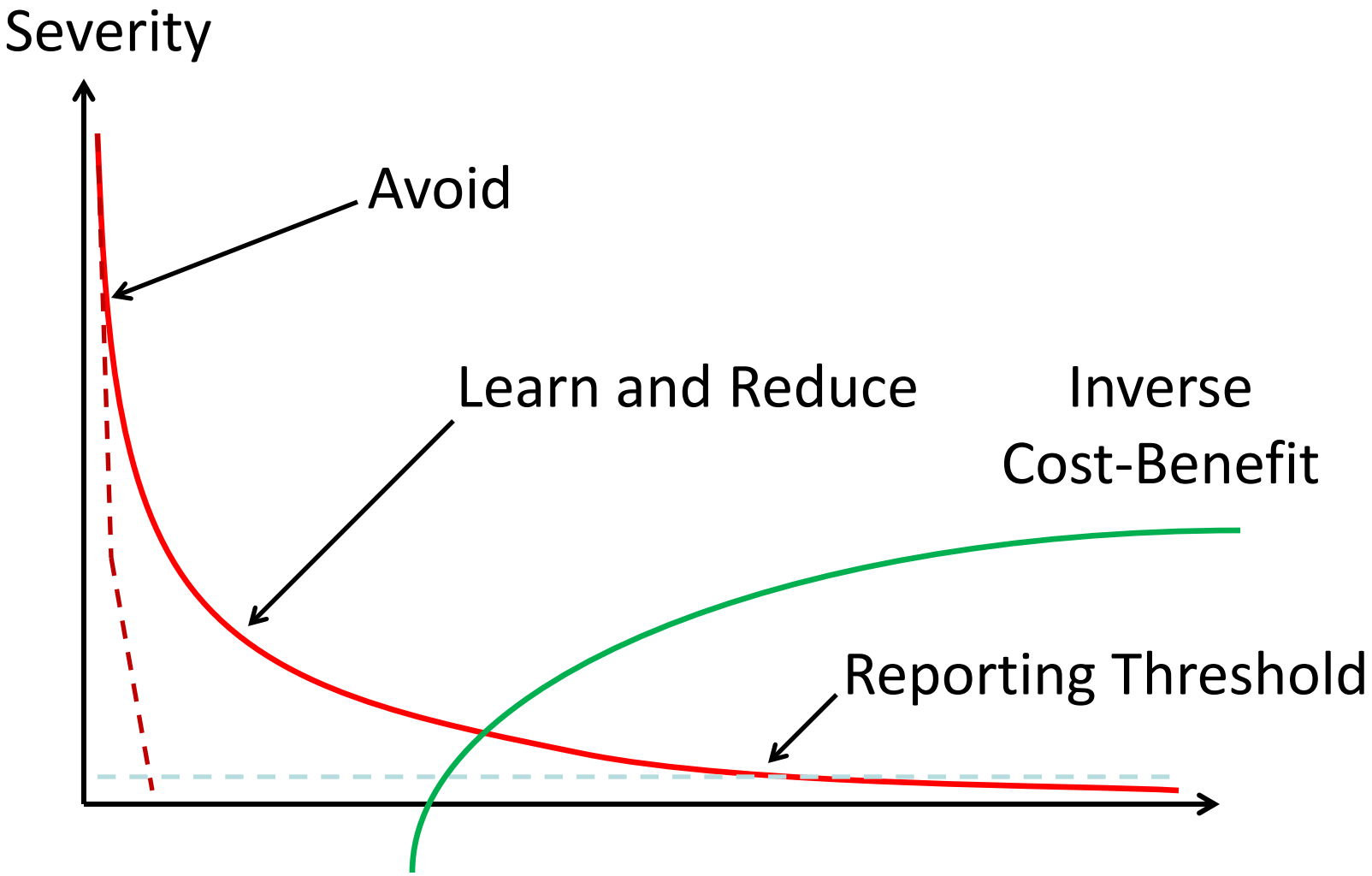
# The Rest of the Story…

- Mechanic noticed some scalding on other pistons
- No history of ever overheating
- Jeep was hit on right side, at 70k miles
- Right fender was replaced, radiator and fan blade...no damage to engine block

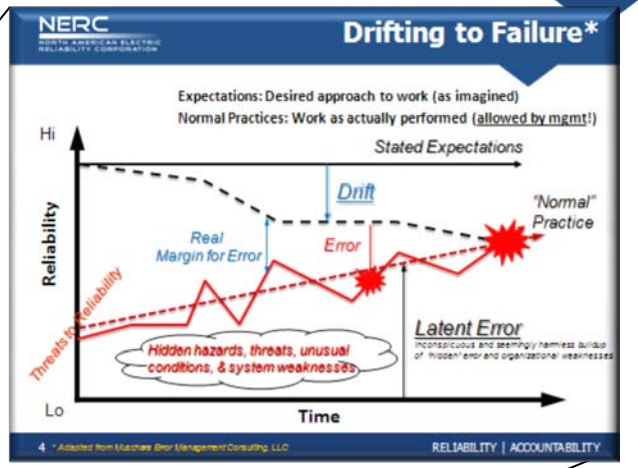
# The Rest of the Story…

- Mechanic noticed some scalding on other pistons
- No history of ever overheating
- Jeep was hit on right side, at 70k miles
- Right fender was replaced, radiator and fan blade...no damage to engine block
- New fan blade was installed backwards!
- Jeep was running hotter than it should…just slightly…not enough to notice…and there was a new owner so there was no baseline

# Reliability Risk Management Concept



# Reliability Risk Management Concept




Severity

Avoid

Learn and Reduce

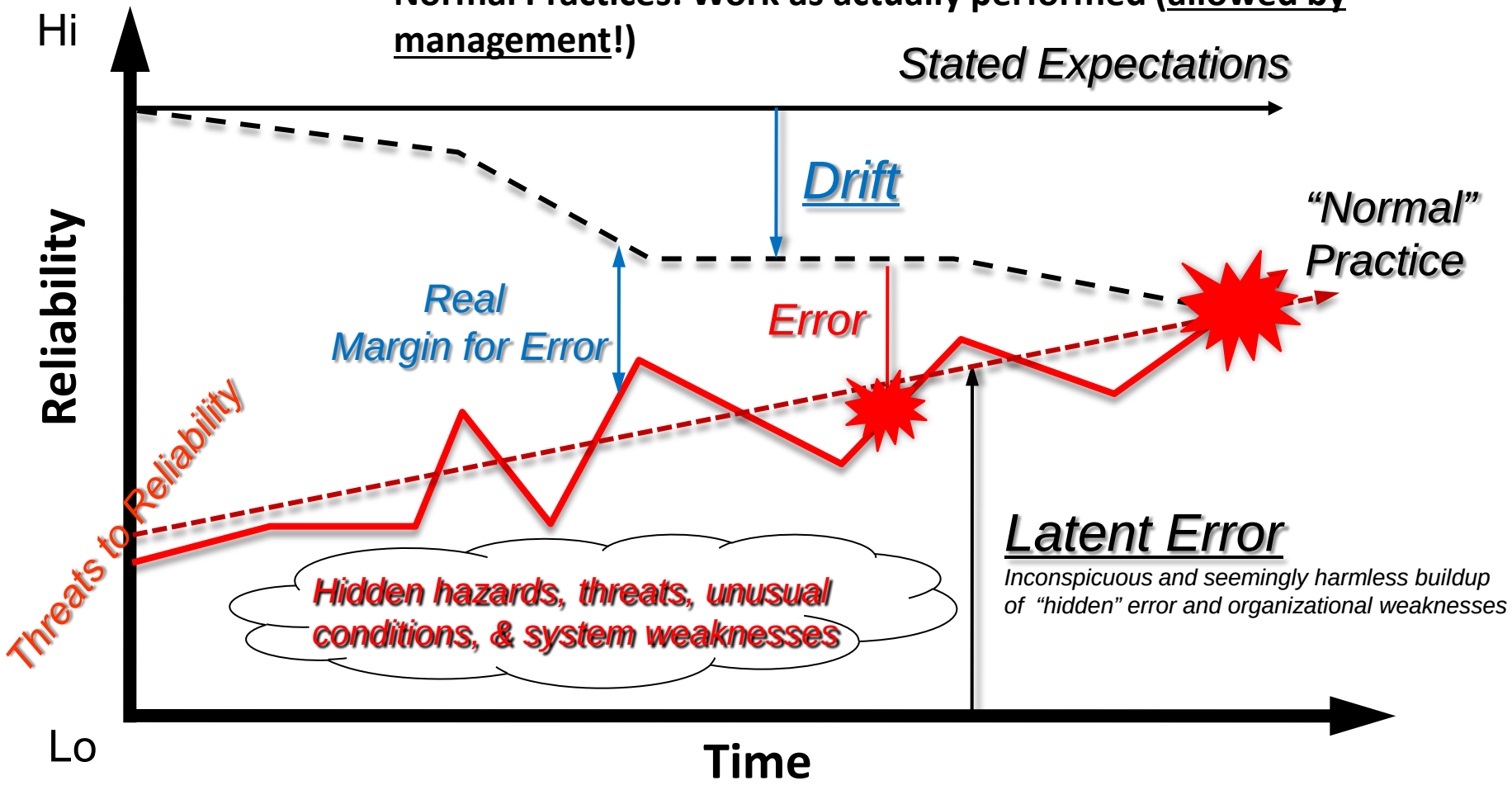
Inverse Cost-Benefit

Reporting Threshold

# Drifting to Failure*

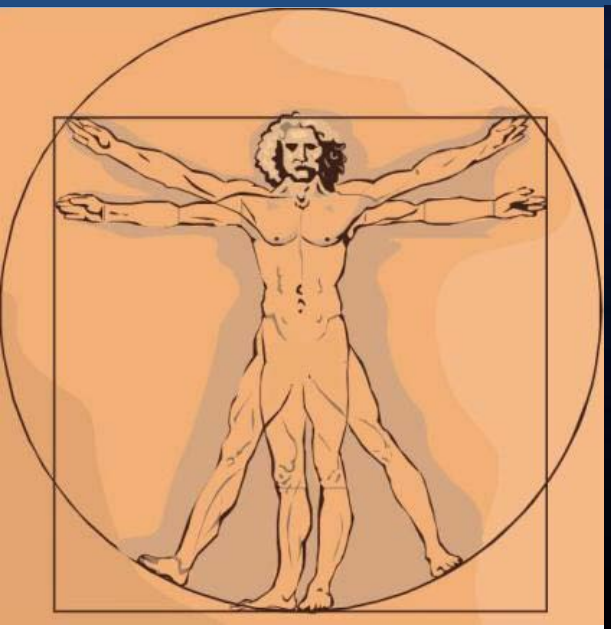
**Expectations: Desired approach to work (as imagined)**

**Normal Practices: Work as actually performed (allowed by management!)**




* *Adapted from Muschara Error Management Consulting, LLC*

# Human Performance







It is not a matter of if the automation fails, it is a matter of when.

# Too Hard?

*"Complicated Industry"*
*"Come a long way"*
*"Can't get to zero"*
*"Automate; technology reduces the need for human operator"*





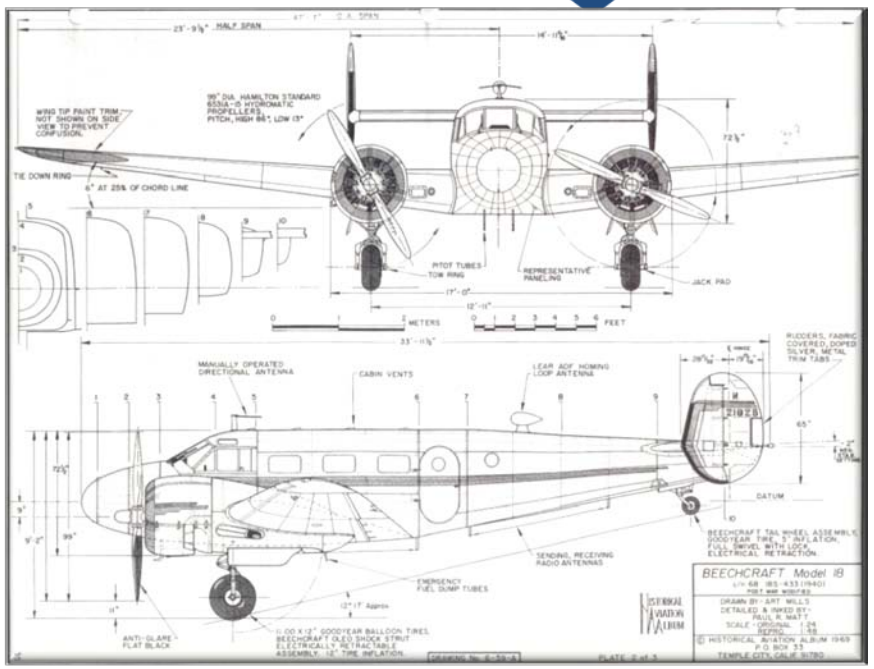




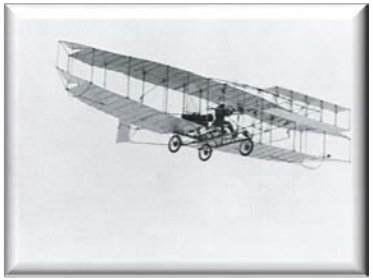


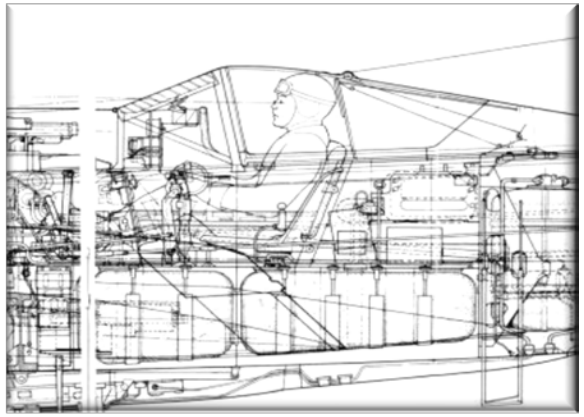
# Too Hard?

*"Complicated Industry"*
*"Come a long way"*
*"Can't get to zero"*
*"Automate; technology reduces the need for human operator"*



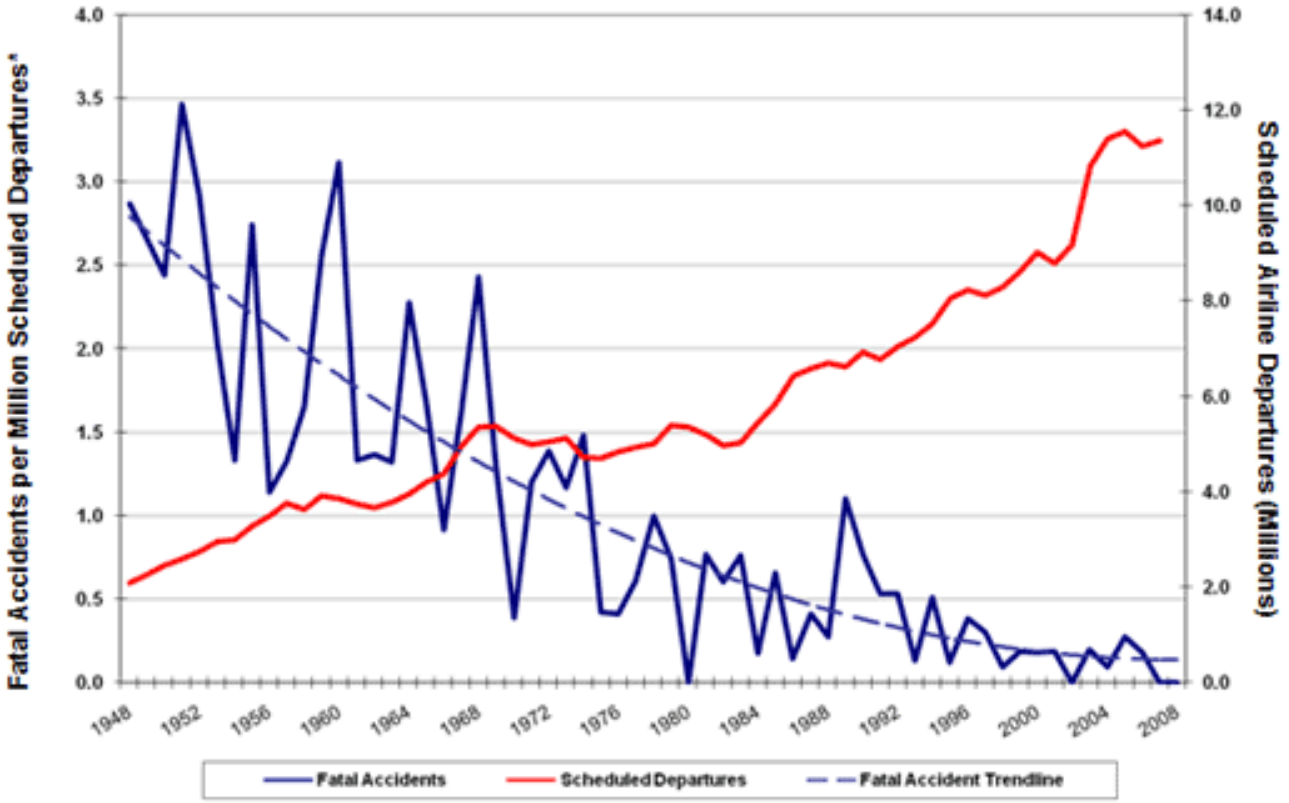




# Challenge

## With Each Decade, U.S. Airline Safety Has Improved



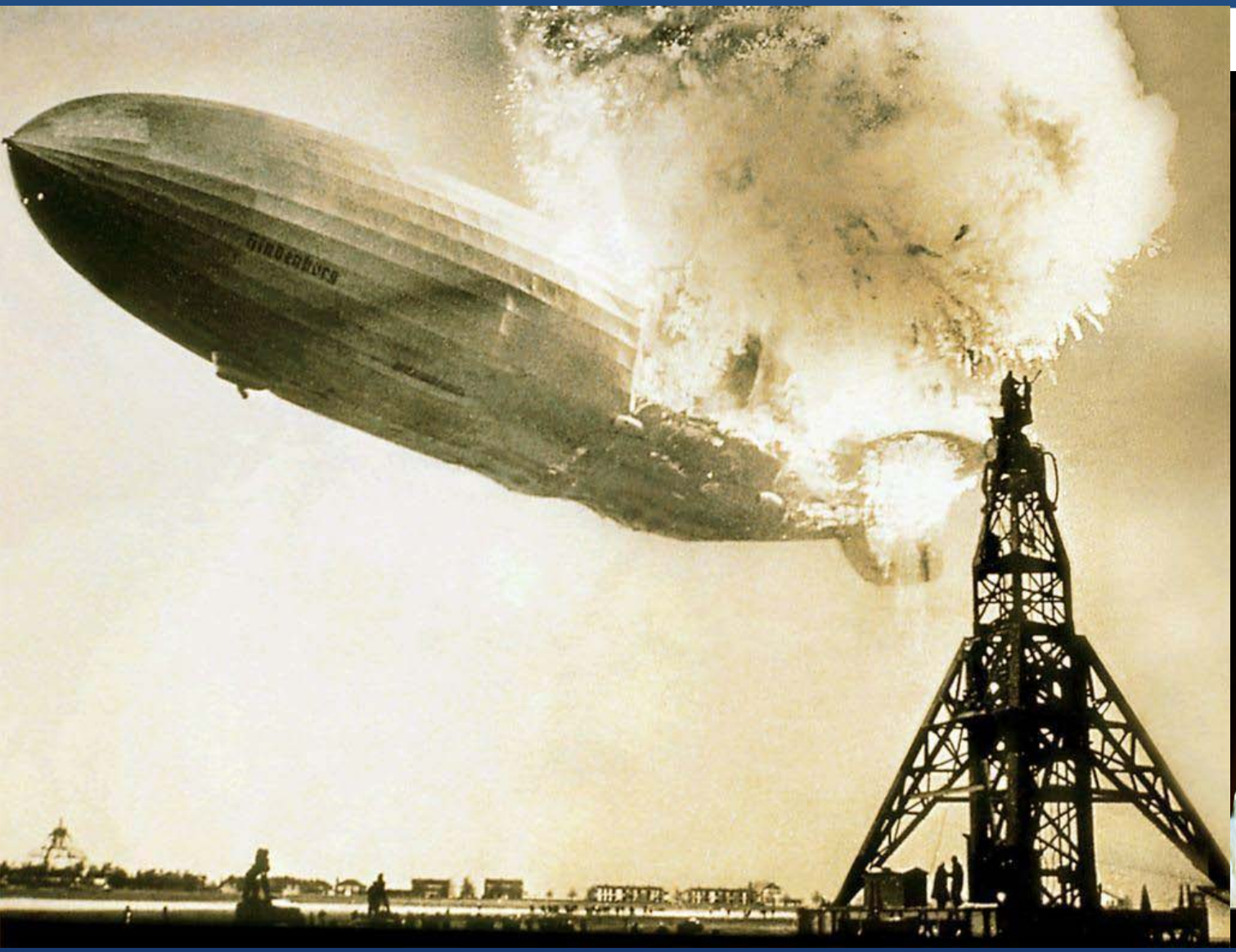

* Scheduled passenger and cargo operations of U.S. air carriers operating under 14 CFR 121; NTSB accident rates exclude incidents resulting from illegal acts

Source: National Transportation Safety Board (NTSB)

www.airlines.org/PublicPolicy/Testimony/Pages/testimony_5-13-09Senate.aspx&docid=qnHU9MAraY_WIM&w=550&h=403&ei=mdRbTvkrhLm3B8nyibgM&zoom=1&iact=rc&dur=62&page=2&tbnh=167&tbnw=216&start=50&ndsp=31&ved=1t:429,r:4,s:50&tx=110&ty=85

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Stuff Happens





# Human Performance Analysis

- We have not fully understood an event if we don't see the actors' actions as reasonable
- The point of a human error investigation is to understand why people did what they did, not to judge them for what they did not do
- The difference between an accident and a serious incident lies only in the result

# Silence is Consent





# Human Performance Tests

- People are fallible, and all people make mistakes
- Error-likely situations are predictable, manageable, and preventable
- Individual behavior is influenced by organizational processes and values
- People achieve high levels of performance largely because of the encouragement and reinforcement received from leaders, peers, and subordinates
- Events can be avoided through an understanding of the reasons mistakes occur and application of the lessons learned from past events or near misses

# Human Performance Tools

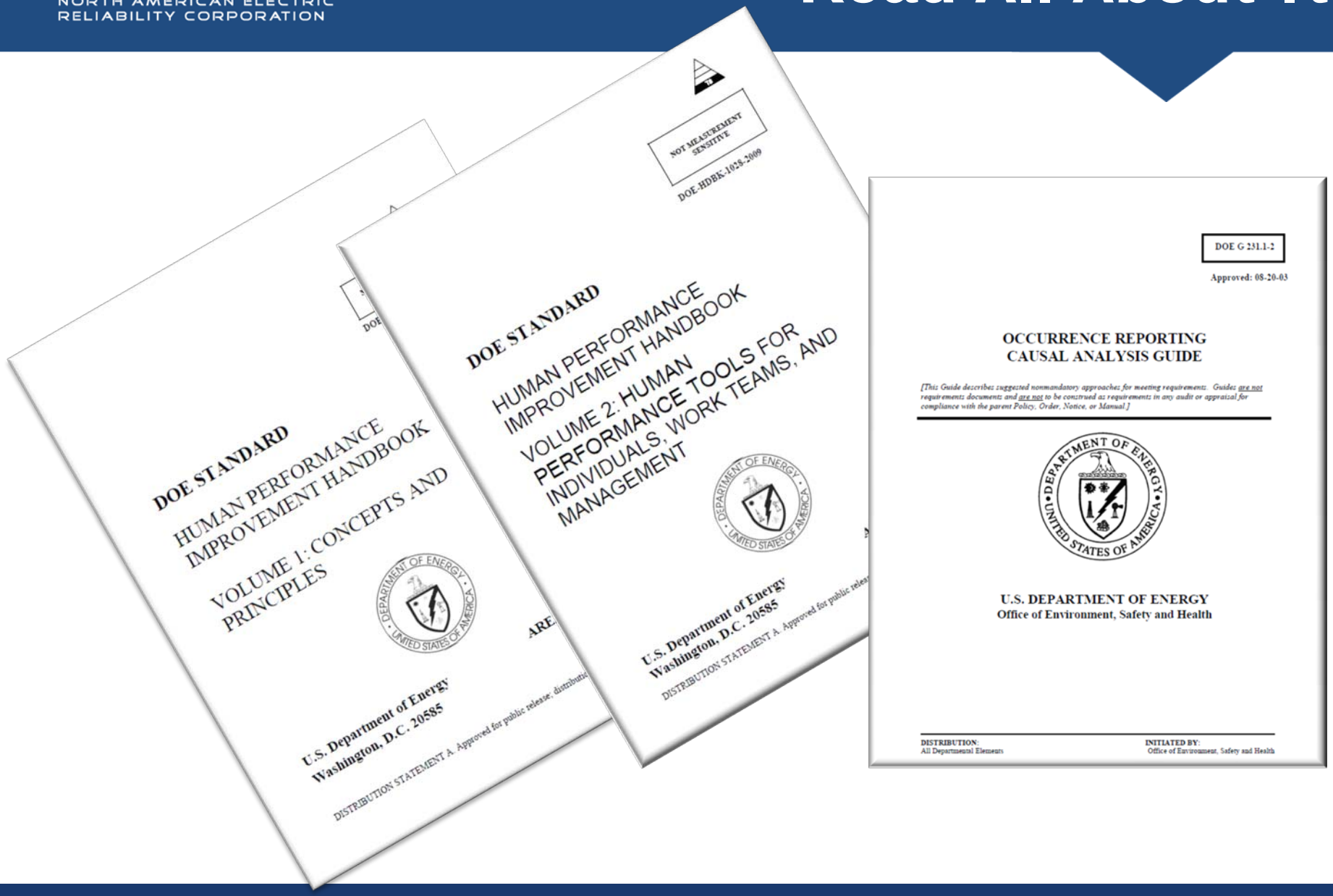


# Human Performance Tools

- Two minute rule
- Stop when unsure
- Self checking (also called STAR and touch STAR)
- Procedure use and adherence
- Three way communication
- Phonetic alphabet
- Pre-job brief
- Peer check
- Concurrent verification
- Independent verification
- Flagging operational barriers
- Place keeping
- Post job interview
- First check

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Read All About It



# Moving Slow to Move Fast

- All human performance tools deliberately slow things down to ultimately speed things up by avoiding delays that accompany events triggered by active errors
- When used conscientiously, these tools give the individual more time to think about the task at hand; about what is happening, what will happen, and what to do if things do not go as expected

# Six Human Considerations

- Attention
- Sensation
- Perception
- Cognition
- Decision making
- Action

# Attention

- Spotlight metaphor
- Each modality has its strengths
- Multiple Resource Theory



*Photo by isafmedia. Used with permission.*

The sniper's mental state is **focused**. The spotter's mental state is **scanning**. Both communicate effectively with each other. The result? Situational Awareness that you can bet your life on.

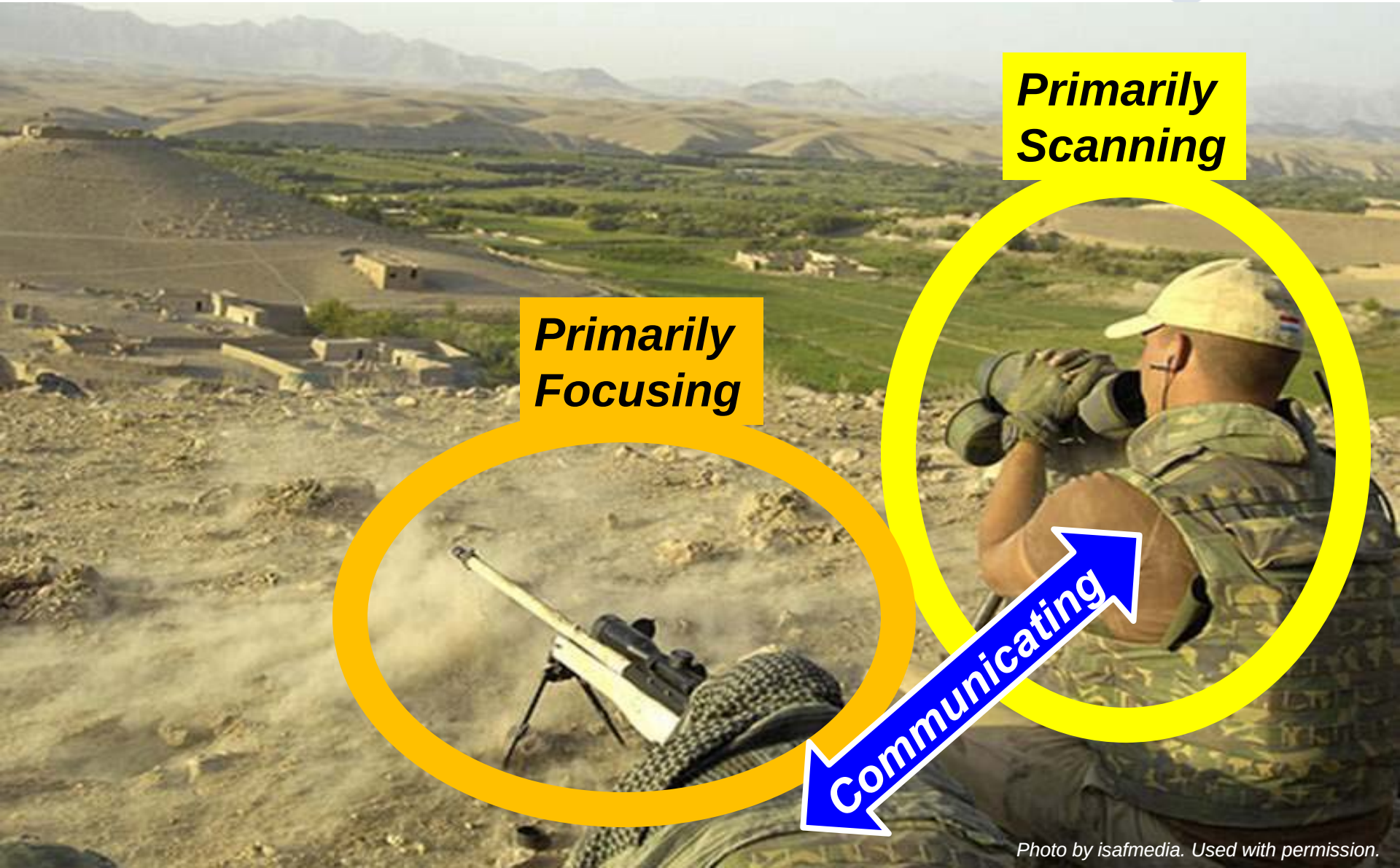
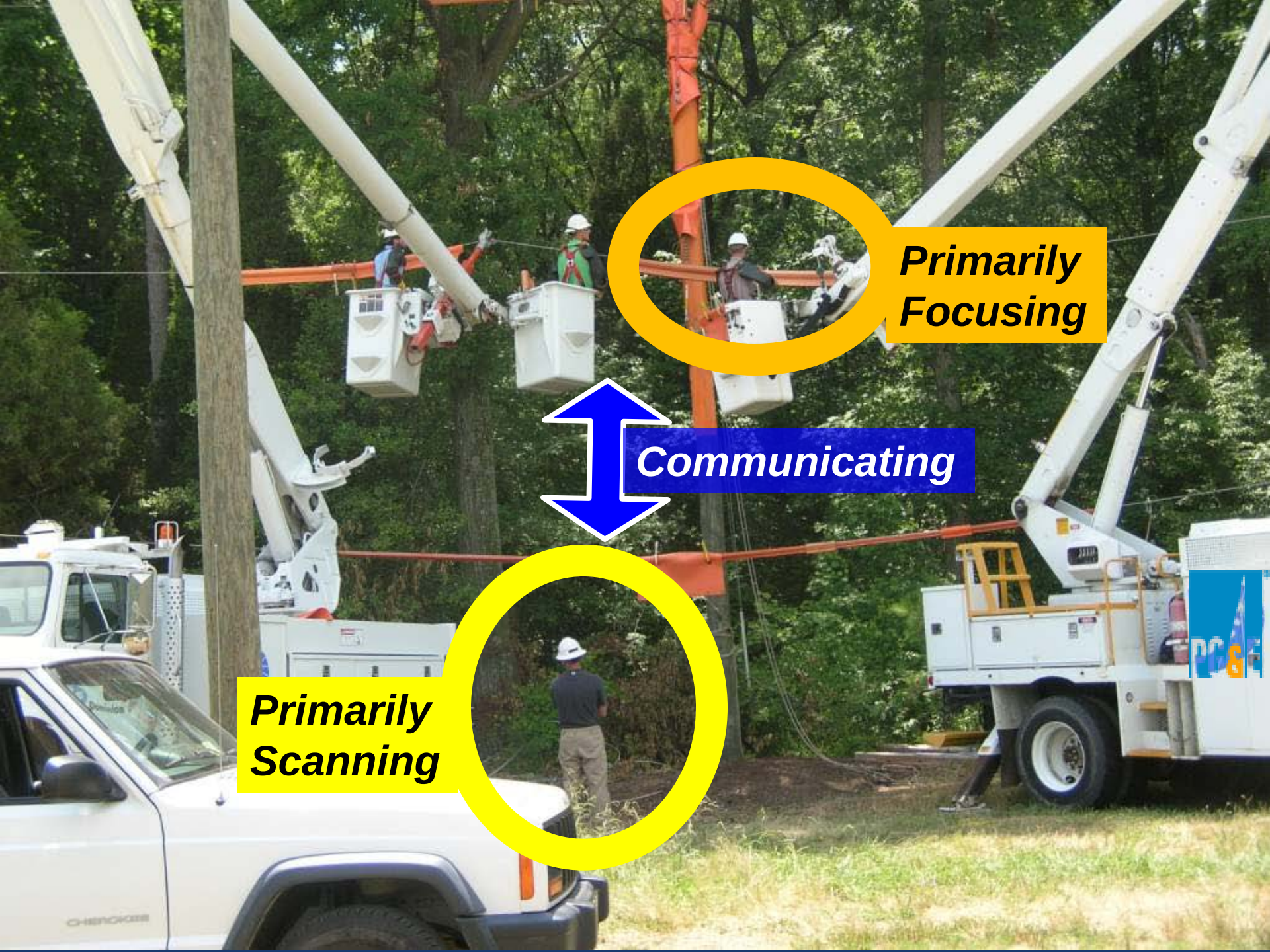
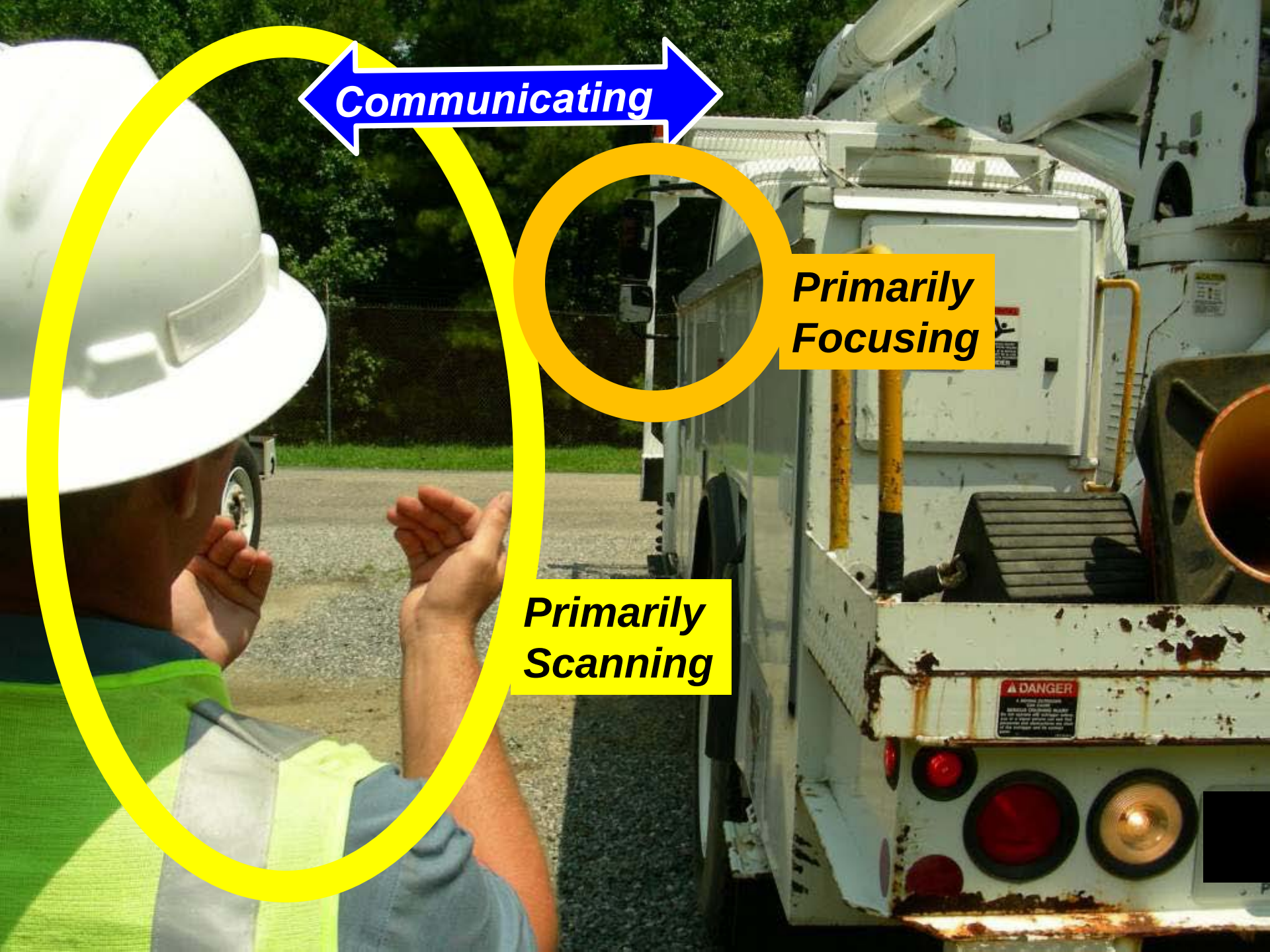


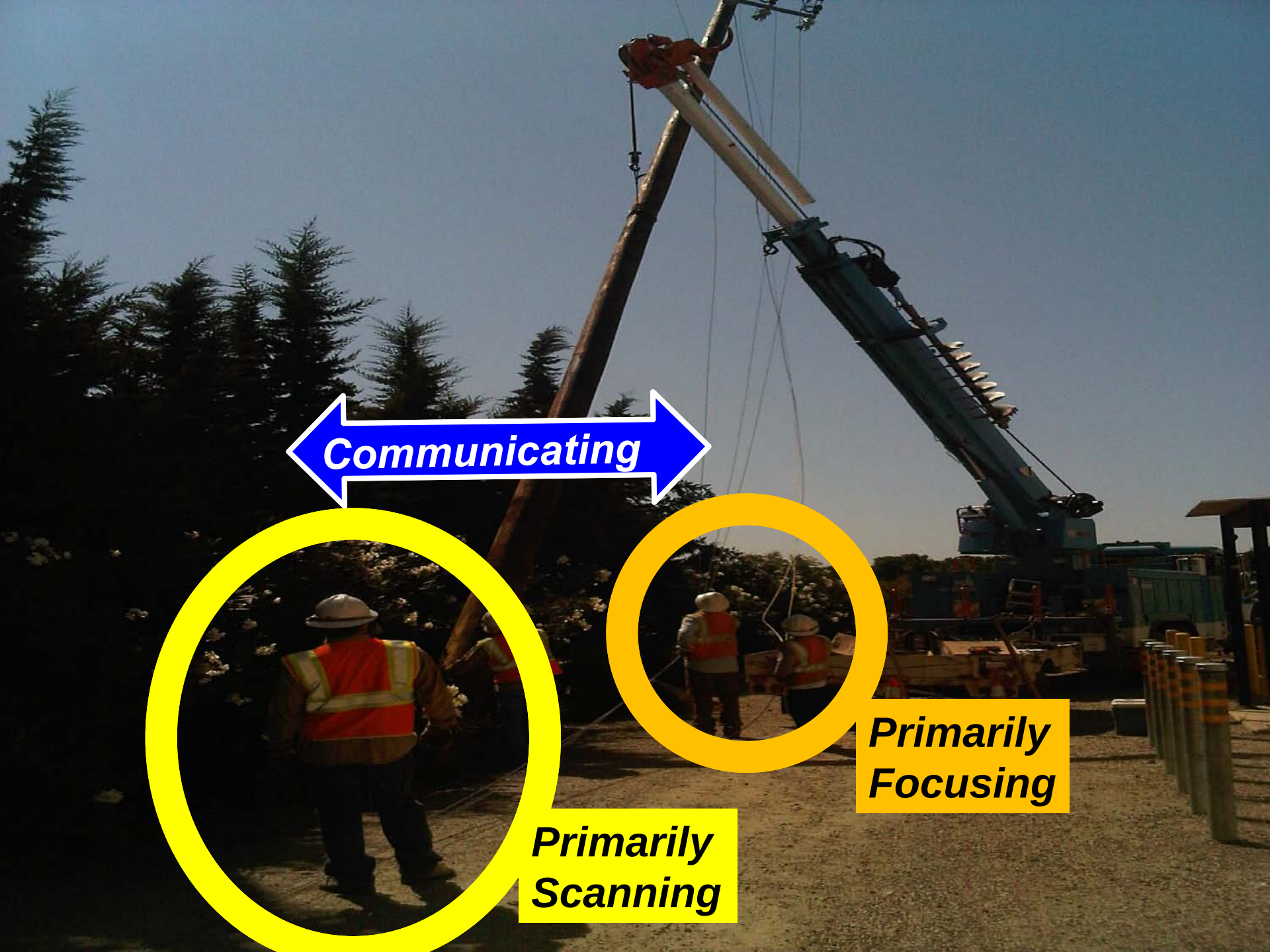

*Photo by isafmedia. Used with permission.*




Primarily Focusing
Communicating
Primarily Scanning


DANGER


Communicating
Primarily Focusing
Primarily Scanning
DANGER


Communicating
Primarily Scanning
Primarily Focusing

# Six Human Considerations

- Attention
- Sensation
- Perception
- Cognition
- Decision making
- Action

# Sensation

- Human limitations
- Absolute threshold
- Physiological psychology


2300
7B
2300
7C
2300
7A


ABB

# Hindsight is 20/20




**Regular Insulin** **N (for NPH Insulin).**


2300
7A

# Six Human Considerations

- Attention
- Sensation
- Perception
- Cognition
- Decision making
- Action

# Perception

- Perception is reality
- Bottom up versus top down
- Expectations

# What About the Science…

- CAPITAL LETTERS
  - WORD
  - EASIER
  - FASTER
  - BUT BECOMES MORE DIFFICULT WHEN PART OF A SENTENCE BECAUSE…
  - We use context to read and the shape matters

# Hindsight is 20/20




**Regular Insulin** **N (for NPH Insulin).**


2300
7A

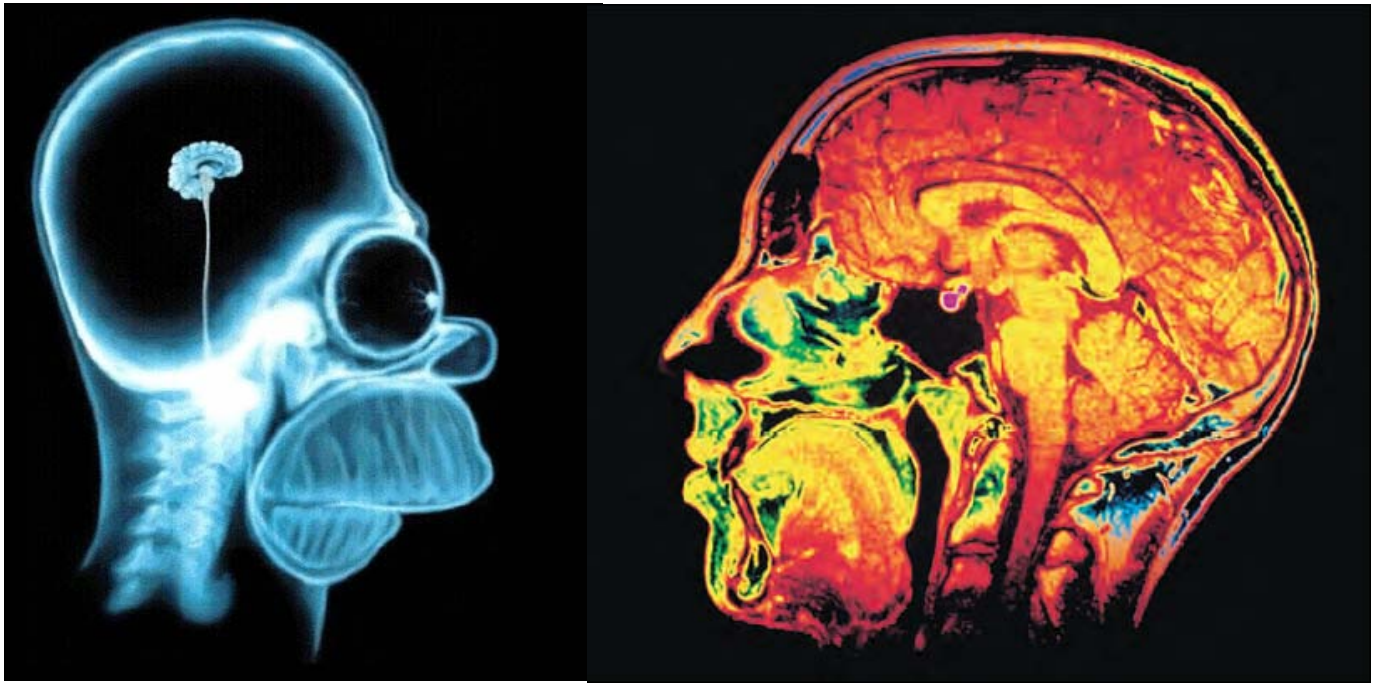
# *Communicating*



# Six Human Considerations

- Attention
- Sensation
- Perception
- Cognition
- Decision making
- Action

# Cognition



Biological Bases for Behavior

# Cognition

- What are you thinking about?
- Working memory versus long-term memory
- Experts versus novices

# Limited Working Memory

- Mind's short-term memory is the “workbench” for problem solving and decision-making
- Actively involved during learning, storing, and recalling information
- Often expressed as 7+ or -2
- Limitations of short-term memory are at the root of forgetfulness; forgetfulness leads to omissions when performing tasks
- Applying place-keeping techniques while using complex procedures compensates for this human limitation

# Working Memory

- Size 7+/-2 chunks
- VAFBICIADODIRA
  - VA FBI CIA DOD IRA
- Area codes
- Credit card numbers are divided into chunks
- Expert memories…or really good chunkers

# Doubting Me Still…

- Alphabet
  - 26 letters…
  - Or 8 chunks?

| | | | |
|---|---|---|---|
| ABCD | EFG | HIJK | LMNOP |
| QRS | TUV | WX | YZ |

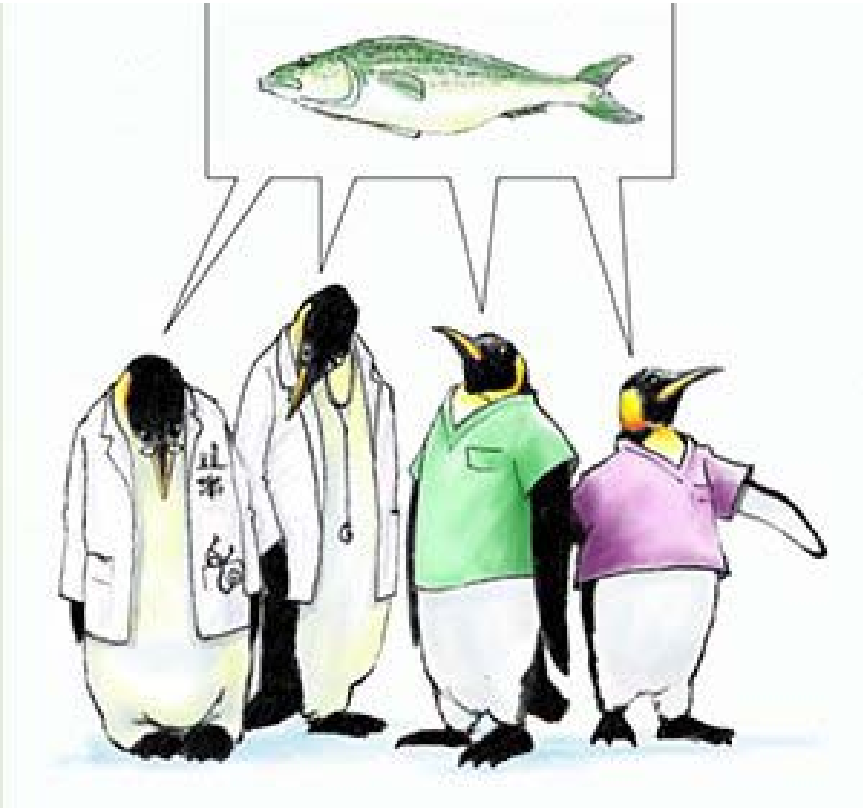




# Mental Model

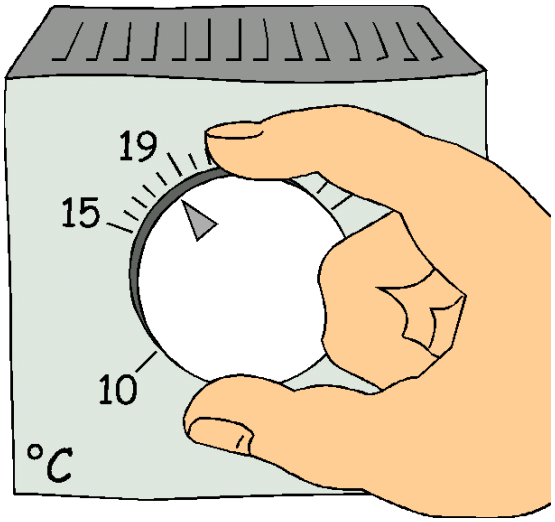
- One's understanding of a system, how it operates, its characteristics, performance parameters, couplings within itself and other systems and how one interacts with it
- It is a representation of the surrounding world, the relationships between its various parts and a person's intuitive perception about his or her own acts and their consequences
- Our mental models help to shape our behavior and define our approach to solving problems (a personal algorithm) and carrying out tasks, especially within a system
- Mental models are like opinions, they can be partially or completely right or wrong, complete or incomplete and most often are unique for each individual

# Perfectly Aligned Mental Model



# Improper Mental Model Example

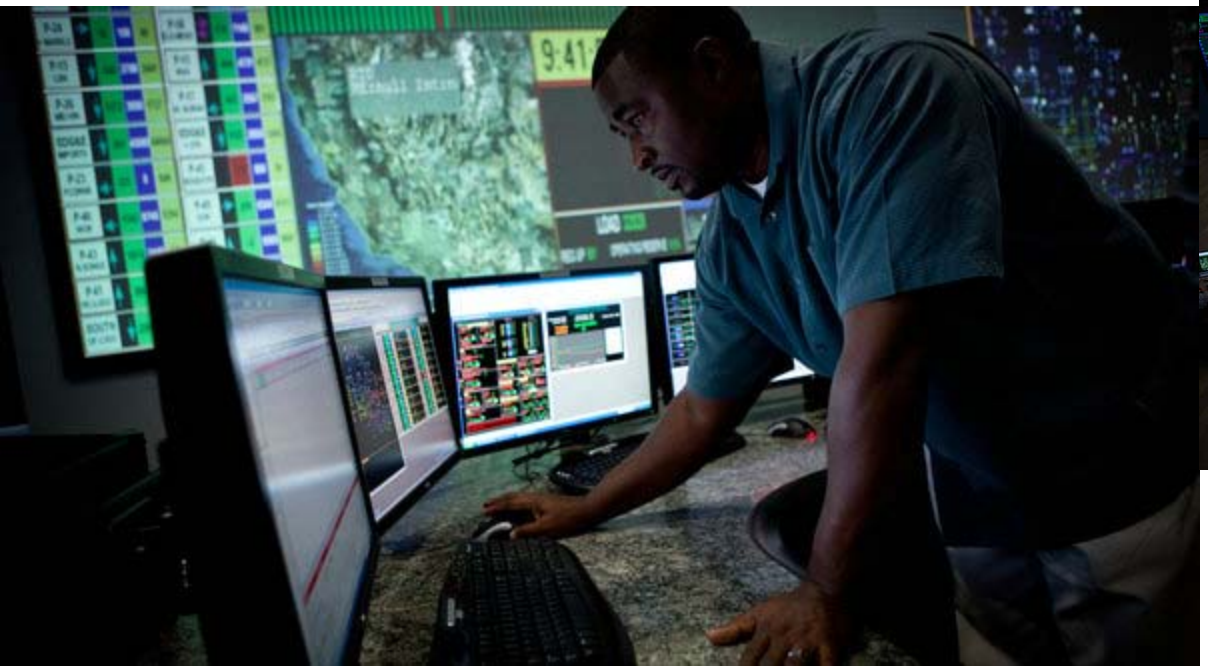





Some people believe that you can heat/cool a room faster by setting the thermostat to a higher/lower temperature than you really want, as if the thermostat were a valve for the heating/cooling system that lets more heat/cool air into the room the higher/lower you set it. In fact, the thermostat is simply an on/off switch for the heat/cool. It turns on as long as the room temperature is below/above the thermostat setting, and turns off when the thermostat setting is reached.

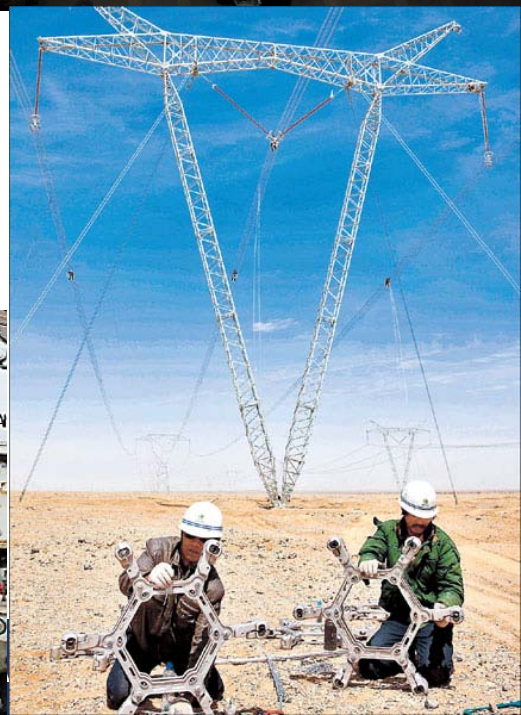
NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Contextual Task Analysis





*Max Whittaker for The New York Times*





*Hydro Quebec*



# Six Human Considerations

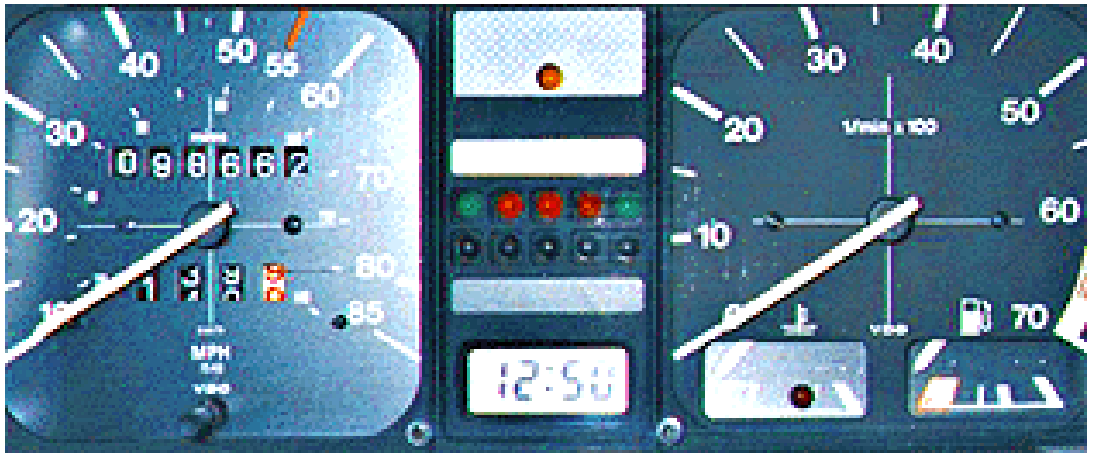
- Attention
- Sensation
- Perception
- Cognition
- Decision making
- Action

# Decision Making

- Information overload
- Experts versus novices
- Heuristics and biases

# Signs






*Darnell, M. J. (2006). Bad Human Factors Designs. Baddesigns.Com*

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Information Overload



# Six Human Considerations

- Attention
- Sensation
- Perception
- Cognition
- Decision making
- Action

# Moving Slow to Move Fast

- All human performance tools deliberately slow things down to ultimately speed things up by avoiding delays that accompany events triggered by active errors
- When used conscientiously, these tools give the individual more time to think about the task at hand, about what is happening, what will happen, and what to do if things do not go as expected

# Action



# Rasmussen's Classifications

- Human error classifications
  - Skill-based
  - Rule-based
  - Knowledge-based
- Driving example: Often times a human will operate in all three levels, going back and forth in a single event

# Six Human Considerations

- Attention
- Sensation
- Perception
- Cognition
- Decision making
- Action

# Six Human Considerations

- Attention
- Sensation

} Scan

- Perception
- Cognition

} Focus

- Decision making
- Action

} Act

# Situational Awareness

- Situational awareness is defined as the accuracy of a person's current knowledge and understanding of actual conditions compared to expected conditions at a given time

  DOE

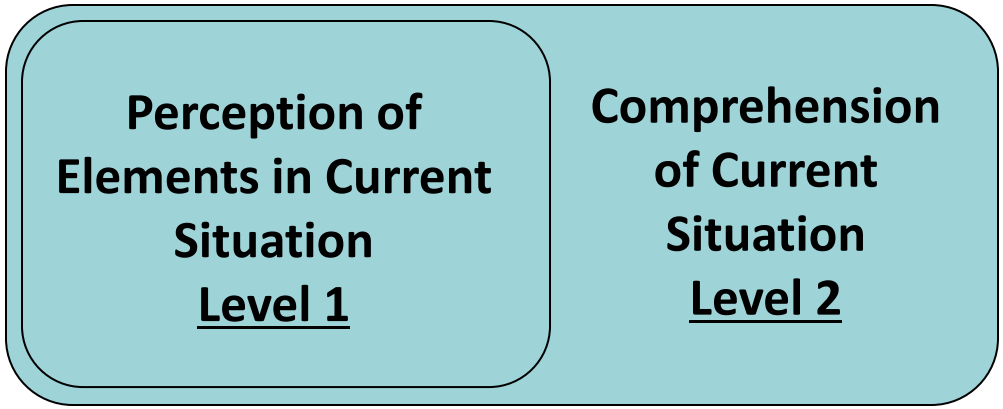
- The perception of the elements in the environment within a volume of time and space, the comprehension of their meaning and the projection of their status in the near future

  Endsley, M. R. (1995). Toward a theory of situation awareness in dynamic systems. Human Factors, 37(1), 32-64.

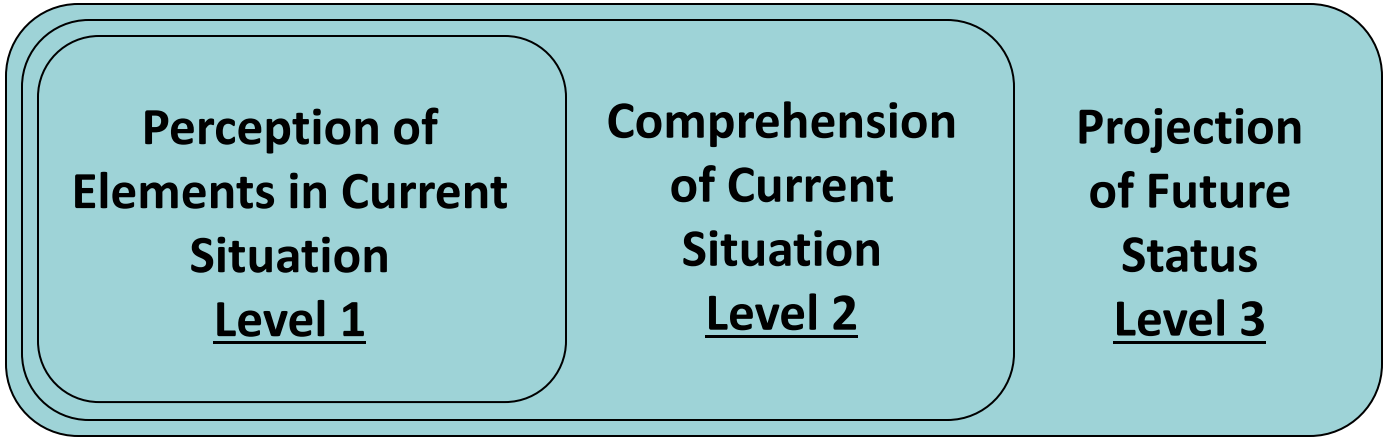
# Situation Awareness

**Perception of Elements in Current Situation**
**Level 1**

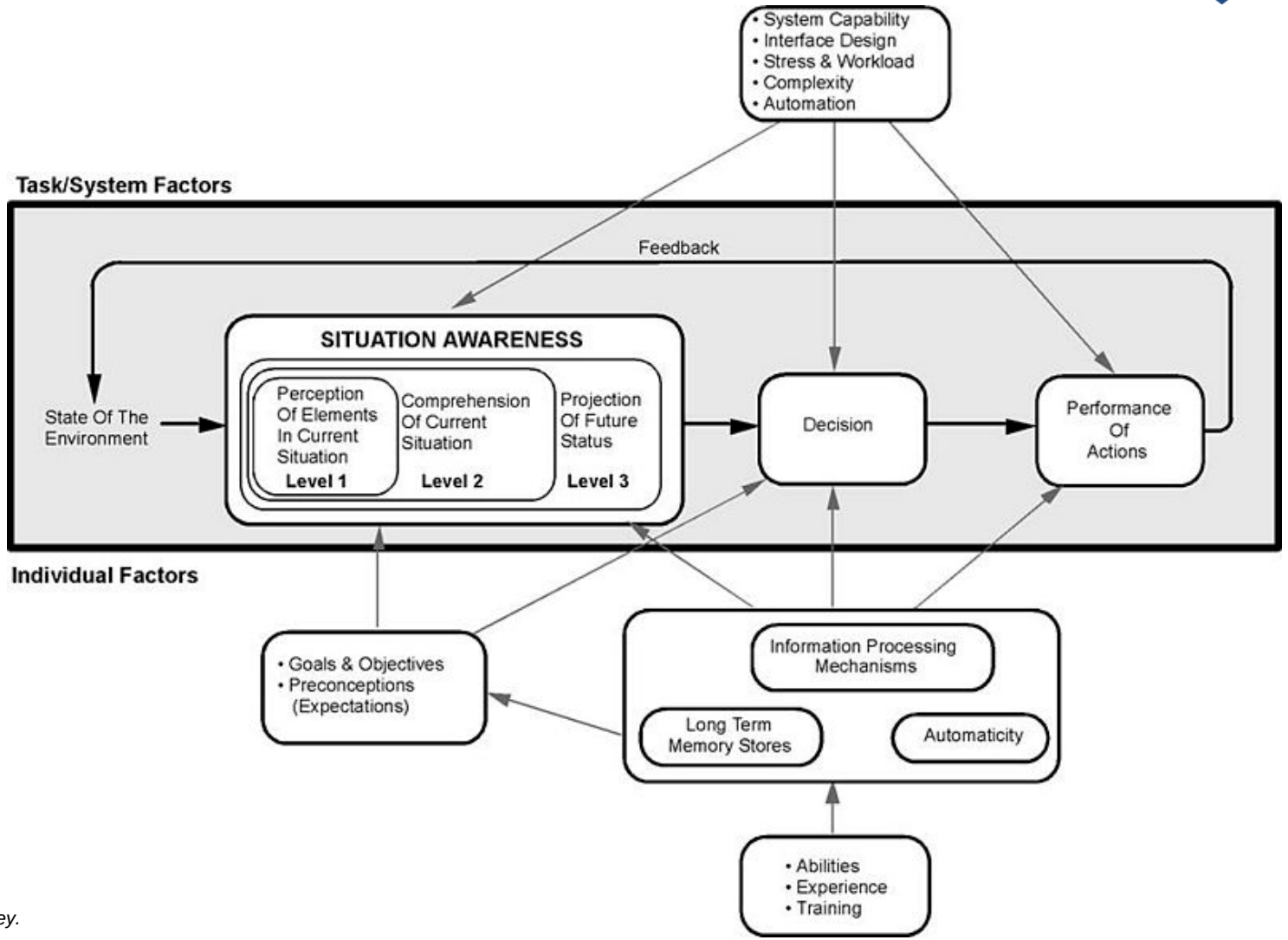
# Situation Awareness



# Situation Awareness



# Situational Awareness




*From Mica Endsley.*

# TWIN - Error Precursors

| Task Demands | Work Environment |
|---|---|
| Time pressure (in a hurry) | Distractions / Interruptions |
| High workload (memory requirements) | Changes / Departure from routine |
| Simultaneous, Multiple tasks | Confusing displays / control |
| Repetitive actions (monotony) | Work - arounds |
| Unclear goals, roles, or responsibilities | Unexpected equipment conditions |
| Lack of or unclear standards | Back shift or recent shift change |
| Complex / High information flow | |
| **Individual Capabilities** | **Human Nature** |
| Unfamiliarity with task (first time) | Stress |
| Lack of knowledge (faulty mental model) | Habit patterns |
| Imprecise communication habits | Assumptions |
| Lack of proficiency; inexperience | Complacency / over confidence |
| Overzealousness for safety critical task | Inaccurate risk perception |
| Illness or fatigue – Fitness for duty | Communication shortcuts |
| Lack of big picture | |

# Latent Organizational Weaknesses

| | |
|---|---|
| **Pre-Job Briefing** | **Values & Norms** |
| **Communications – Oral & Written** | **Maintenance Processes** |
| **Work Planning & Scheduling** | **Procedure Development** |
| **Controls, Measures and Monitoring** | **Goals & Priorities** |
| **Design & Modifications** | **Organizational Structure** |
| **Task Structure** | **Roles & Responsibilities** |
| **Written Guidance:**<br>**Rules, Policies and Practices** | **Training & Qualification** |

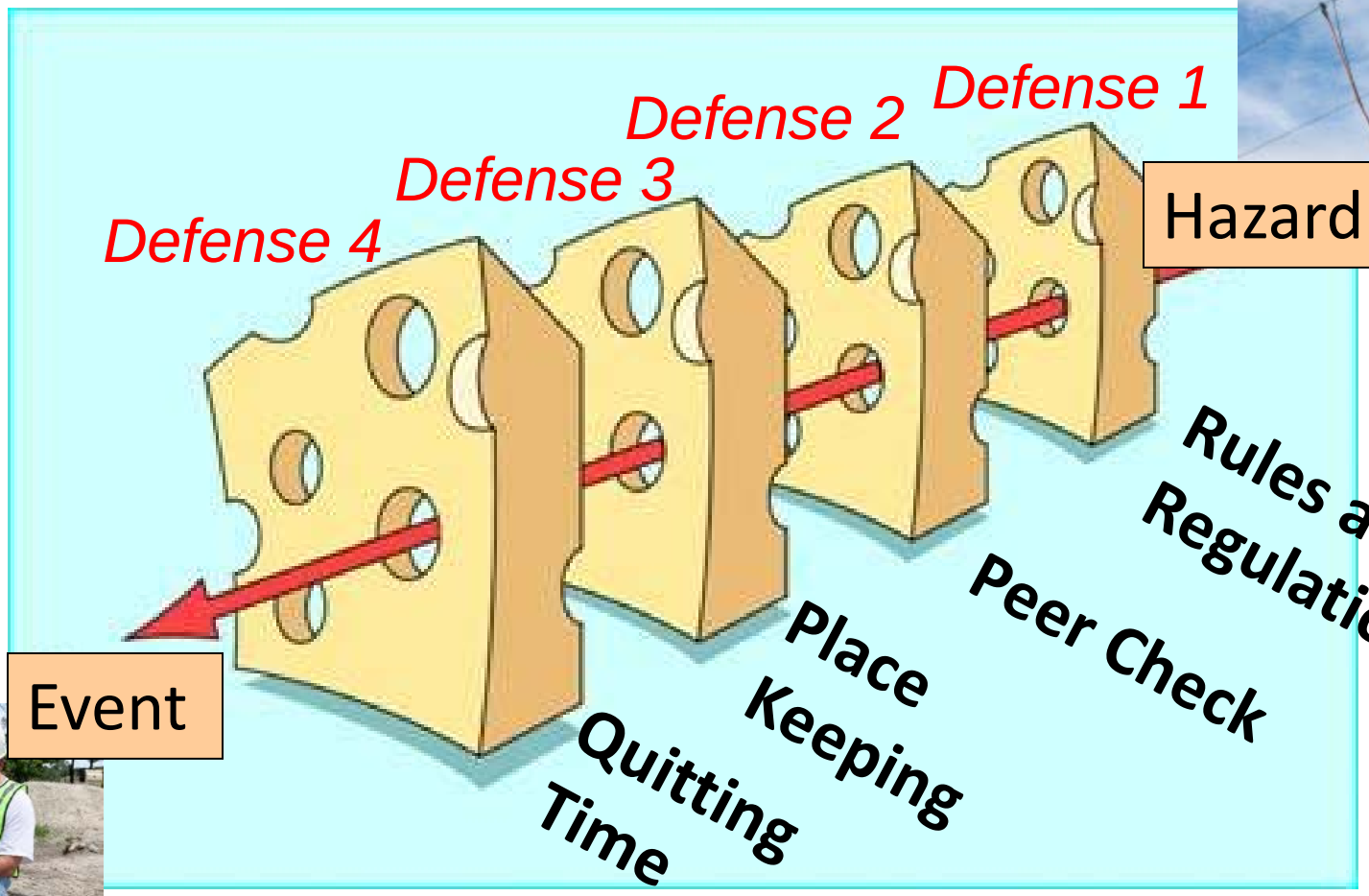
- *A review of the INPO industry event data base reveals that **events occur more often due to error-prone tasks and error-prone work environments than from error-prone individuals***
- *Error-prone tasks and work environments are typically created by latent organizational weaknesses*

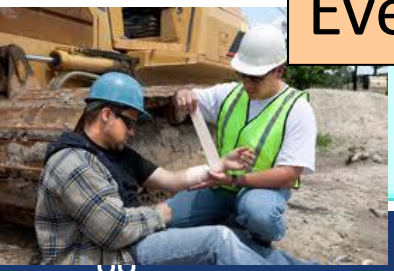
*Source: Reason – 1991 (modified)*

# Defenses

**But it is possible that under the <u>wrong set</u> of circumstances, an event could occur….**





# Set Me Up for Success

- Those things that "set-up" a mistake to happen
  - Task demands are greater than the worker's abilities
  - Confusing conditions make the job harder
  - New techniques not used before
  - Mental shortcuts
  - Lack-of or unclear standards
  - Illness / Fatigue

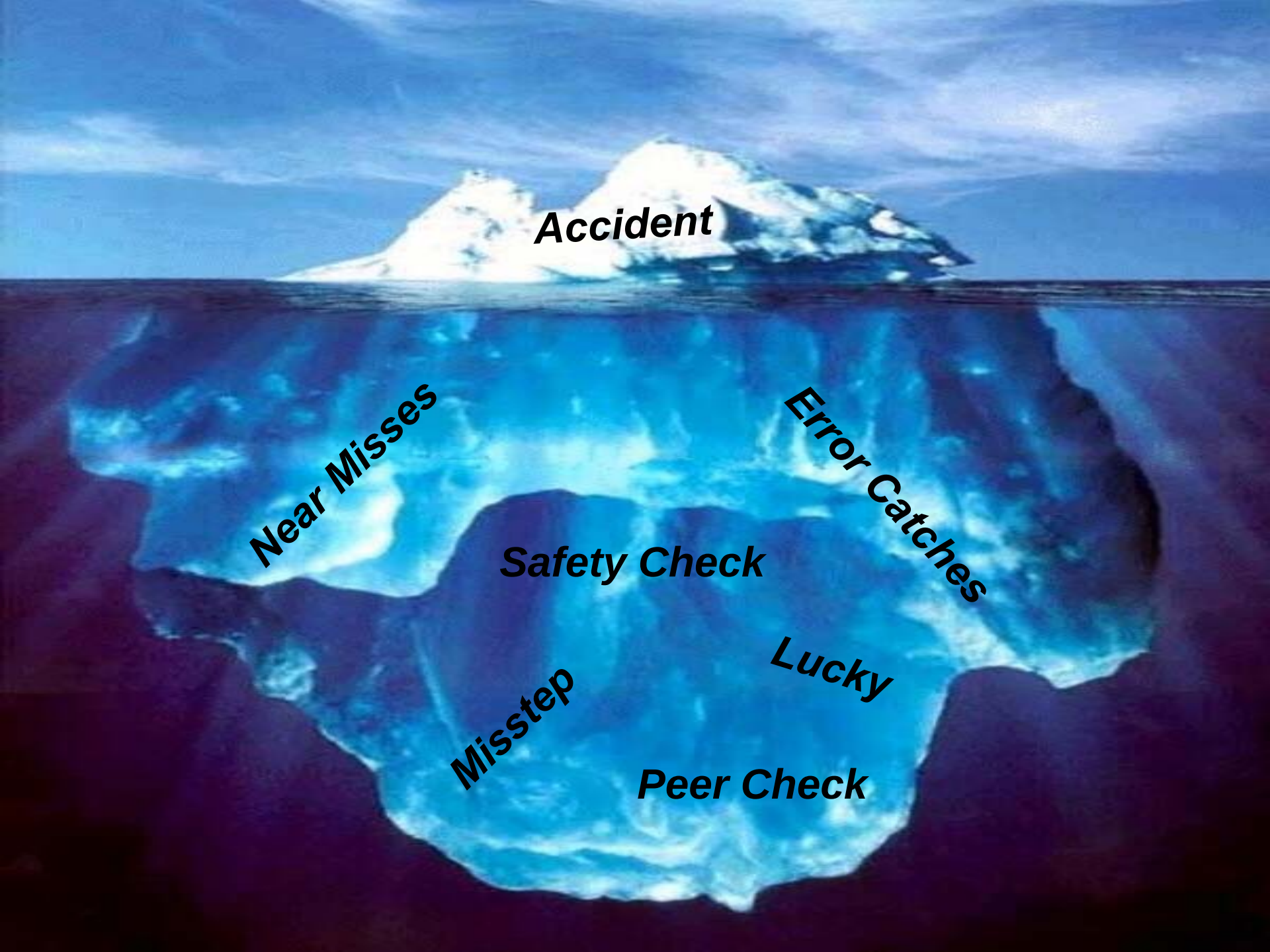
*Distractions*
*Interruptions*
*Unplanned changes*

# Common Error Precursors

| Task Demands | Individual Capabilities |
|---|---|
| o **High workload** (memory requirements) | o **Unfamiliarity with task / First time** |
| o **Time pressure** (in a hurry) | o **Lack of knowledge** (faulty mental model) |
| o **Simultaneous, multiple tasks** | o **New technique not used before** |
| o **Repetitive actions / Monotony** | o **Imprecise communication habits** |
| o **Irrecoverable actions** | o **Lack of proficiency; Inexperience** |
| o **Interpretation requirements** | o **Unsystematic problem-solving skills** |
| o **Unclear goals, roles, or responsibilities** | o **"Can do" attitude for safety-critical task** |
| o **Lack of or unclear standards** | o **Illness or fatigue; general health** |
| **Work Environment** | **Human Nature** |
| o **Distractions / Interruptions** | o **Stress** |
| o **Changes / Departure from routine** | o **Habit patterns** |
| o **Confusing procedure / Vague guidance** | o **Assumptions** |
| o **Confusing displays / controls** | o **Complacency / Overconfidence** |
| o **Work-arounds / OOS instrumentation** | o **Mind set (intentions)** |
| o **Hidden system responses** | o **Inaccurate risk perception** |
| o **Unexpected equipment conditions** | o **Mental shortcuts or biases** |
| o **Lack of alternative indication** | o **Limited short-term memory** |

# Moving Slow to Move Fast

- All human performance tools deliberately slow things down to ultimately speed things up by avoiding delays that accompany events triggered by active errors
- When used conscientiously, these tools give the individual more time to think about the task at hand, about what is happening, what will happen, and what to do if things do not go as expected


Accident
Near Misses
Error Catches
Safety Check
Lucky
Misstep
Peer Check

# Questions?



**James Merlo**

Manager of Human Performance

(404) 446-9705

james.merlo@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Protocols for Real-Time Communication

Mike Moon
Director, Compliance Operations
Herb Schrayshuen
Vice President and Director, Standards and Training

April 17, 2012

RELIABILITY | ACCOUNTABILITY






# Background

- **Purpose of COM-002-2:** *To ensure Balancing Authorities, Transmission Operators, and Generator Operators have adequate communications and that these communications capabilities are staffed and available for addressing a real-time emergency condition. To ensure communications by operating personnel are effective.*
- **February 2012:** NERC Board of Trustees approved a COM-002-2 interpretation that three-part communications are only required in emergencies.

# NERC Strategy

- Begin compliance monitoring to the interpretation
- Complete three complementary actions, per Board of Trustees' direction:
  1. Reliability Guidelines document, NERC Operating Committee (OC) lead
  2. Expedite completion of Project 2007-02–Operating Personnel Communication Protocols
  3. Revise the Reliability Standard Audit Worksheet (RSAW) for COM-002-2

# Reliability Guidelines Document

- NERC OC, working with the NERC staff and Standards Committee (SC), will provide guidance on the use of three-part communications for real-time operations
- OC has developed a draft, which is in its final refinement stages
- The draft will be posted for industry comment per the OC charter process for Reliability Guidelines

# Expedite Project 2007-02

- NERC staff, working with SC, will expedite the completion of Project 2007-02 – Operating Personnel Communications Protocols (COM-003-1)
- Addresses real-time communication protocols
- Project is near the quality review phase of development and will go to ballot soon

# Revised RSAW

- NERC staff will revise the COM-002-2 RSAW that provides the appropriate compliance guidance and references the NERC OC Reliability Guidelines
- NERC OC has provided input
- Select members of the NERC Compliance and Certification Committee have reviewed
- RSAW currently posted for industry comment at:

  COM-002-2 — Communication and Coordination RSAW

# Meanwhile…

- Auditors will continue to use professional judgment regarding the making of recommendations, if three-part communications are not being used in real-time operational communications

# Final Step

- NERC staff will draft a comprehensive filing to justify interpretation and address the complementary components previously mentioned



# Questions?

**Mike Moon**

Director of Compliance Operations

(404) 446-2567

michael.moon@nerc.net

**Herb Schrayshuen**

VP Standards and Training

(404) 446-2563

herb.schrayshuen@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Project 2009-01 Disturbance and Sabotage Reporting (Event Reporting)

Brian Evans-Mongeon
Drafting Team Chair

April 17, 2012

RELIABILITY | ACCOUNTABILITY






# Project 2009-01 Event Reporting

- Project consolidated EOP-004-1–Disturbance Reporting and CIP-001–Sabotage Reporting; incorporated the reporting provisions of CIP-008-3–Cyber Security–Incident Reporting and Response Planning
- There have been two rounds of comments to date; industry has provided valuable insight
- Latest comment period is April X, 2012 through May X, 2012

# Project 2009-01 Event Reporting

- Latest changes
  - Four requirements
    - Have an event reporting Operating Plan
    - Report applicable events
    - Conduct a test of the plan annually (not needed if actual event occurs)
    - Review the Operating Plan, update if necessary
  - Two attachments
    - Attachment 1 lists reportable events, applicable entities, and reporting time thresholds (only one 1-hr threshold, all other are 24-hour)
    - Attachment 2 is reporting form for non-DOE reportable incidences and for entities outside of the United States

# Project 2009-01 Event Reporting

- Requirement 1:
  - Have an event reporting Operating Plan
    - Entities need a process to recognize when Events listed in Attachment 1 occur within their system
    - Entities need to determine who needs to be contacted for each applicable type of event
    - Entities can have different contacts for the different event types

# Project 2009-01 Event Reporting

- Requirement 2:
  - Reporting an event
    - Must report to the Electric Reliability Organization (ERO)
    - Reporting to other organizations/agencies as laid out in their Operating Plan for each type of applicable Event
    - Entities can report using either the DOE-417 form or EOP-004-2 Attachment 2

# Project 2009-01 Event Reporting

- Requirement 3:
  - Entities to conduct test of the Operating Plan annually
    - Reporting of events in accordance with the Operating Plan are acceptable demonstrations of the test
    - In conducting a test, entities need not include communication of the "test" report to the ERO to complete this obligation

Note: Periods up to 24 months between incidences/tests are acceptable.

# Project 2009-01 Event Reporting

- Requirement 4:
  - Entities shall review their Operating Plan annually, and update if changes are necessary

    Note: Periods up to 24 months between reviews are acceptable.

# Questions?



**Brian Evans-Mongeon**

Project 2009-01 SDT Chair

(802) 552-4022

brian.evans-mongeon@utilitysvcs.com

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Risk Clusters and Enforcement Trends

Jessica Bian, Director of Performance Analysis
Ed Kichline, Manager of Enforcement Processing

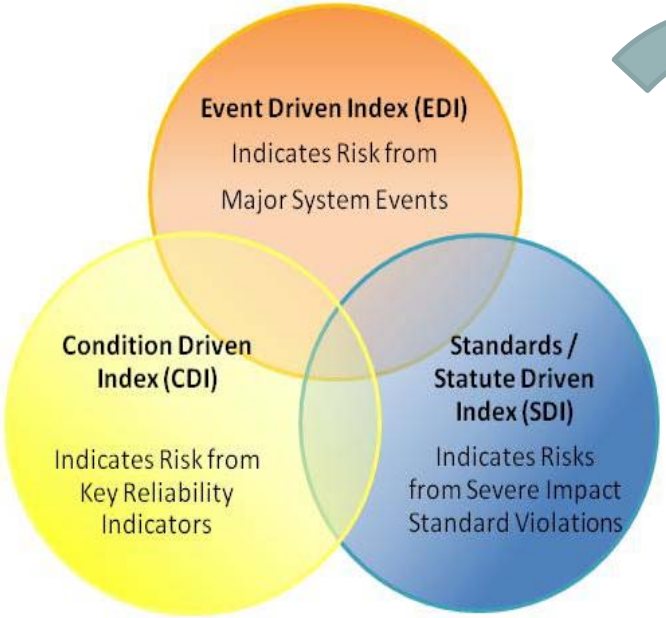
April 17, 2012

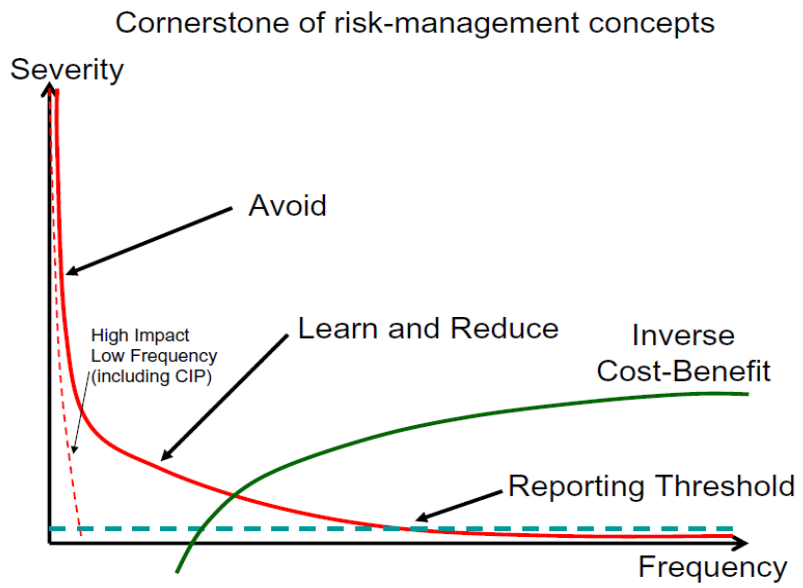
RELIABILITY | ACCOUNTABILITY






# Key Concepts

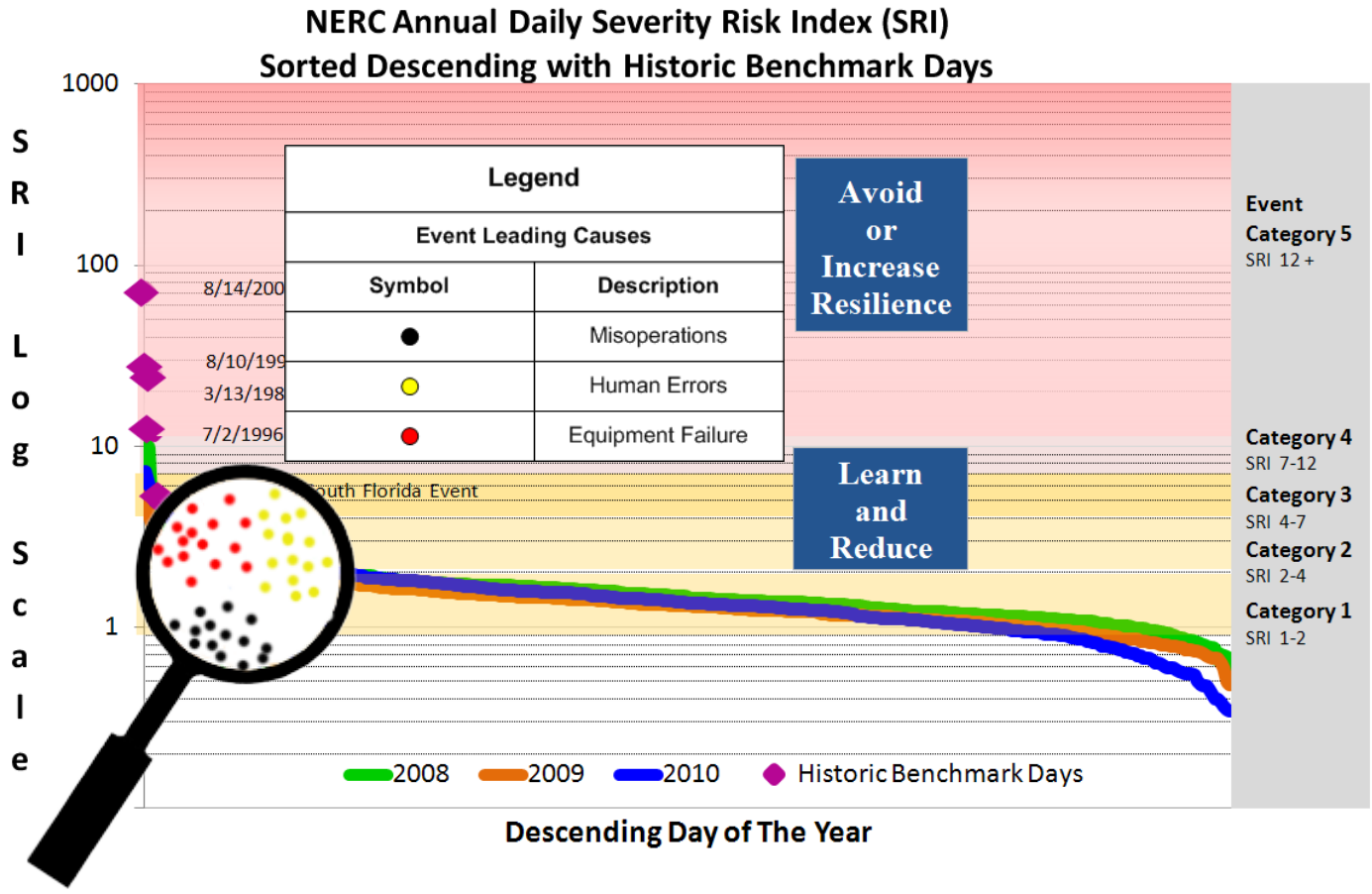


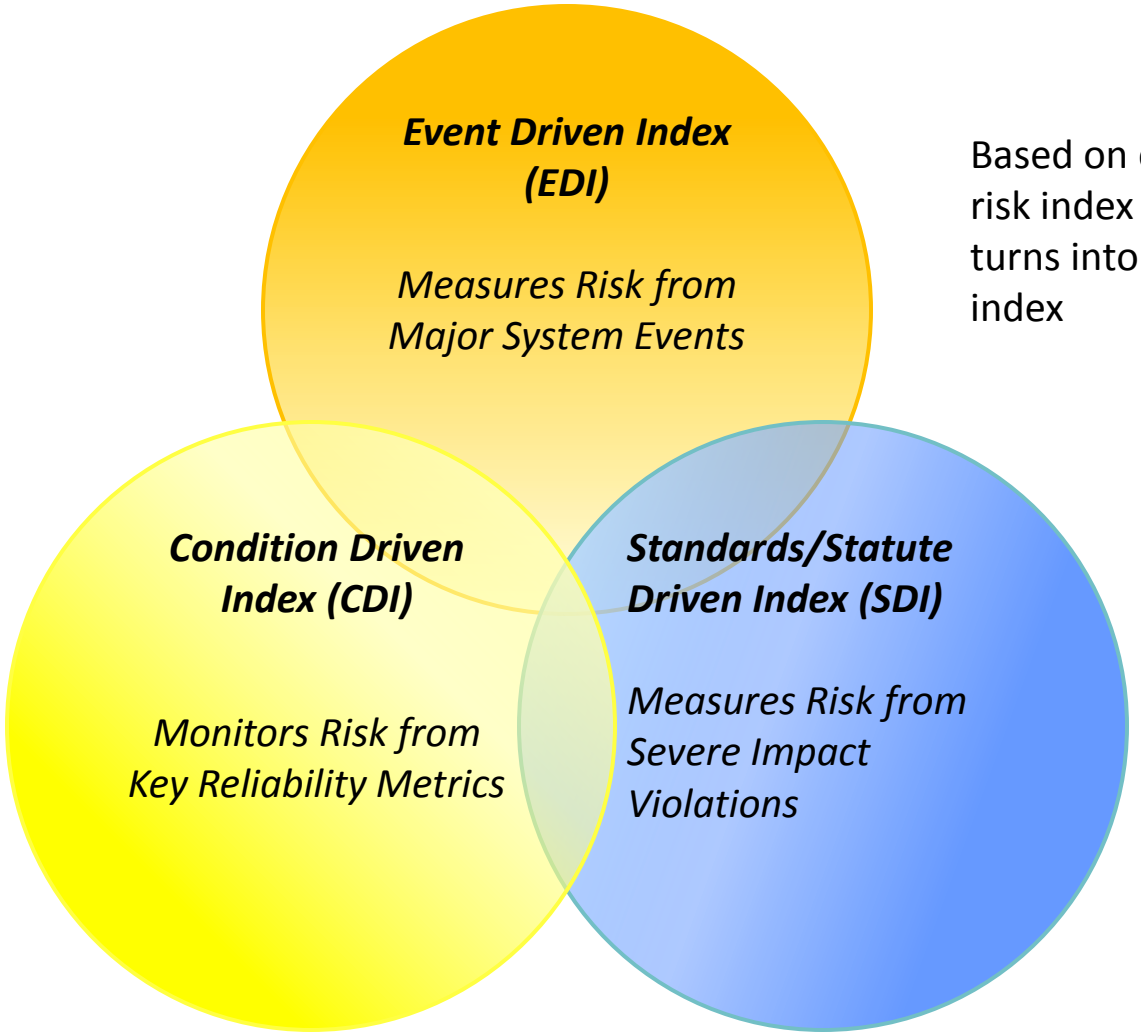
# Common Acronyms

- Condition Drive Index (CDI)
- Event Driven Index (EDI)
- Standards/Statute Driven Index (SDI)
- Common/Dependent Mode (CDM)
- Generating Availability Data System (GADS)
- Transmission Availability Data System (TADS)
- Demand Response Availability Data System (DADS)
- Reliability Metrics Working Group (RMWG)
- Performance Analysis Subcommittee (PAS)
- Operating Committee (OC)
- Planning Committee (PC)

# Risk Clusters



# Integrated Risk Indicators

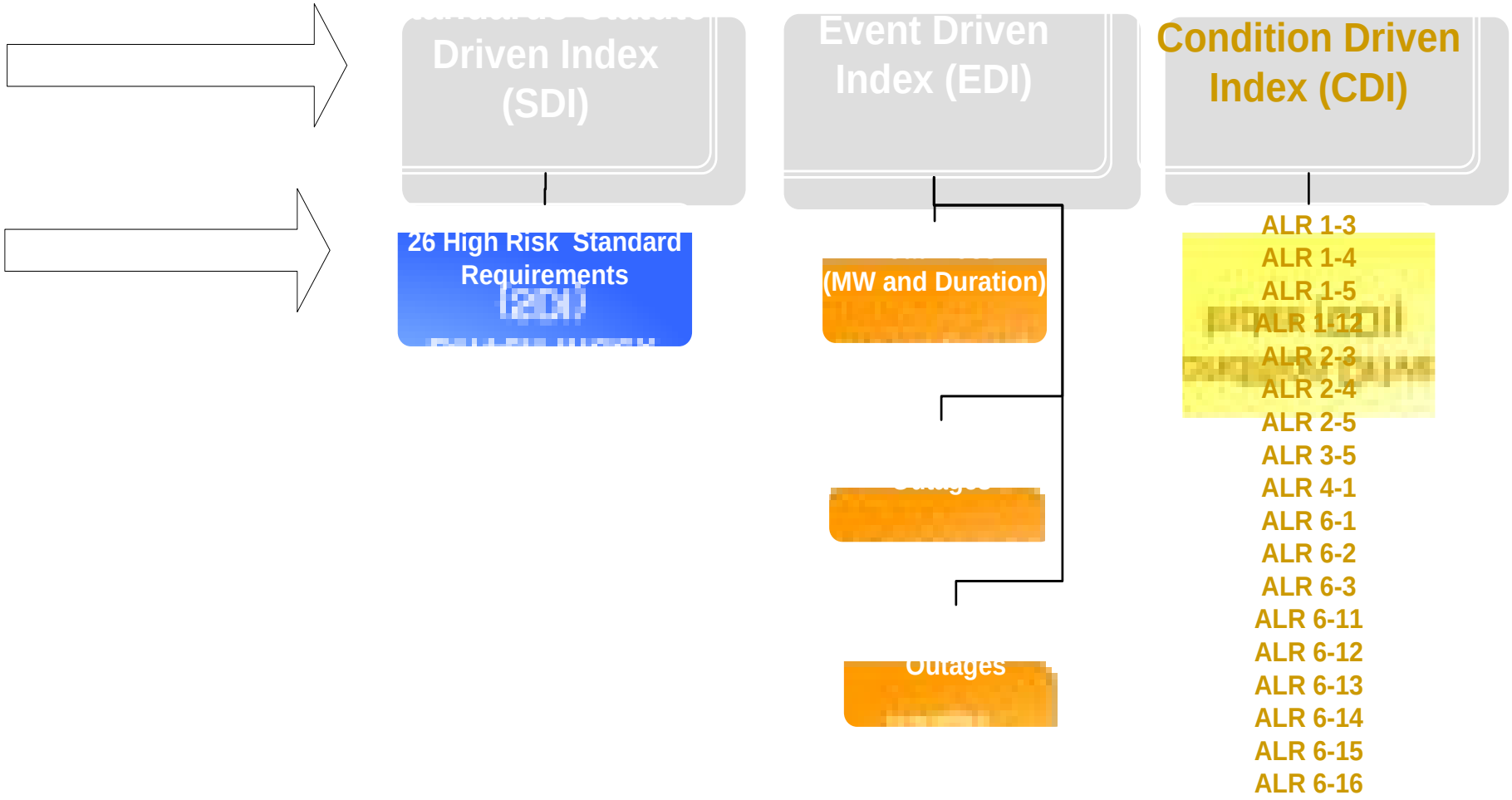



Based on event severity risk index (SRI) values and turns into an availability index

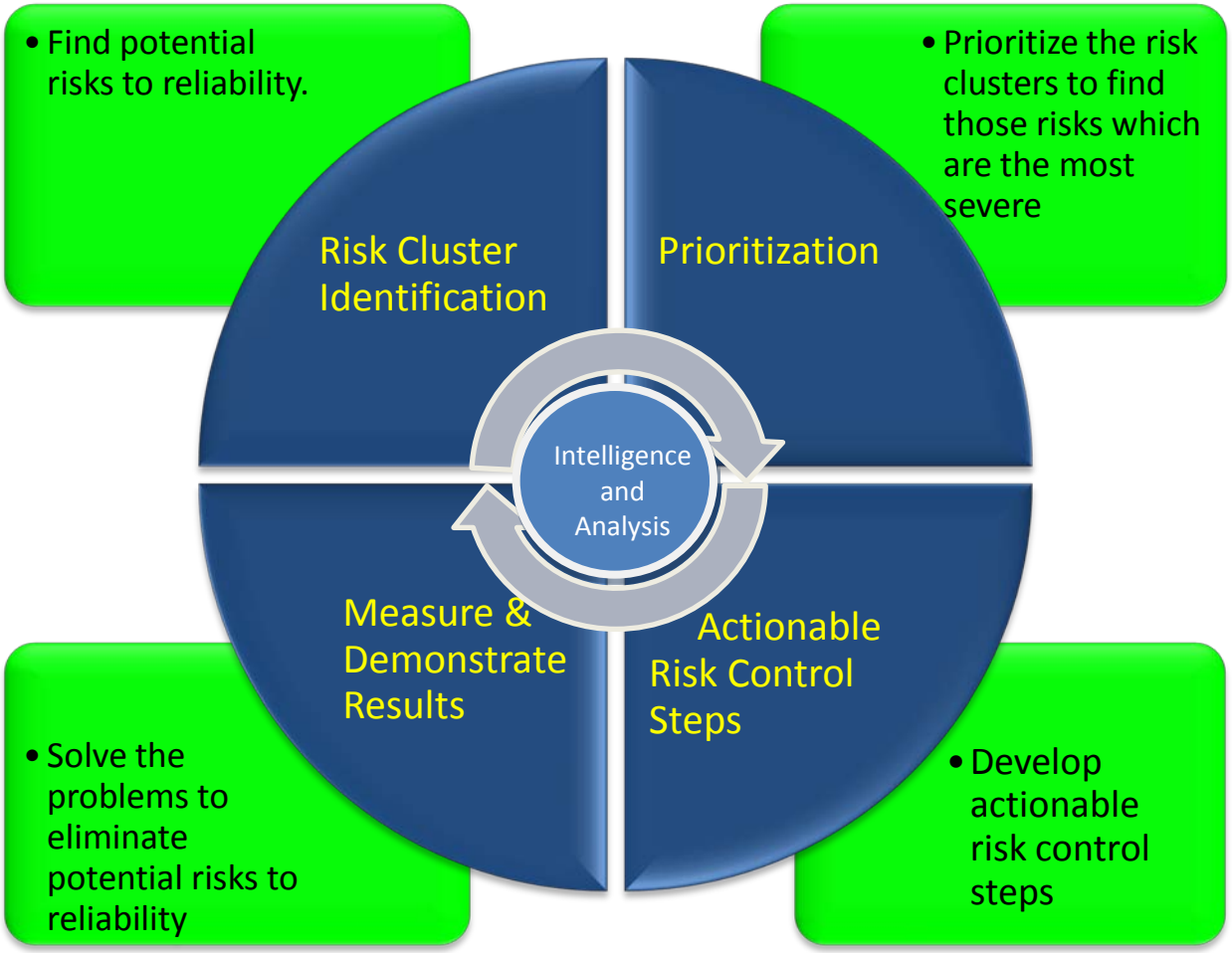
Uses the roster of reliability metrics developed by RMWG/ PAS and approved by OC/PC

Identify a subset of standards that have highest impact to reliability and create an index of standards compliance

# Tiered Risk Measures



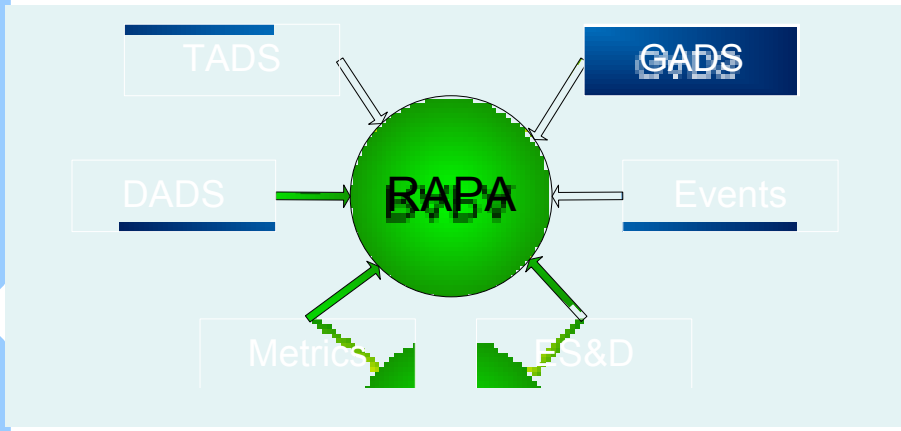
# Risk Control Model



# Integrated Data Sources

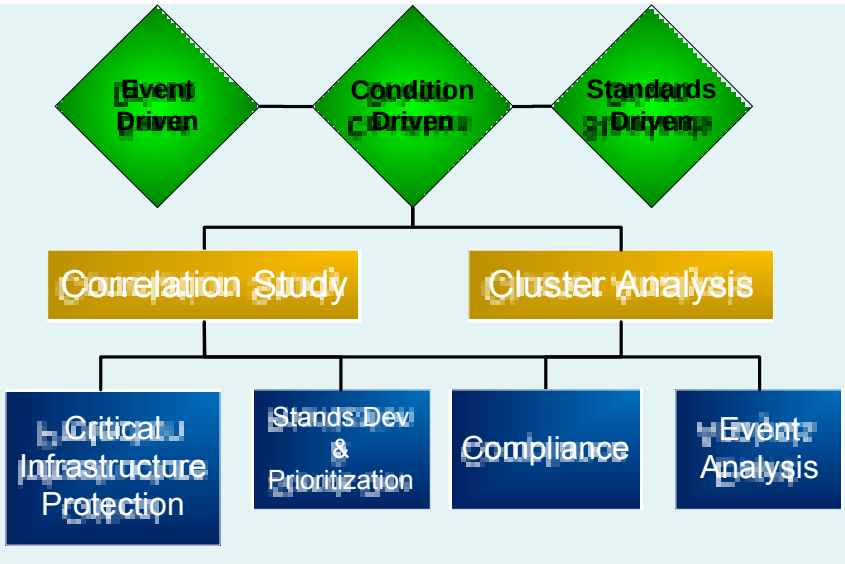
**2010** *(Nov-Dec)*

- Unify existing GADS, TADS, DADS, Events and related systems
- Refine and implement risk assessment tools




**2011**

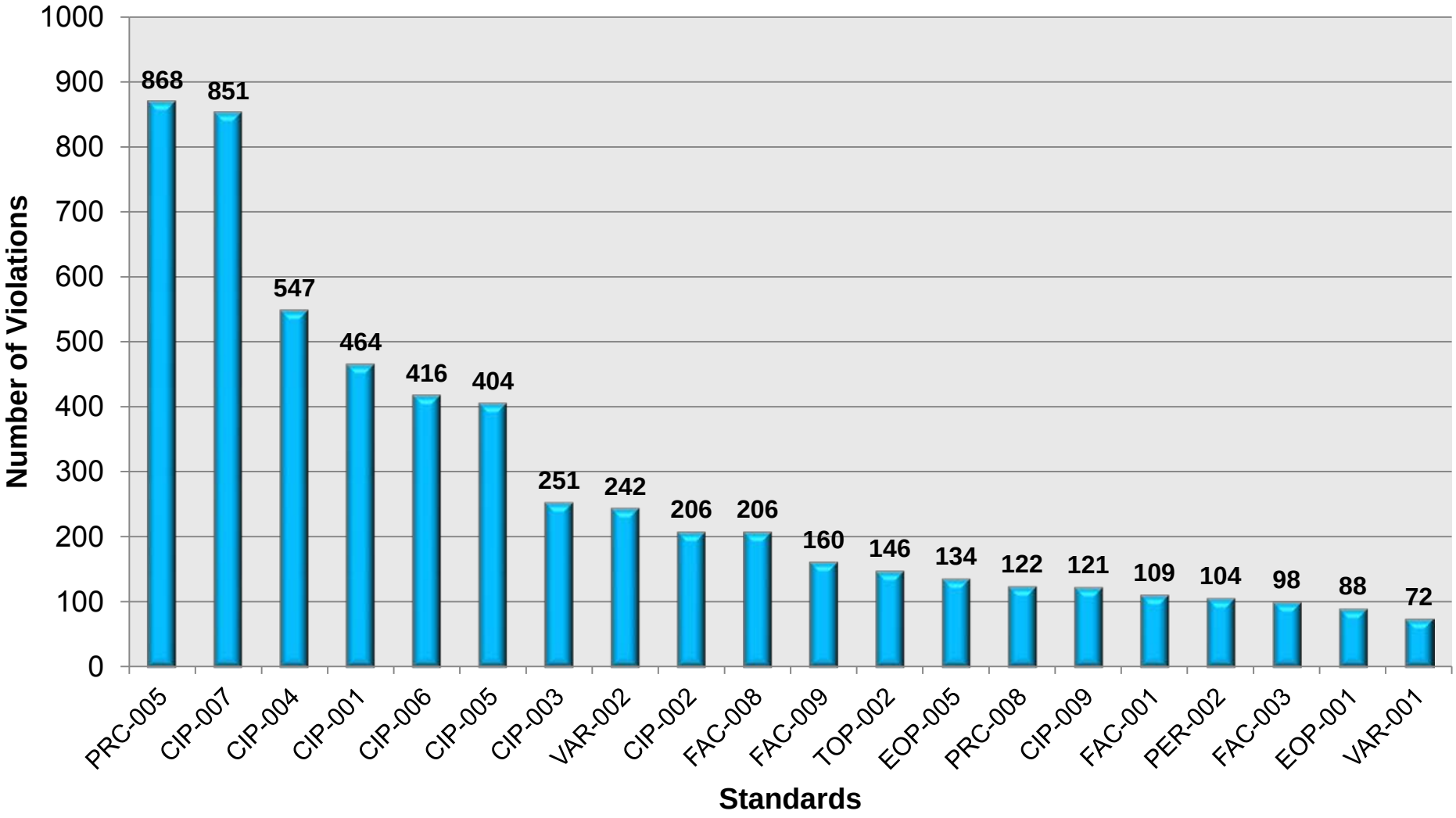
- Complete integration
- Identify areas of highest risk to reliability
- Risk-basis for standards and compliance
- First Annual Report



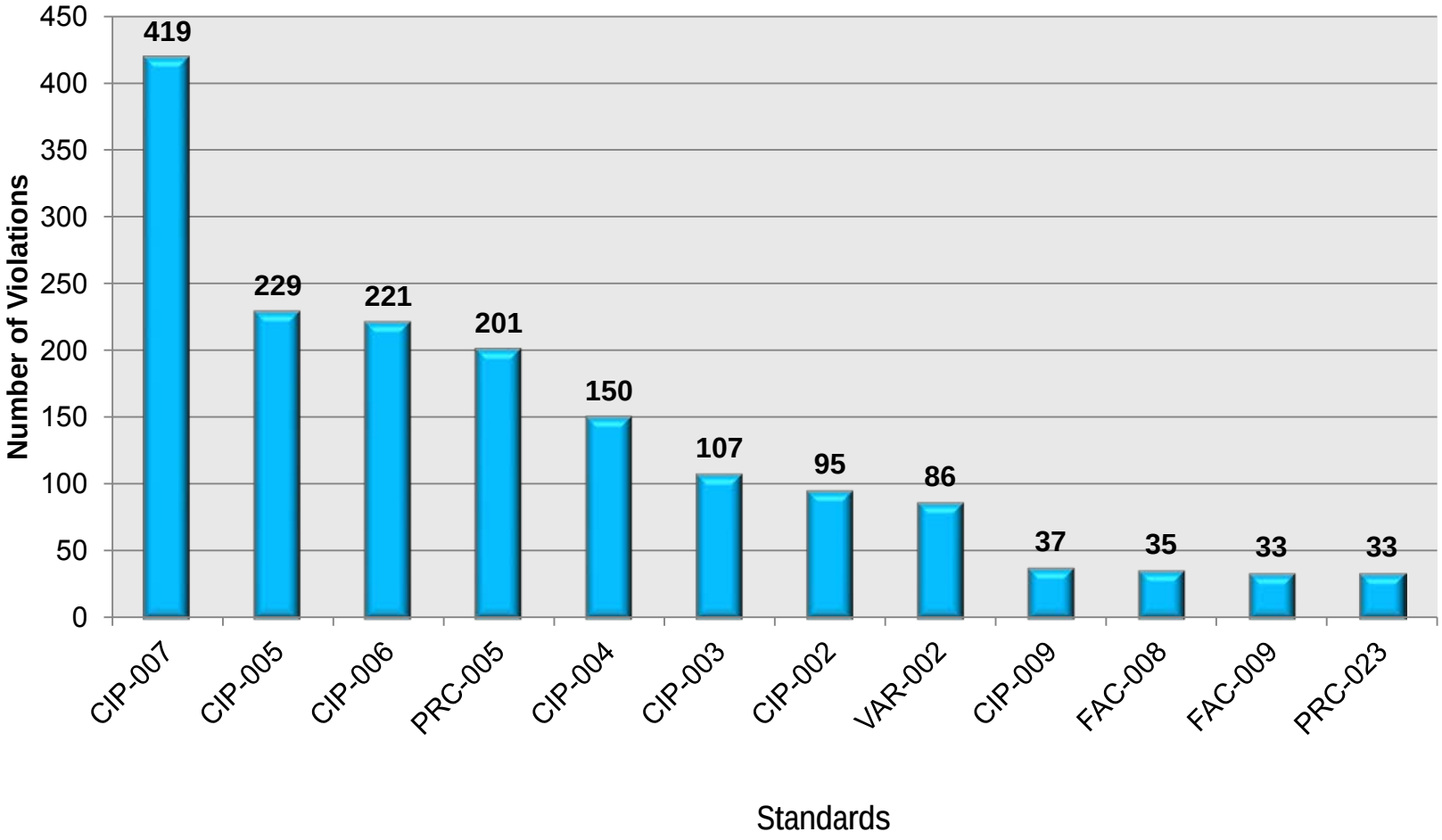

**2012**

- *Issue annual state of reliability report*
  - *Event-driven risk curves*
  - *Reliability indicator trends*
  - *Compliance measures*
  - *Recommend standard changes and prioritization*

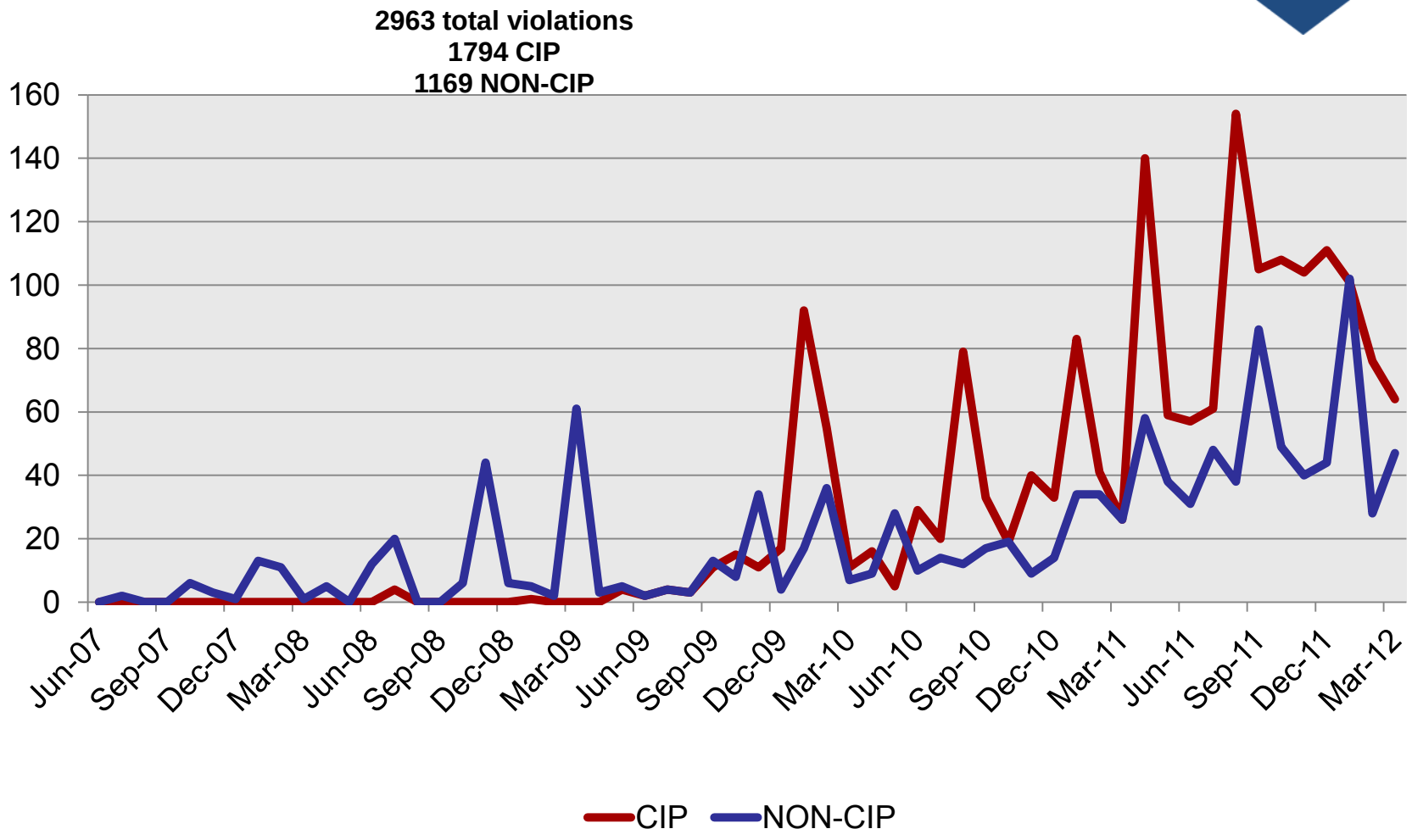
# Top 20 Enforceable Standards – Violated Active and Closed Violations through April 1, 2012



# Top 12 Enforceable Standards – Violated
# Active and Closed from April 1, 2011 to March 30, 2012



# Unfiled CIP and Non-CIP Violations Based on Discovery Dates from June 2007 to March 2012



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Transmission Outages: Common and Dependent Mode Outage Trends

RELIABILITY | ACCOUNTABILITY



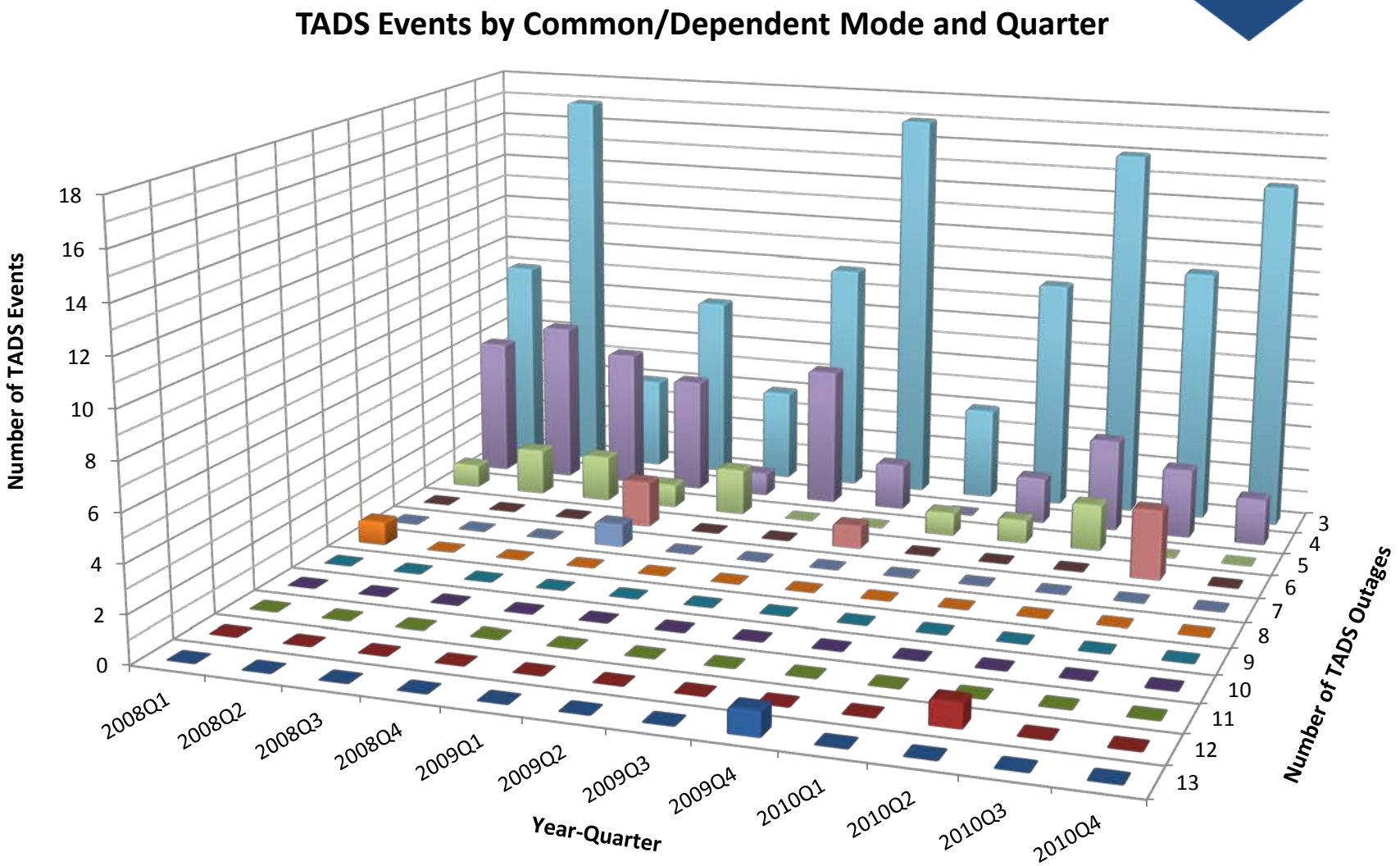



# Common Dependent Mode (CDM) Outages

- Significant non-single mode automatic AC circuit outages may create reliability risk
- Outages beyond the TPL planning criteria represent a tangible reliability threat
- Impact on disturbance events and correlation with standards

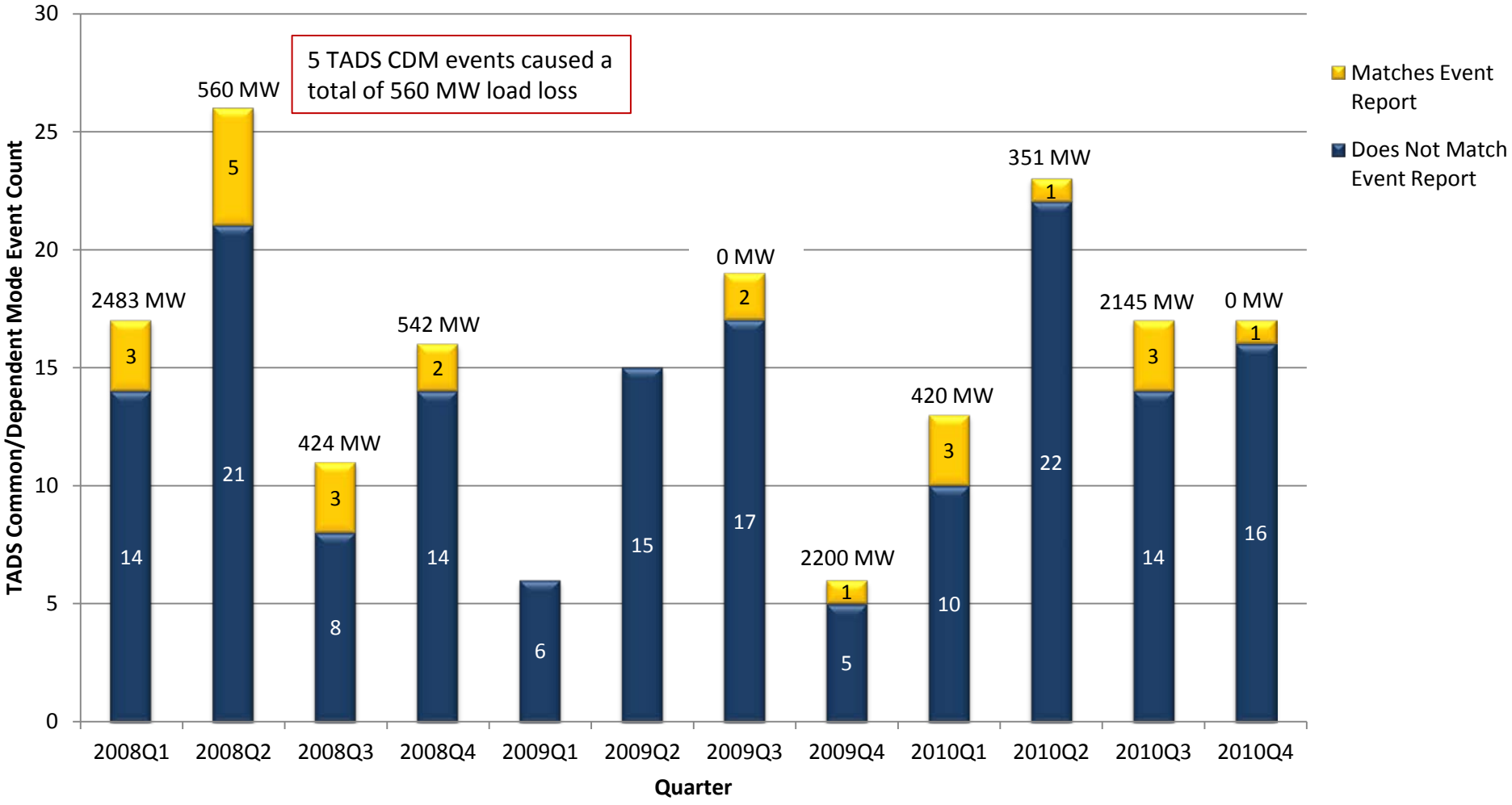
| Automatic Outage Statistics | |
|---|---|
| Total Automatic Outages | Over 13,000 |
| Single Mode (Sustained/Momentary) | Over 70% |
| Common/Dependent Mode Family (Sustained) | 29.6% |
| Common/Dependent Mode Family (Momentary) | 22.6% |

# TADS Events by Common/Dependent Mode and Quarter



# Impact of Common/Dependent Mode Events

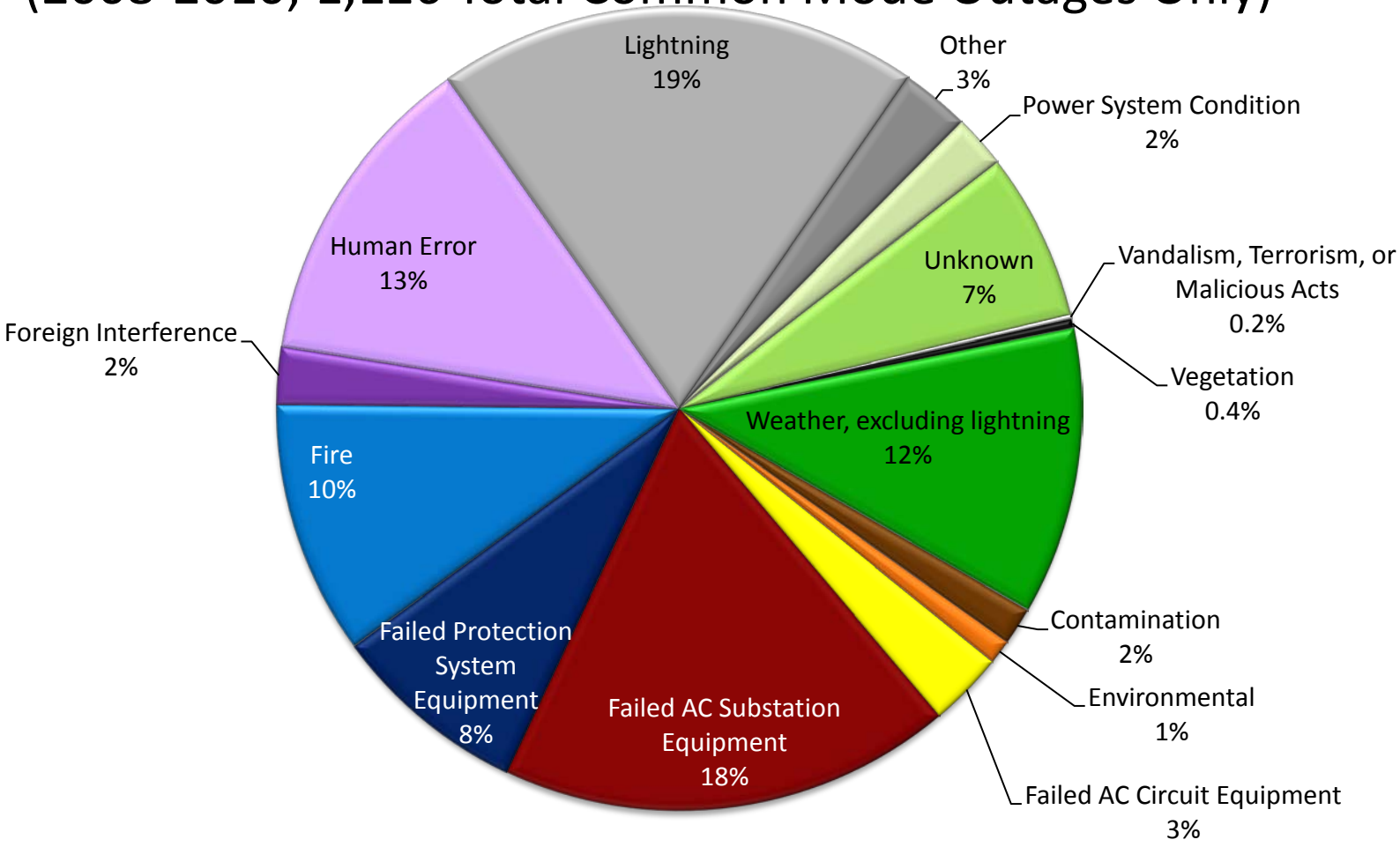
## Common/Dependent Mode (CDM) Events Matching Disturbance Event Reports with Events' Total Load Loss by Quarter



# Common Mode

## Automatic Outages by Initiating Cause Code

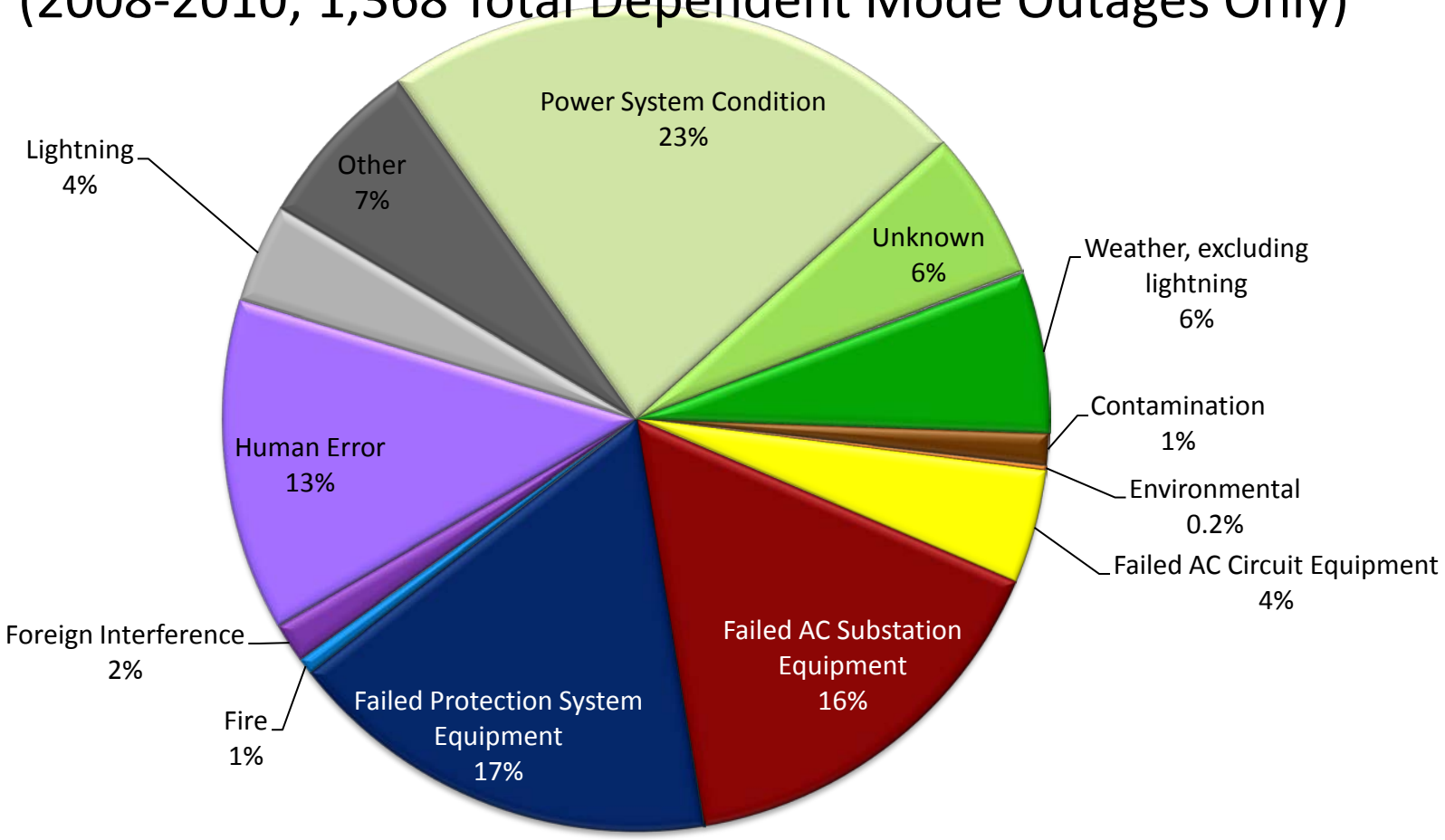
(2008-2010; 1,126 Total Common Mode Outages Only)



# Dependent Mode

## Automatic Outages by Initiating Cause Code

(2008-2010; 1,368 Total Dependent Mode Outages Only)



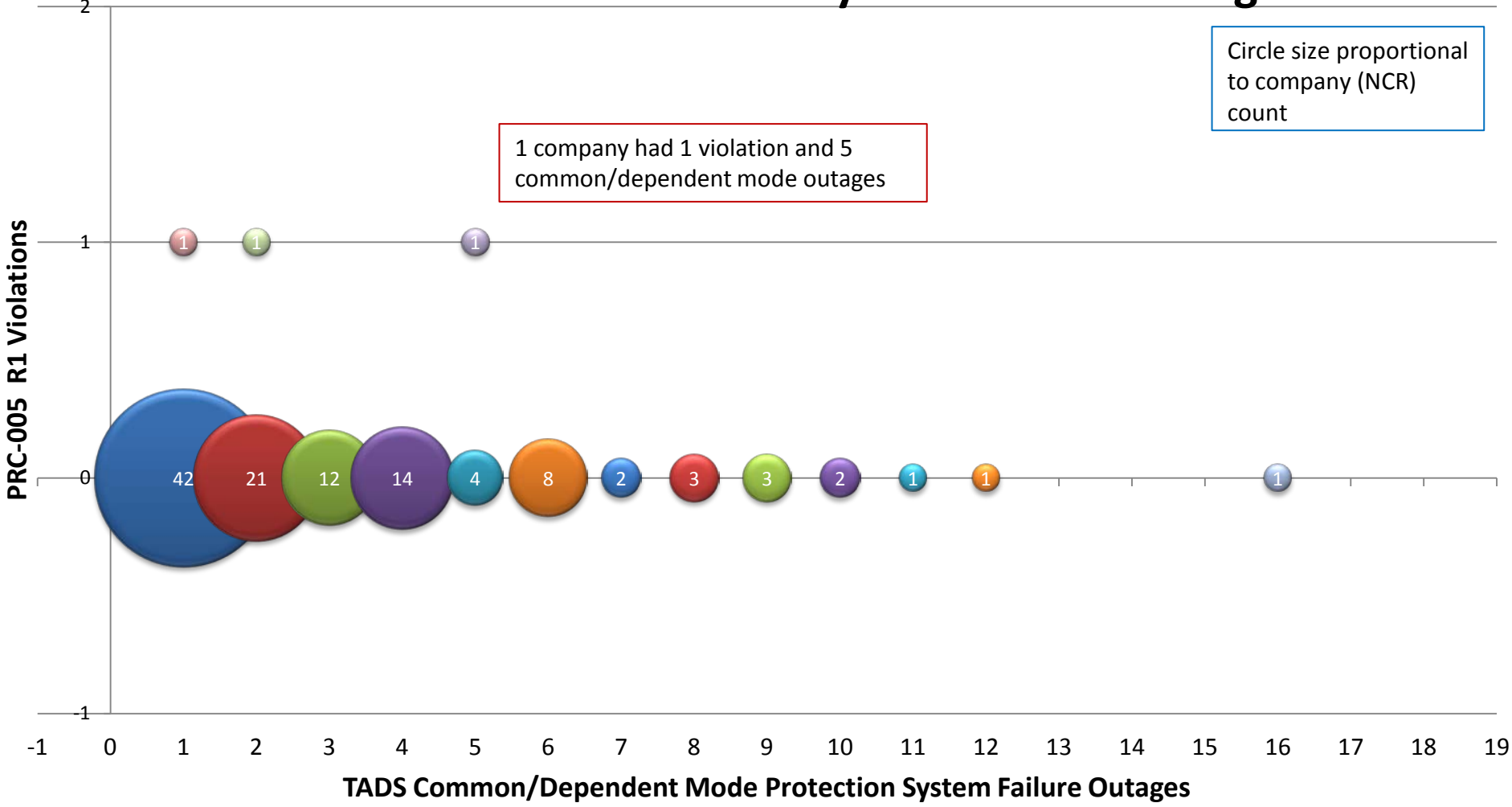
# PRC-005 Violations (June 18, 2007 – March 16, 2012)

| PRC-005 R1 | | |
|---|---|---|
| *Method of Discovery* | *Violations* | |
| Self-Certification | 51 | 14.57% |
| Self-Report | 134 | 38.29% |
| Audit | 147 | 42.00% |
| Spot-Check | 14 | 4.00% |
| Investigation | 4 | 1.14% |
| Total | 350 | 100.00% |
| | | |
| Internal | 185 | 52.86% |
| External | 165 | 47.14% |
| | | |
| Dismissed Violations | 76 | 17.84% |

| PRC-005 R2 | | |
|---|---|---|
| *Method of Discovery* | *Violations* | |
| Self-Certification | 78 | 14.63% |
| Self-Report | 315 | 59.10% |
| Audit | 122 | 22.89% |
| Spot-Check | 14 | 2.63% |
| Investigation | 4 | 0.75% |
| Total | 533 | 100.00% |
| | | |
| Internal | 393 | 73.73% |
| External | 140 | 26.27% |
| | | |
| Dismissed Violations | 116 | 17.87% |

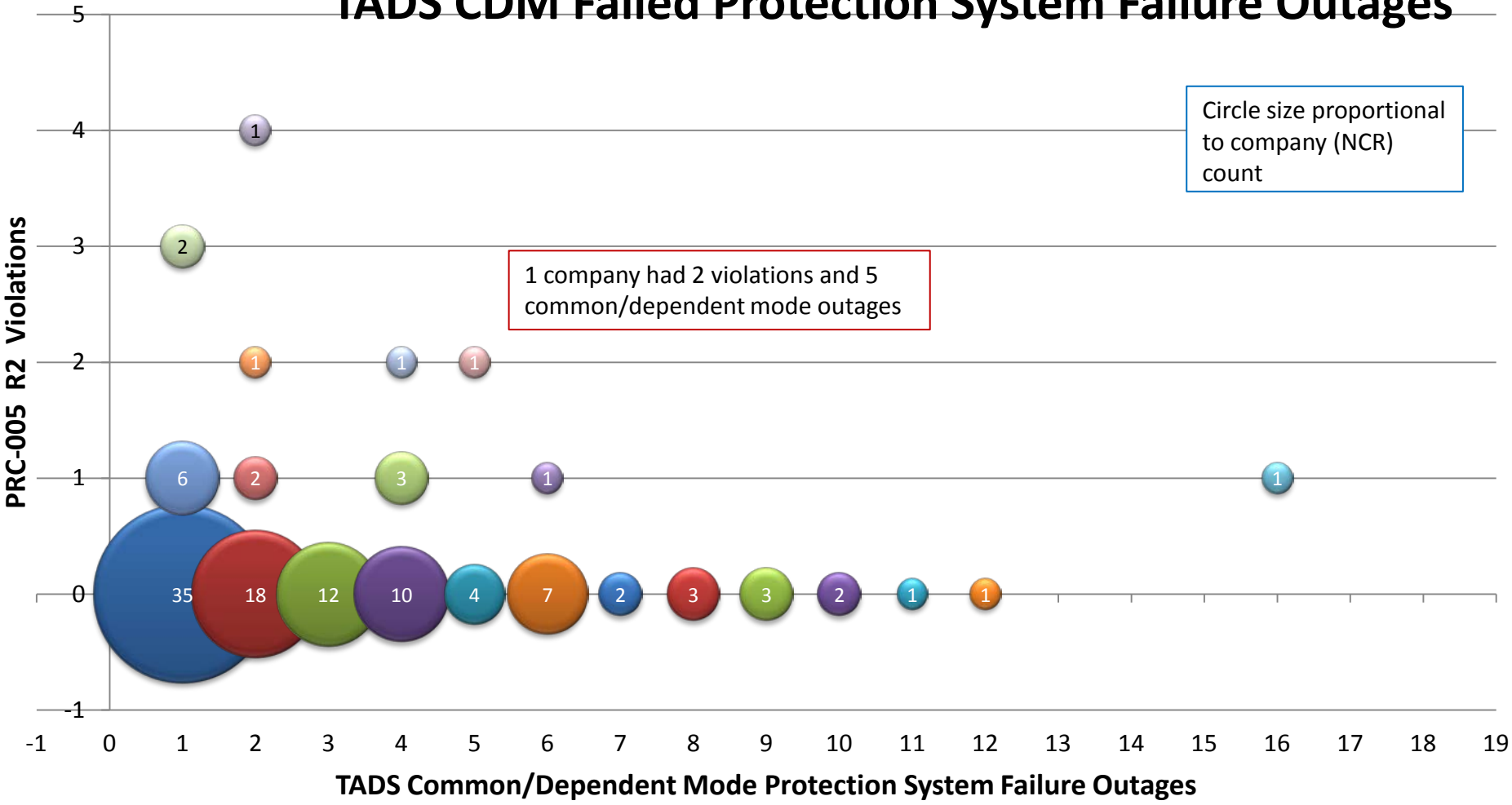
# Initiated by Failed Protection System Equipment and PRC-005

## 2008-2010 PRC-005 R1 Violations by TADS CDM Failed Protection System Failure Outages



# Initiated by Failed Protection System Equipment and PRC-005

## 2008-2010 PRC-005 R2 Violations by TADS CDM Failed Protection System Failure Outages



# Initiated by Failed Protection System Equipment and PRC-005

- Observations
  - Many companies with protection system equipment initiated common/dependent mode outages had zero to one PRC-005 violations
  - Companies with high amounts of protection system equipment failure initiated common/dependent mode outages tend to have low numbers of PRC-005 violations
  - Little correlation between outages and PRC-005 violations
- No maintenance standards for AC substation equipment, yet similar failure percentage to percentage of failed protection system equipment
- Is a focus on PRC-005 the best way to reduce outages due to failed protection system equipment?
  - If not, what are the most effective steps?

# Multiple Outage Voluntary Request

- Provide additional information on specific three or more circuit CDM outage events
- Classification of TADS events as either:
  - As planned (normal clearing)
  - Not as planned (abnormal clearing)
- Additional questions on:
  - Human Error initiated outages
  - Failed Protection System Equipment initiated outages
  - Failed AC Substation Equipment initiated outages
  - Failed AC Circuit Equipment initiated outages

# Survey Results

- Provided additional information on 133 CDM events (36% of total voluntary data request)
- Risk Cluster
  - Misoperation
- Solutions
  - Awareness and focus
  - Training
  - New standard requirement

| Three Outages or More per TADS Event | | |
|---|---|---|
| **Description** | **# of Events** | **Percent** |
| Total Common and Dependent mode events with 3 or more circuit outages | 369 | 100% |
| Survey Responses (Number of Events) | 133 | 36% (133 of 369) |
| Normal Clearing Events | 49 | 37% (49 of 133) |
| Abnormal Clearing Events (TADS Event Types 60+61+62+90) | 84 | 63% (84 of 133) |
| Events Caused by Misoperations (TADS Event Types 61+62) | 63 | 47% (63 of 133) |

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Trends in Relay Misoperations

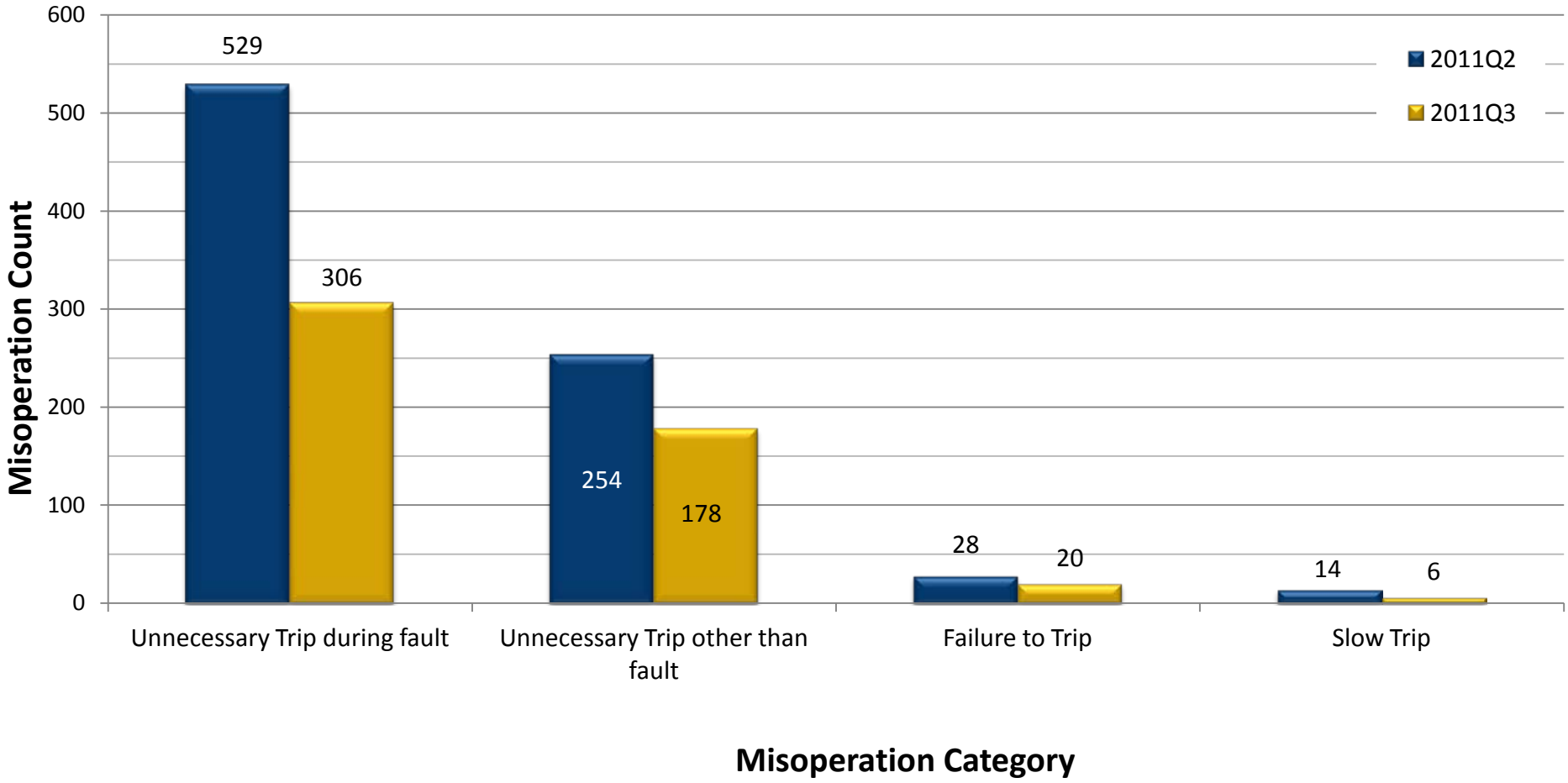
RELIABILITY | ACCOUNTABILITY





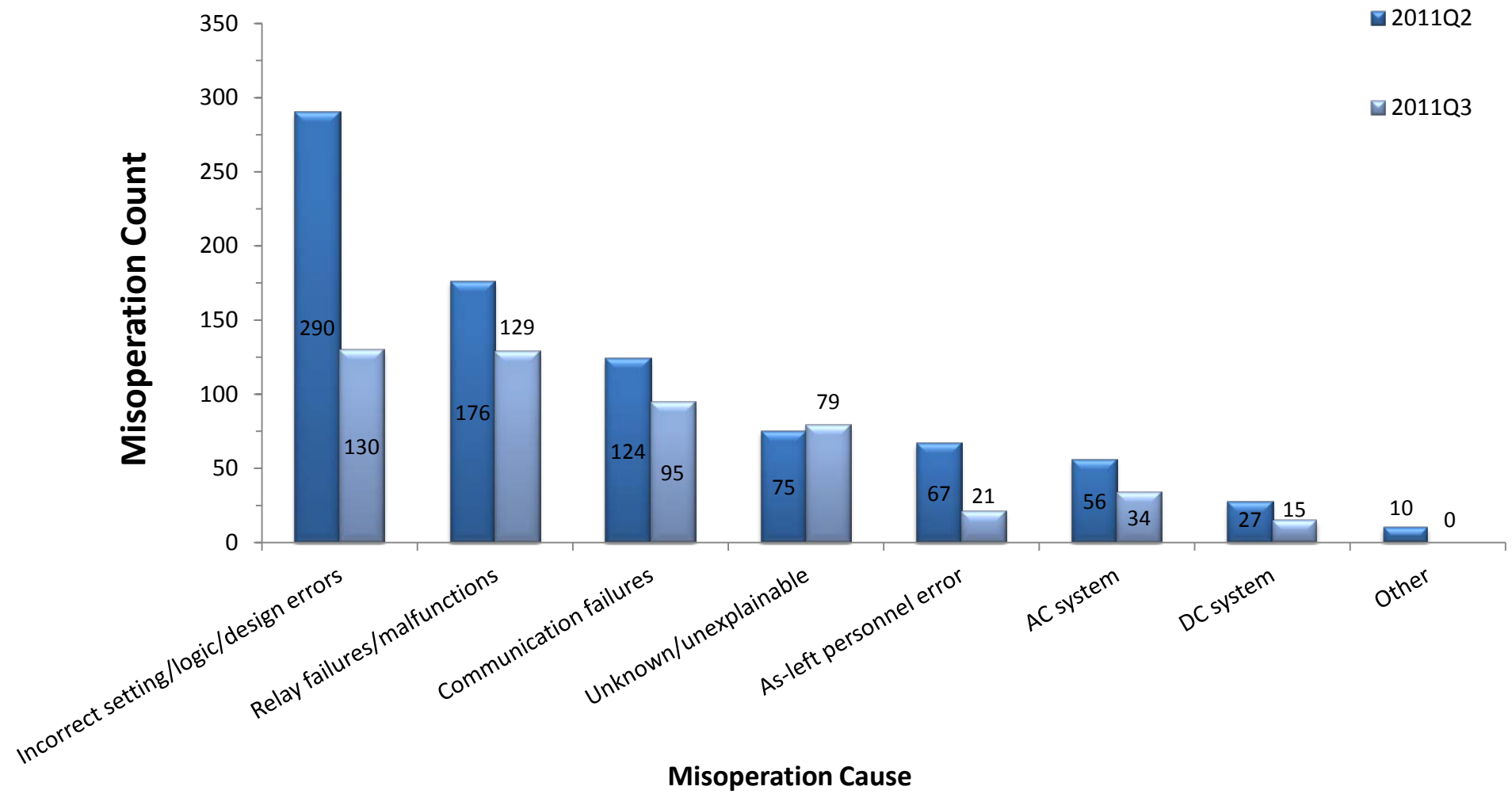

# Misoperation Category

## Misoperation Count by Category (2011 Q2 and 2011 Q3)



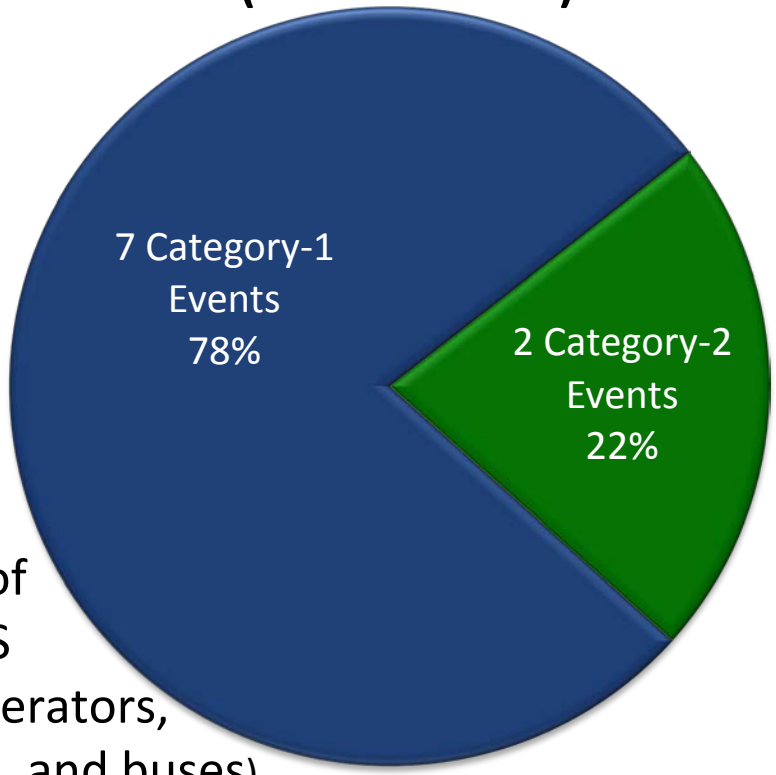
# Misoperation Causes (2011 Q3)

## Preliminary Misoperation Causes in 2011 Q2 and 2011 Q3



# Impact to Reliability

**Closed Events with Misoperation Identified in 2011Q2 (Total 9 Events)**




Cat 2 – e.g., Unintended system separation resulting in an island of 1,001 MW to 4,999 MW

Cat 1 – e.g., Loss of three or more BPS Elements (i.e. generators, transmission lines, and buses)

# Measure and Demonstrate Results

Relay Misoperations - Windows Internet Explorer provided by NERC

http://www.nerc.com/page.php?cid=4|331|400

File Edit View Favorites Tools Help Convert Select

Favorites Intranet NERC

Relay Misoperations

Reliability Indicators
-Planning Reserve Margin
-BPS Transmission Related Events
-Relay Misoperations
-EEA2
-EEA3
-Average Percent Non-Recovery of DCS
-DCS Events Greater than MSSC
-Total Automatic AC Transmission Outages
-Total Automatic AC Transmission Initiated by AC SE
-IROL/SOL Exceedance

Demand Response Availability Data System (DADS)

Generating Availability Data System (GADS)

Transmission Availability Data System (TADS)

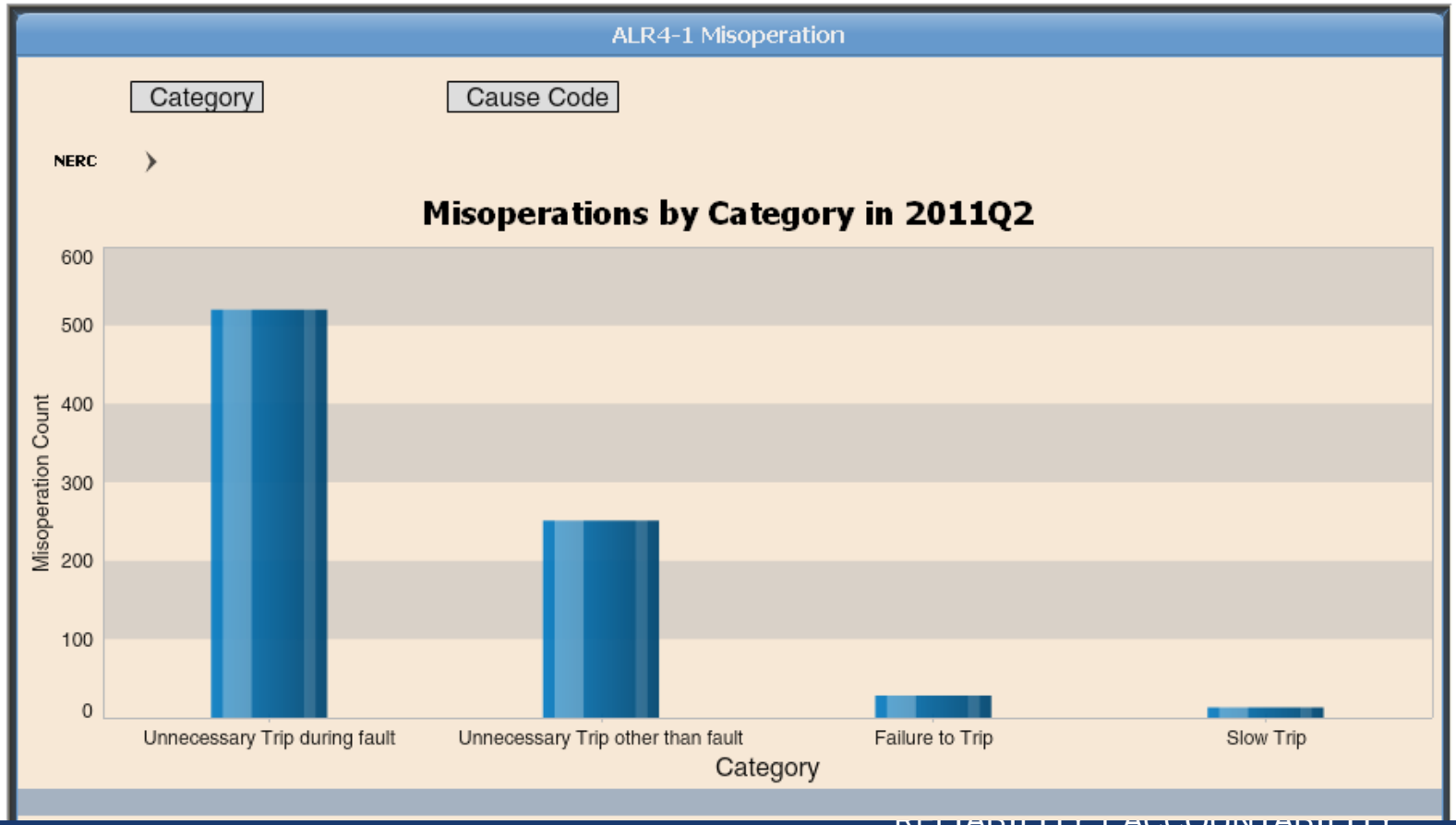
Electricity Supply & Demand (ES&D)

Key Issues

Reliability Guidelines

Home Page

Resource Documents



# Objectives

- Avoid cascading outages and long-term damages
- Measure and report bulk power system and equipment performance
  - State of Reliability Report
- Provide sound technical analysis and proof to industry
  - Necessary standards revisions and project prioritization

# Questions?

**Jessica Bian**

Director of Performance Analysis

(404) 446-9702

jessica.bian@nerc.net

**Ed Kichline**

Manager of Enforcement Processing

(202) 400-3025

ed.kichline@nerc.net



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Speaker Bios

NERC Standards and Compliance Workshop, April 16-18, 2012

**Val Agnew**

Val Agnew is the manager of compliance standards interface and outreach for NERC. She came to NERC from Honeywell International in Phoenix, where she was an international contract manager in the aerospace division. Prior to Honeywell, she was the Director of Commercial Customer Care for UniSource Energy (Tucson Electric Power and UniSource Energy Services - Gas and Electric) in Tucson, Arizona.

Agnew is a licensed attorney in the state of Arizona. She has a J.D. from Phoenix School of Law, a M.B.A. from Colorado State University, and a bachelor's degree from Kent State University.

**Scott Barfield-McGinnis**

Scott Barfield McGinnis is a standards development advisor at NERC. He supports NERC's mission of managing and improving standard development, revisions, interpretations and other reliability related projects through the valued participation of industry technical experts. Before joining NERC, he was the bulk electric system compliance manager at Georgia System Operations Corporation. While there, he collaborated with staff in both transmission and generation operations to improve compliance initiatives. Besides managing and participating in reliability standard activities, he implemented a method of identifying reliability standard performance to system operation activities to identify gaps and ensure compliance.

Other positions held throughout his career include system engineer, planner and engineering manager with oversight in energy control systems, planning and forecasting, as well as asset management. He received an undergraduate engineering degree from Southern Polytechnic State University in power systems and earned his M.B.A. from Mercer University's Stetson School of Business. Scott is also a registered professional engineer in the state of Georgia.

Scott is a member of the Institute of Electronics and Electrical Engineers (IEEE) and a past board member of the Central Georgia Section, where he continues to provide technical presentations at meetings.

**Jessica Bian**

Jessica Bian is the director of performance analysis for NERC. Performance analysis encompasses the electric reliability organization's efforts to independently review, assess and report the state of reliability based on historic performance. Bian also oversees development of reliability metrics and

benchmarking, establishing an industry-wide set of baseline measurements for determining the reliability, adequacy and associated risks to the bulk power system.

Before joining the NERC staff in July 2007, Bian was a senior lead engineer at the PJM Interconnection with responsibilities including real-time operations support, resource economic dispatch and operator training simulator projects.

From 1997 to 2002, she worked for the Electric Reliability Council of Texas (ERCOT), where she focused on power operations, transmission engineering and project procurement. Prior to her tenure with ERCOT she was involved in generator/excitation systems design and Flexible AC Transmission Systems (FACTS) development at Westinghouse Electric Corporation. She has authored many papers on the subjects of power system voltage stability, FACTS applications and power system reliability assessment.

Jessica is a certified project manager and a senior member of the Institute of Electrical and Electronic Engineers (IEEE). Jessica holds professional engineer licenses in both Florida and Texas. She graduated from Tulane University with a Ph.D. in electrical engineering in 1992.

**Caroline Clouse**

Caroline Clouse joined NERC in March of 2011 as a compliance specialist. She is responsible for developing multi-layered communication strategies to disseminate NERC information over various content channels (CANs, Bulletins, etc.). Before joining NERC, Clouse worked as a marketing support manager for The Alexander Group, Inc. and an editorial manager, corporate communications, for Turner Broadcasting System.

Clouse holds a B.A. in journalism/advertising sequence from The University of North Carolina at Chapel Hill.

**Ben Engelby**

Ben Engelby joined NERC in March 2011 as a senior compliance specialist. He supports various NERC compliance initiatives, including the development of Compliance Application Notices (CANs) and Public Notice Bulletins. Prior to joining NERC, Engelby was an attorney for Financial Law Associates, APC and the General Counsel for Engelby Real Estate.

Ben has a B.S. from Arizona State University and a J.D. from Thomas Jefferson School of Law.

**Brian Evans-Mongeon**

Brian Evans-Mongeon is the president and CEO of Utility Services, Inc. Utility Services commenced operations in May 2007 and is working with over 70 registered entities with more than 150 functional registrations in all eight regions. Evans-Mongeon and his associates have served on numerous NERC and regional committees addressing topics like underfrequency load shedding, disturbance monitoring,

event reporting, critical infrastructure protection, and the definition of Bulk Electric System. Evans-Mongeon is the chair of Project 2009-01–Disturbance and Sabotage Reporting (EOP-004-2).

### Robert Hoopes

Robert Hoopes is the senior director of FERC/NERC compliance for PPL Corporation. Hoopes is a graduate of the United States Military Academy with a concentration in nuclear engineering. He served six years in the U.S. Army prior to joining PPL Corporation. At PPL, he spent 17 years in various assignments for the Susquehanna nuclear plant. Hoopes' later assignments at PPL have been at the corporate level in human resources, continuous improvement, corporate services and facilities management. In 2006, he was assigned corporate responsibility for PPL's compliance to the NERC reliability standards and the position of the senior manager for CIP compliance. He holds a professional engineer license in Pennsylvania.

### Mallory Huggins

Mallory Huggins joined NERC in June 2010 as a standards specialist. She is responsible for coordinating Project 2010-07—Generator Requirements at the Transmission Interface, the Adequate Level of Reliability Task Force, and the Standards Committee Communications and Planning Subcommittee; organizing standards workshops and webinars; writing for the NERC newsletter; and managing assorted other standards projects.

Huggins has an M.A. in conflict resolution from Georgetown University and worked for FERC's Dispute Resolution Service during her two years of graduate school. While with the Dispute Resolution Service, she planned internal outreach programs including trainings, workshops, and lectures related to alternative dispute resolution; collaborated with the U.S. Institute for Environmental Conflict Resolution on several initiatives; researched and wrote content for the department's intranet site; and assisted the dispute resolution staff in resolving disputes among regulated energy industries.

Huggins has training in facilitation, mediation, and negotiation and earned a B.A. in rhetoric and communication studies from the University of Richmond, with a focus on interpersonal communication and conflict.

### Laura Hussey

Laura Hussey joined NERC in November 2010 as standards process manager. She brings to NERC ten years of experience working with electric utilities, including one year as director of cybersecurity policy at Schweitzer Engineering Laboratories and nine years at Edison Electric Institute, where she held various positions, most recently serving as manager of security, infrastructure & operations. In her industry tenure, Hussey has been directly involved in advocacy and implementation on many key milestones, including industry deregulation and the related regulatory changes; the increased focus on critical infrastructure protection and cybersecurity; and the implementation of the Energy Policy Act of 2005 and the mandatory reliability regime and ERO.

In addition to her electric industry experience, Hussey has 15 years experience as an IT trainer and consultant. In her consulting role, she worked with organizations from a variety of sectors, including healthcare, banking, manufacturing, legal services, and higher education, to select or develop and implement solutions to achieve business objectives. She has developed and taught training courses in virtually every PC application software since the onset of the personal computer era.

Hussey has a B.S. in information science from the University of Pittsburgh and has completed graduate coursework in Georgetown University's communication, culture, and technology program, where she focused on public policy for network industries.

**Ed Kichline**

Ed Kichline is NERC's manager of enforcement processing, working out of NERC's Washington, DC office. The enforcement processing team works with the Regional Entities on the violations and issues that will be handled in Notices of Penalties and as Find, Fix, and Track remediated issues. Prior to joining NERC in November of 2010, Ed was senior counsel at National Grid in the federal regulatory group, focusing on federal policy and reliability matters. Ed graduated from Georgetown University Law Center in 1996 and started in the energy field in 1999 while at Hunton & Williams.

**Peter Knoetgen**

Pete Knoetgen is director of training and accreditation for NERC, responsible for managing the industry's operator certification, continuing education and training programs. He joined NERC in June 2011.

Prior to joining NERC, Knoetgen was with the Institute of Nuclear Power Operations (INPO) for nearly 20 years. As director of accreditation, he led the nuclear industry's training program accreditation team visit process, conducting about 30 accreditation team visits per year; conducted workshops and training; provided assistance; developed industry training guidelines; and served as secretary of the National Nuclear Accrediting Board. Knoetgen began his INPO career in 1991, working in various capacities, including engineering, plant analysis and performance improvement, leadership course manager, assistant to the CEO, and board secretary.

Prior to INPO, Knoetgen held engineering and management positions at Nuclear Assurance Corporation and Baltimore Gas & Electric. In 2004, he retired from the U.S. Navy Reserve as a captain, following mobilization for operations Iraqi Freedom and Enduring Freedom.

Knoetgen completed the certification program in training and human resources development at the University of Georgia. He has a B.S. in mechanical engineering from the U.S. Naval Academy and an M.S. in nuclear engineering from Georgia Tech.

**James Merlo**

James Merlo is the Manager of Human Performance in the Reliability Risk Management Group at NERC. He leads the electric reliability organization's efforts to assess the industry status and needs with regard to human performance challenges affecting bulk power system reliability. In this role, he identifies opportunities and methods for improvement based on proven methods from other industries, and develops and leads an industry-wide program to improve human performance components of bulk power system reliability. Additionally, he is responsible for ensuring that human performance-based industry alerts, lessons learned, best practices and other valuable industry publications are quickly identified and communicated to the industry stakeholders and other audiences.

Before joining NERC, Merlo served in a variety of leadership roles in the United States Army, including combat tours in Desert Storm and Operation Iraqi Freedom. He has served as a deputy brigade commander in Baghdad and as an assistant professor and program director at the United States Military Academy.

Merlo has a B.S. in human factors psychology from West Point, a master's in engineering psychology from the University of Illinois and a Ph.D. in applied experimental and human factors psychology from the University of Central Florida. He is the author of over 50 publications and book chapters on the subjects of human factors engineering and human performance.

**Mike Moon**

Michael Moon began work at NERC in June 2009 as the director of compliance operations and interfaces. In his time at NERC, he has overseen the risk-based approach to audit planning and the development of Compliance Application Notices. Moon is responsible for outreach and interface to the NERC stakeholder Compliance and Certification Committee and the industry trade associations and forums. He is also responsible for the NERC Organization Registration and Certification Program and Regional Entity Audit Assurance and Oversight Program.

Prior to arriving at NERC, Moon served 26 years in the United States Army as an engineer. He served in a variety of command and staff positions, including command of the 37th Engineer Battalion, which he led during the initiation of Operation Iraqi Freedom in 2003, attached to the 101st Airborne Division. Moon also served as the director of electrical sector reconstruction in Iraq from 2007 to 2008, where he was responsible for the $4.3 billion sector reconstruction program: generation, transmission, distribution, capacity development and operations, maintenance and sustainment. Moon also served as the United States European Command infrastructure engineer from 2003-2005, where he was responsible for the $1 billion military construction and sustainment, restoration and modernization program for the 500+ installations in the command's 94-country footprint. Mr. Moon ended his career as the director of infrastructure rehabilitation at the United States Army War College in 2009.

Moon has a master's degree in national security studies from the United States Army War College and a bachelor's degree in applied mathematics from Longwood University.

**Steve Noess**
Steven Noess joined the NERC staff in May 2011 as a standards development advisor focused on projects relating to NERC's Critical Infrastructure Protection standards. Prior to joining NERC, Noess was an attorney at the Minnesota Legislature, where he advised members, drafted and managed development of legislation, and coordinated rulemaking with executive branch agencies. While in law school, he was a law clerk for Thrivent Financial and Ameriprise Financial, both of Minneapolis, with a focus on mutual fund law, tax law, and employment law.

Before becoming an attorney, Noess was a signal corps officer in the United States Army, serving in Germany-based communications and intelligence units. From 2003 to 2004, he deployed to Iraq and was awarded the Bronze Star Medal.

Steven has a B.S. in international relations and systems engineering from the U.S. Military Academy, West Point, and a J.D. from the University of Minnesota Law School.

**Kenneth Peterson**
Kenneth Peterson was first elected to the Board of Trustees of the North American Electric Reliability Corporation in February 2006. In February 2012, he was reelected for a third term. Peterson currently chairs the Standards Oversight and Technology Committee, previously chaired the Nominating Committee, and served on the Compliance, Finance and Audit, and Corporate Governance and Human Resources Committees of the Board of Trustees.

Peterson is the former president and CEO of Powerex Corporation, a leading marketer of wholesale energy products and services in western Canada and the western United States. He has consulted in the areas of strategic policy and pricing in the energy sector. Prior positions include director of planning at BC Hydro and Power Authority and Economic Consultant with Westwater Research Centre, University of British Columbia. He is a past director on the boards of Western Electricity Coordinating Council and the Western Regional Transmission Association. He obtained his M.A. in economics from Northwestern University, and his B.A. in economics from the University of British Columbia.

**Andy Rodriquez**
Andy Rodriquez works within the Standards Development group as the director of standards development. He is responsible for leading NERC's continent-wide standards development team by providing oversight, guidance and coordination that helps NERC deliver standards that ensure an adequate level of reliability of the bulk electric system.

Rodriquez has been involved in the industry for the past 14 years, initially becoming involved with NERC's Transaction Information Systems Working Group and the development of E-Tag and related

NERC policies. Since then, he has worked on RTO development, electronic scheduling initiatives, position management and deal capture systems, and standards development. Prior to coming to NERC, Rodriquez worked for PJM Interconnection, where he helped develop the joint PJM/MISO Congestion Management process and worked on the design of PJM's second control center.

Rodriquez joined NERC in 2007 as NERC's manager of business practice coordination, a role in which he was responsible for ensuring close coordination between the reliability activities of NERC and the commercial needs of NAESB. Andy was promoted to his current role in 2011.

**Herb Schrayshuen**

Herb Schrayshuen is NERC's vice president and director of standards and training, responsible for managing NERC's standards development and training programs. He joined NERC as its vice president and director of standards in July 2010.

In his prior reliability regulation positions, Schrayshuen served as director, reliability assessment for the SERC Reliability Corporation (SERC), a nonprofit corporation where he was responsible for carrying out the reliability assessment programs called for under the 2005 Energy Policy Act for all or portions of the bulk power system in 16 southeastern and central states.

Within Schrayshuen's prior utility industry assignments, spanning a period of 34 years, he served in roles of increasing responsibility with National Grid and Niagara Mohawk (acquired by National Grid in 2002) and American Electric Power. He has served the utility industry in the disciplines of transmission planning, asset management, pricing and rates, wholesale (FERC jurisdictional) transactions, power procurement and NERC reliability compliance management. Schrayshuen concluded his utility career in 2007 as vice president Reliability Compliance for National Grid, where his team led National Grid's preparations for the implementation of mandatory reliability standards to a successful conclusion.

Schrayshuen has served NERC and its reliability objectives as a member of NERC's Compliance Certification Committee (NPCC Representative), Reliability Assessment Subcommittee (SERC Representative) and the Reliability Metrics Working Group (Chair).

Schrayshuen holds a B.S. in engineering from Stevens Institute of Technology and an M.S. in electric power engineering and an M.B.A. from Rensselaer Polytechnic Institute. He is a graduate of the GE Power Systems Engineering Program and is a registered professional engineer in New York.

**Philip Winston**

Philip Winston is the chief engineer, transmission protection and control, with Southern Company, with over 39 years experience in system protection, operations, and engineering. He has been actively involved in the Power Engineering Society Power System Relaying Committee since 1985. He is a past

chairman of the IEEE/Power System Relaying Committee, a past chair of the Power System Relaying Committee Systems Protection, and a past chair of the Line Protection Subcommittee.

Additionally, Winston is actively involved in regional and national organizations responsible for utility standards and disturbance analysis. He serves as a member and past chair of the SERC Protection and Control Subcommittee, member of the NERC System Protection and Control Subcommittee, and two standard drafting teams: Project 2007-06–System Protection Coordination and Project 2007-17–Protection System Maintenance and Testing.

Winston holds a B.S.E.E. from Clemson University and an M.S.E.E. from Georgia Tech, and he is a registered professional engineer in Georgia.

**Jack Wiseman**

Jack Wiseman is NERC's manager of organization registration and certification. He is responsible for managing the NERC compliance registry and the organizational certification program as identified in the NERC Rules of Procedures section 500 and its appendix 5A. He also supervises resources in a manner that promotes transparency and successful implementation of the registration and certification programs.

Wiseman joined NERC as a senior compliance enforcement analyst in July 2008. In that role, he acted to ensure timely, thorough and complete NERC ERO oversight review, analysis and processing of mitigation plans and enforcement proceedings undertaken either by NERC or the Regional Entities to correct and sanction violations of mandatory NERC Reliability Standards by registered owners, operators and users of the bulk power system subject to the electric reliability organization's compliance monitoring and enforcement program. Wiseman joined the compliance operations group as senior certification and compliance auditor in April 2011, where he was responsible for supporting the implementation of the NERC compliance registry and the organizational certification programs.

Prior to joining NERC, Wiseman was a self-employed professional consultant where he provided project management, executive consulting, and construction execution expertise for organizations such as: Dick Corporation, Petroneft LLC-Associate, InterPlan Consulting, Inc., and Foster Wheeler Energy Ltd. He has also worked for Bechtel Offshore and Foster Wheeler USA. Immediately prior to being self-employed, Wiseman worked for the McDermott Group of Companies, including Babcock & Wilcox, where he held several positions, including vice president and general manager. Wiseman holds both an M.S. and a B.S. in electrical engineering from Louisiana State University and has been registered as a professional engineer in Louisiana since 1971. He has also been a guest lecturer at MIT and at Georgetown University.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Updated Agenda
# Standards and Compliance Workshop

April 16-18, 2012

Manchester Grand Hyatt
One Market Place
San Diego, CA 92101
(619) 232-1234

Register by April 2 to attend in person or April 9 to attend via webinar.
Reserve a room at the Manchester Grand Hyatt.

## A Risk-Based Approach to Reliability and Accountability

| Intro to NERC | Presentation | Speaker(s) |
|---|---|---|
| 10:00 a.m.-12:00 p.m. | **NERC 101:** Basics of reliability standards, NERC registration and the Compliance Monitoring and Enforcement Program | **Caroline Clouse**, NERC Compliance Program Interfaces and Outreach Specialist, **Mallory Huggins**, NERC Standards Specialist |
| 12:00-1:00 p.m. | **Lunch** | |
| 1:00-1:40 p.m. | **Keynote Remarks** | **Ken Peterson**, NERC Board of Trustees |
| 1:40-1:50 p.m. | **Workshop Introduction and Overview of Standards and Compliance Initiatives** | **Mike Moon,** NERC Director of Compliance Operations and **Herb Schrayshuen**, NERC Vice President of Standards and Training |
| 1:50-2:45 p.m. | **Risk-Based Compliance Monitoring: A Focus on Reliability:** Risk-based concepts in context | **Mike Moon,** NERC Director of Compliance Operations |
| 2:45-3:00 p.m. | **Break** | |
| 3:00-4:00 p.m. | **Enforcement Updates:** Compliance Enforcement Initiative Phases I and II | **Ed Kichline**, NERC Manager of Enforcement Processing |
| 4:00-5:00 p.m. | **Standards Updates:** Current projects and the Reliability Standards Development Plan | **Andy Rodriquez**, NERC Director of Standards Development |
| 5:00-6:00 p.m. | **Networking Hour** | |

| Tuesday, April 17 | Presentation | Speaker(s) |
|---|---|---|
| 8:00-8:30 a.m. | **Cold Weather Risk Mitigation Plan** | **Herb Schrayshuen**, NERC Vice President of Standards and Training |
| 8:30-9:30 a.m. | **Compliance Updates:** New or revised standards coming into effect; Reliability Standards Audit Worksheets; Compliance Application Notices | **Ben Engelby**, NERC Senior Compliance Program Interface and Outreach Specialist |
| 9:30-9:45 a.m. | **Break** | |
| 9:45-10:45 a.m. | **Critical Infrastructure Protection:** Project 2008-06: Cyber Security Order 706 and CIP Version 5; CIP Interpretations; GridEx | **Steve Noess**, NERC Standards Development Advisor |
| 10:45 a.m.-11:30 p.m. | **Navigating a CIP Audit:** Peer Sharing of Successful Strategies | **Bob Hoopes**, Senior Director FERC/NERC Compliance, PPL Corporation |
| 11:30 a.m.-12:00 p.m. | **FERC Order 754:** Addressing the study of single point of failure on protection systems | **Scott Barfield-McGinnis**, NERC Standards Development Advisor |
| 12:00-1:00 p.m. | **Lunch** | |
| 1:00-2:00 p.m. | **Events Analysis and NERC's Human Performance Program:** Concept drift; human/machine interface; lessons learned; event metrics and emerging issues | **James Merlo**, NERC Manager of Human Performance |
| 2:00-2:30 p.m. | **Protocols for Real-Time Communication:** COM-002, COM-003, TOP-001 | **Mike Moon,** NERC Director of Compliance Operations and **Herb Schrayshuen**, NERC Vice President of Standards and Training |
| 2:30-3:00 p.m. | **Project 2009-01: Disturbance and Sabotage Reporting** | **Brian Evans-Mongeon**, Chair of Project 2009-01 Standard Drafting Team |
| 3:00-3:15 p.m. | **Break** | |
| 3:15-4:30 p.m. | **Reliability Issues, Violations and Enforcement Trends, Risk Clusters** | **Jessica Bian**, NERC Director of Performance Analysis and **Ed Kichline**, NERC Manager of Enforcement Processing |
| 4:30-5:00 p.m. | **Q&A** | **NERC Staff** |

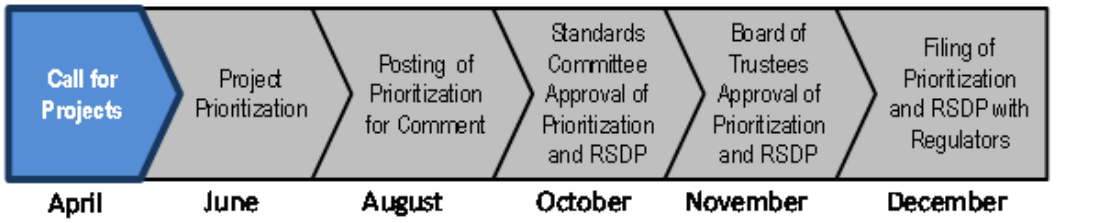
| Wednesday, April 18 | Presentation | Speaker(s) |
|---|---|---|
| 8:00-9:00 a.m. | **Strategies for Standard Development Efficiencies** | **Laura Hussey**, Standards Process Manager and **Phil Winston,** Chair of Project 2007-06 Standard Drafting Team |
| 9:00-10:15 a.m. | **Registration, Certification, and Appeals:** Registration letter changes; Multi-Region Registered Entity Registration (MRRE); certification team training; pending appeals; impact on registration and certification of new or revised standards becoming effective | **Jack Wiseman**, NERC Manager of Registration and Certification |
| 10:15-10:30 a.m. | **Break** | |
| 10:30-11:30 a.m. | **Training and Tools:** What's available for Registered Entities; training community | **Pete Knoetgen**, NERC Director of Training and Accreditation |
| 11:30 a.m.-12:00 p.m. | **Q&A and Closing Remarks** | **NERC Staff** |

**From:** Wendy Kinnard
**To:** Wendy Kinnard
**Subject:** NERC Announcement: Call for Standards Development Project Candidates
**Date:** Monday, April 16, 2012 4:13:02 PM
**Attachments:** image006.png

# Announcement

## Call for Standards Development Project Candidates

NERC is in the process of developing the 2013-2015 Reliability Standards Development Plan (the Plan). The Plan will be developed over the next several months, and will provide status updates for projects in development, identify the next projects scheduled for initiation, designate projects for further research, and catalog all proposed projects for future development.




As the first part of this effort, NERC is soliciting the industry for project candidates. The following is a list of current project candidates (those marked with an asterisk are currently in development):

| | |
|---|---|
| Project 2006-06 Reliability Coordination* | Project 2010-05.2 Phase 2 of Protections Systems: SPS and RAS |
| Project 2007-02 Operating Personnel Communications Protocols* | Project 2010-07 Generator Requirements at the Transmission Interface* |
| Project 2007-03 Real-time Transmission Operations* | Project 2010-08 Functional Model Glossary Revisions |
| Project 2007-06 System Protection Coordination* | Project 2010-13.2 Phase 2 of Relay Loadability: Generation* |
| Project 2007-09 Generator Verification* | Project 2010-13-3 Phase 3 of Relay Loadability: Stable Power Swings |
| Project 2007-11 Disturbance Monitoring | Project 2010-14.1 Phase 1 of Balancing Authority Reliability-based Controls: Reserves* |
| Project 2007-12 Frequency Response* | Project 2010-14.2 Phase 2 of Balancing Authority Reliability-based Controls: Time |

| | |
|---|---|
| | Error, AGC, and Inadvertent |
| Project 2007-17 Protection System Maintenance & Testing* | Project 2010-16 Definition of System Operator |
| Project 2008-01 Voltage and Reactive Planning and Control | Project 2010-17 Definition of BES* |
| Project 2008-02 Undervoltage Load Shedding | Project 2012-01 Equipment Monitoring and Diagnostic Devices |
| Project 2008-06 Cyber Security - Order 706* | Project 2012-02 Physical Protection |
| Project 2008-12 Coordinate Interchange Standards | Project 2012-03 PRC-004 VSLs |
| Project 2009-01 Disturbance and Sabotage Reporting* | Project 2012-04 Protection System Commissioning Testing |
| Project 2009-02 Real-time Reliability Monitoring and Analysis Capabilities | Project 2012-05 ATC Revisions Order 729 |
| Project 2009-03 Emergency Operations | Project 2012-06 Generator Capabilities |
| Project 2009-04 Phasor Measurements | Project 2012-07 Obsolescence Review |
| Project 2009-05 Resource Adequacy Assessments | Project 2012-08 Glossary Updates |
| Project 2009-07 Reliability of Protection Systems | Project 2012-09 IRO Review |
| Project 2010-01 Support Personnel Training | Project 2012-11 FAC Review |
| Project 2010-02 Connecting New Facilities to the Grid | Project 2012-12 PER Review |
| Project 2010-03 Modeling Data | Project 2012-13 NUC Review |
| Project 2010-04 Demand Data | Project 2012-14 Risk Analysis |
| Project 2010-05.1 Phase 1 of Protection Systems: Misoperations* | Project 2012-15 Flow Limited Paths |

Summaries of the scope of each project can be found in the 2012-2014 Plan, Appendix 4, located at: 2012-2014_RSDP_BOT_Approved_2011NOV03.pdf.

If you have a suggestion for a Standards Development project, please submit your suggestion to NERC using the new Suggestion Form, which can be found at the following location: Suggestions_and_Comments_Form_Revision_04142012.docx.

In order to be considered in the 2013-2015 Plan, suggestions should be submitted via email to Andy Rodriquez **no later than May 11, 2012.**

For more information or assistance, please contact Andy Rodriquez (via email) or at (404) 446-9741 or Wendy Kinnard (via email) or at (404) 446-9735.

**3353 Peachtree Road NE**
**Suite 600, North Tower**
**Atlanta, GA 30326**
**404-446-2560 | www.nerc.com**

*Wendy J. Kinnard*
*Standards Development Administrative Assistant*
**North American Electric Reliability Corporation**
**wendy.kinnard@nerc.net**
**(404) 446-9735 (O)**
**(404) 823-1366 (C)**

NERC. Reliability. Accountability.

This email and any of its attachments may contain NERC proprietary information that is privileged, confidential, or subject to copyright belonging to NERC. This message and any attachments may contain confidential information protected by the attorney-client or other privilege. This email is intended solely for the use of the individual or entity to which it is addressed. If you are not the intended recipient of this email, you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this email is strictly prohibited and may be unlawful. If you receive this email in error, please notify the sender immediately and permanently delete the original and any copy of this email and any printout

---
You are currently subscribed to standards as: lpedowicz@npcc.org
To unsubscribe send a blank email to leave-1289054-171282.3516124aa26cd8bdadcf80768b524b3d@listserv.nerc.com

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Reliability Standards Development Plan

2012-2014

Approved by Board of Trustees
November 3, 2011

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Table of Contents


Chapter 1 – Executive Summary ..... 1

Chapter 2 – A Joint Letter from the Chair of the Standards Committee and NERC's Vice-President of Standards and Training ..... 2

Chapter 3 - General ..... 5

Status Updates ..... 6

2011 Reorganization and Hiring ..... 6

Completed Standards Development Projects ..... 6

Progress on Version Zero Standards ..... 6

Interpretations of Reliability Standards ..... 7

Progress on Regulatory Directives ..... 7

Regional Standards Development ..... 8

Rapid Development and Rapid Revision Projects ..... 8

Challenges facing Standards ..... 9

Five-Year Review Obligation ..... 9

Product Quality ..... 9

Standards Program Throughput ..... 9

Conclusion ..... 10

Chapter 4 – Project Development Overview ..... 11

Project Prioritization and Plan Development ..... 11

Project Implementation ..... 12

Chapter 5 – Project Work Plan Summary ..... 14

Projects for 2012-2014 ..... 14

Projects for 2015 and Beyond ..... 17
Appendix 1 - Prioritization ..... 18
Appendix 2 – Work Plan ..... 38
Appendix 3 – Regional Work Plan ..... 38
Appendix 4 – Project Summaries ..... 40
Project 2006-06 Reliability Coordination ..... 41
Project 2006.06.2 Phase 2 of Reliability Coordination: IRO-003 ..... 42
Project 2007-02 Operating Personnel Communication Protocols ..... 43
Project 2007-03 Real-time Transmission Operations ..... 44
Project 2007-06 System Protection Coordination ..... 45
Project 2007-07 Vegetation Management ..... 46
Project 2007-09 Generator Verification ..... 47
Project 2007-11 Disturbance Monitoring ..... 48
Project 2007-12 Frequency Response ..... 49
Project 2007-17 Protection System Maintenance and Testing ..... 50
Project 2008-01 Voltage and Reactive Planning and Control ..... 51
Project 2008-02 Undervoltage Load Shedding ..... 52
Project 2008-06 Cyber Security – Order 706 ..... 53
Project 2008-12 Coordinate Interchange Standards ..... 54
Project 2009-01 Disturbance and Sabotage Reporting ..... 55
Project 2009-02 Real-time Reliability Monitoring and Analysis Capabilities ..... 56
Project 2009-03 Emergency Operations ..... 57
Project 2009-04 Phasor Measurements ..... 58
Project 2009-05 Resource Adequacy Assessments ..... 59
Project 2009-07 Reliability of Protection Systems ..... 60

Project 2010-01 Support Personnel Training ..... 61

Project 2010-02 Connecting New Facilities to the Grid..... 62

Project 2010-03 Modeling Data..... 63

Project 2010-04 Demand Data ..... 64

Project 2010-05.1 Phase 1 of Protection Systems: Misoperations ..... 65

Project 2010-05.2 Phase 2 of Protection Systems: SPS and RAS..... 66

Project 2010-07 Generator Requirements at the Transmission Interface ..... 67

Project 2010-08 Functional Glossary Model Revisions ..... 68

Project 2010-13.2 Phase 2 of Relay Loadability: Generation ..... 69

Project 2010-13.3 Phase 3 of Relay Loadability: Stable Power Swings ..... 70

Project 2010-14.1 Phase 1 of Balancing Authority Reliability-based Controls: Reserves ..... 71

Project 2010-14.2 Project 2010-14.2 Phase 2 of Balancing Authority Reliability-based Control: Time Error, AGC, and Inadvertent ..... 72

Project 2010-16 Definition of System Operator ..... 73

Project 2010-17 Definition of Bulk Electric System ..... 74

Project 2012-01 Equipment Monitoring and Diagnostic Devices..... 75

Project 2012-02 Physical Protection..... 76

Project 2012-03 PRC-004 VSLs..... 77

Project 2012-04 Protection System Commissioning Testing..... 78

Project 2012-05 ATC Revisions - Order 729..... 79

Project 2012-06 Generator Capabilities ..... 80

Project 2012-07 Obsolescence Review..... 81

Project 2012-08 Glossary Updates ..... 82

Project 2012-09 IRO Review ..... 83

Project 2012-11 FAC Review..... 84

Project 2012-12 PER Review..... 85

Project 2012-13 NUC Review ..... 86

Project 2012-14 Risk Analysis ..... 87

Project 2012-15 Flow Limited Paths ..... 88

PRC-002-FRCC-1 — FRCC Regional Disturbance Monitoring and Reporting Requirements .... 89

PRC-003-FRCC-1 — FRCC Regional Procedure for Analysis of Misoperations of Transmission and Generation Protection Systems ..... 90

PRC-006-FRCC-1 — FRCC Automatic Underfrequency Load Shedding Program..... 91

PRC-024-FRCC-1 — FRCC Regional Generator Performance During Frequency and Voltage Excursions ..... 92

PRC-006-NPCC-1 — Automatic Underfrequency Load Shedding Program ..... 93

PRC-012-NPCC-1 — Special Protection Systems ..... 94

MOD-024-RFC-1 — Verification and Data Reporting of Generator Gross and Net Real Power Capability ..... 95

MOD-025-RFC-1 — Verification and Data Reporting of Gen Gross and Net Reactive Power Capability ..... 96

PRC-002-RFC-1 — Disturbance Monitoring and Reporting Requirements ..... 97

PRC-006-RFC-1 — Automatic Under Frequency Load Shedding Requirements ..... 98

PRC-012-RFC-1 — Special Protection System Requirements ..... 99

PRC-006-SERC-01 — Automatic Underfrequency Load Shedding Requirements ..... 100

PRC-006-SPP-1 — Under Frequency Load Shedding ..... 101

IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection ..... 102

BAL-001-TRE-1 — Primary Frequency Response in the ERCOT Region..... 103

BAL-002-WECC-1 — Contingency Reserves..... 104

BAL-004-WECC-1 — Automatic Time Error Correction ..... 105

VAR-001-WECC-1 — Voltage and Reactive Control..... 106

# Chapter 1 – Executive Summary

This document provides an update on the status of Standards Development work at NERC, as well as a forecast of work being planned for 2012-2014. The document has several sections:

- Chapter 1 contains this Executive Summary
- Chapter 2 contains introductory remarks from the Chair of the Standards Committee and NERC's Vice-President and Director of Standards
- Chapter 3 provides a general update on Standards Activities in 2011
- Chapter 4 provides a summary of the development of this document and the implementation of projects in general
- Chapter 5 provides a summary of the Work Plan
- Appendix 1 shows the prioritization scores used in the development of the Work Plan
- Appendix 2 shows the Work Plan in Gantt chart form
- Appendix 3 shows the Regional Work Plan in Gantt chart form
- Appendix 4 provides brief summaries of all the projects proposed within the Work Plan

# Chapter 2 – A Joint Letter from the Chair of the Standards Committee and NERC's Vice-President of Standards and Training

To: NERC's Board of Trustees, Stakeholders, Regulatory Authorities, and other interested parties

NERC is committed to the development of clear, technically excellent standards for the reliable planning and operation of the North American bulk power system. NERC's industry-based standard development process strives to leverage the knowledge and experience of subject-matter experts to develop stakeholder consensus in support of standards that achieve reliability objectives and are responsive to regulatory directives, balanced against the burdens and costs of compliance imposed upon the more than 1,900 entities that are now subject to these standards. No single standard can ensure this outcome. Rather, NERC strives to develop and enhance a portfolio of performance, risk-mitigation, and competency-based reliability standards that achieve a consistent defense in depth against credible events that may lead to cascading, uncontrolled separation, or instability and ensure prompt system restoration when extreme events occur.

Achieving this balance is intrinsically difficult. Just as the management of the reliability "bar" through enforceable standards is an ongoing and evolving process, the process for developing standards needs to evolve as well, in response to the learning that has occurred in the period since passage of the Energy Policy Act of 2005 and the initial enforcement of NERC standards in June 2007. We would like to use this message to highlight current achievements in the standards arena and our plans for 2012-2014, as well as certain emerging factors and concerns.

NERC's Reliability Standards Development Plan delivered the following results in 2011:

- As of November 1, 2011, 20 new or revised standards have been approved by the Board of Trustees, and are either filed or in the process of being filed with the FERC.
- Results Based Standard development principles were used for all new standards projects.
- The Standards Committee worked with NERC staff to prioritize standards development resources on twelve high priority projects. There has been no specific redirection of this effort relative to the selected priorities by regulatory authorities.
- Stakeholder-driven Quality Review has been integrated into the standards development process to assure the best quality standards from a compliance and implementation perspective.
- NERC undertook a first effort to develop a standard on a Rapid Development basis utilizing the new Standard Processes Manual.

- To balance the resources committed to the development of new standards versus the interpretation of existing standards, the Standards Committee has limited the number of interpretations under active development to three projects at any one time, while pursuing new procedural options such as "rapid revision" to correct deficiencies in the underlying standard.

The 2012-14 Reliability Standards Development Plan described in this report builds on recent experience by proposing an achievable yet ambitious plan of standards development. The 2012-14 Plan provides for:

- Continuation of ongoing standards projects with sufficient resources to ensure timely completion.
- Project priorities were established using a more comprehensive model with scores and explanatory inputs from the Standards Committee, NERC staff and industry stakeholders.
- Projects have been ranked for development priority along three tracks, based on consideration of Reliability Benefits, Time Sensitivity, and Practicality.
- As ongoing projects are completed, we are scheduling follow-on projects based on the availability of subject-matter experts and the completion of technical input, research, and industry outreach conducted by NERC's standing committees and subcommittees.
- Finally, the 2012-14 Plan incorporates a more comprehensive integration of the regional standards effort into this process. For the first time a complete project management process is being applied to regional standards development.

This Plan is intended to be a forecast of the standards work expected to be developed in the coming years. However, a wide variety of electric system events and emerging risks to bulk power system reliability may necessitate deviations from this plan. In order to respond to such threats and initiate development of new or revised standards, the actual deployment of resources to staff this plan may shift. Additionally, the estimated times listed for project completion may change as more is learned about a given project.

NERC currently is investigating the following "emerging issues," each of which may result in the identification of additional standards development work:

- Cold weather preparedness and winterization
- Geomagnetic disturbances
- Right-of-way clearances and maintenance
- System design and planning
- High Impact/Low Frequency events and disaster preparedness

Not every issue is addressable or best addressed through development of a new industry standard; the issues outlined above illustrate that truism. But where a standards related response is indicated, we will be ready to reprioritize and adjust.

The Standards Committee and NERC staff also recognize that major standards process efficiencies are still necessary if we are to make efficient use of NERC and industry resources, while meeting external expectations for the timely development and approval of technically excellent reliability standards. In 2012, we need to ask ourselves once again, "is there a better way to develop reliability standards?"

We achieve the past results and plan for the future results only with your support, and greatly appreciate that the industry has accepted the evolving prioritization process. Our efforts to effectively manage and balance the many conflicting demands placed upon both the industry and NERC staff resources has provided this next plan, which we hope you will endorse.

Each of us, day in and day out, is driven to do the "right" thing, and your ERO's reputation will be enhanced through your active support for completion of NERC's 2012-14 Reliability Standards Development Plan.

Sincerely,



Allen Mosher
Senior Director of Policy Analysis and Reliability, American Public Power Association
Chair, NERC Standards Committee



Herb Schrayshuen
Vice President of Standards and Training, NERC

# Chapter 3 - General

This is the Reliability Standards Development Plan (the "Plan") for years 2012-2014. The Plan provides several items of interest to its readers:

- Information regarding the state of Standards at NERC, changes in Standards, and challenges facing Standards in the years to come;
- Status updates regarding standards and related projects currently in development;
- A forecast of Standards Development work scheduled for the next three years; and
- An overview of the process used to prioritize work and assign resources to Standards development projects.

NERC Standards staff endeavors to maintain a complete, updated set of Standards information on the NERC website, which can be found at www.nerc.com.

The Standards Program continues to manage its ongoing load of work in order to move toward the target work load levels initially identified in early 2011. Progress is being made in this area; however, some projects expected to be completed in 2011 are still in active development. This is largely due to unforeseen complications regarding achieving consensus and managing overall product quality.

This Plan is intended to be a forecast of the standards work expected to be developed in the coming years. However, other priorities may necessitate deviations from this plan. As new technologies are discovered or new threats to reliability identified, the actual deployment of resources to staff this plan may shift. Similarly, the estimated times listed for project completion may change as more is learned about a given project.

NERC is currently investigating the following "emerging issues," which may result in the identification of additional standards development work:

- Cold weather preparedness and winterization
- Geomagnetic disturbances
- Right-of-way clearances and maintenance
- System design and planning
- High Impact/Low Frequency events and disaster preparedness

## Status Updates

### 2011 Reorganization and Hiring

In early 2011, NERC performed a minor reorganization of the Standards staff in order to ensure appropriate focus on key areas. A new position, Director of Regulatory Initiatives, was established to ensure overall coordination between NERC and its various regulators. NERC also established a Manager of Standards Information, with the primary focus of ensuring that information posted on the NERC website accurately reflects the current body of Standards and associated compliance information. Additional staff was hired into the Standards Process, Standards Development, and Regional Standards teams to better support the volume of work ongoing within the Standards Program.

### Completed Standards Development Projects

In 2011, NERC completed development of the following projects.

- 2006-02 Assess Transmission and Future Needs (BOT approved, awaiting filing)
- 2007-04 Certifying System Operators (filed with regulators)
- 2008-06 Cyber Security Order 706 Version 4 (filed with regulators)
- 2009-06 Facility Ratings (filed with regulators)
- 2010-10 FAC 729 (filed with regulators)
- 2010-11 TPL Table 1 Footnote B (filed with regulators)
- 2010-13 Relay Loadability Order Phase 1 (filed with regulators)

### Progress on Version Zero Standards

The set of Version 0 standards included 110 standards. Of the 110 standards, NERC withdrew three, and the Federal Energy Regulatory Commission (FERC) ruled on the remaining 107 as follows:

- 27 were approved without any directives to modify the associated standard
- 56 were approved with directives to modify the associated standard
- 24 were not approved, pending provision of additional information

Of the 56 that were approved with directives, progress in revising those standards includes:

- 7 have been approved by FERC
- 9 have been submitted and are pending FERC approval
- 18 are associated with projects under active development

- 22 are associated with projects that are either inactive or not started

Of the 24 that were not approved pending submittal of additional information, progress in revising those standards includes:

- 8 have been approved by FERC
- 4 have been submitted and are pending FERC approval
- 2 are associated with projects under active development
- 10 are associated with projects that are either inactive or not started

As of September 1, 2011, there are 103 continent-wide Reliability Standards with 1220 requirements that are mandatory and enforceable in the United States.[1]

## Interpretations of Reliability Standards

Entities required to comply with a reliability standard have the right to request a formal interpretation of a requirement in a standard. Interpretation projects generally are narrower in scope than other standards projects, but like standards, interpretations are drafted by a drafting team and posted for industry review and ballot. From 2006 to 2011, NERC processed 43 interpretation requests. In addition, NERC received a number of requests for interpretation that were absorbed into standards development projects because drafting teams could not prepare the interpretations without expanding the requirements of the approved standard.

## Progress on Regulatory Directives

Since NERC became the Electric Reliability organization (ERO), FERC has issued 44 Orders containing approximately 655 directives related to NERC Reliability Standards. Of the approximately 655 directives issued since 2007, NERC has completed projects associated with approximately 44% of these directives and continues to make substantial progress in addressing the remaining directives focusing first on those that have the greatest impact on reliability.

A significant number of the directives ordered by FERC for implementation by NERC (as the FERC-approved ERO) specify that NERC submit or modify a Reliability Standard that addresses a specific matter, as permitted under Section 215(d)(5) of the Federal Power Act. Other directives order NERC to make changes in its procedural rules. Still other directives order NERC to consider the views of various commenters when NERC next revises a particular Reliability Standard.

[1] The data included in this paragraph does not include Regional Reliability Standards.

NERC processes these various types of directives consistent with its Rules of Procedure (including Appendices 3A- Standard Processes Manual and 3C Procedure for Coordinating Reliability Standards). Specifically, when a regulatory order or rule is issued, that order is reviewed and any directives within the order related to standards development are added to the NERC Standards Issues Database and categorized. NERC then seeks to associate each directive with a specific standard. Projects and the associated Standards, along with the associated regulatory directives, are then prioritized for revision using the prioritization process described elsewhere in this document.

In 2011, NERC developed and filed the first NERC Standards Report, Status and Timetable for Addressing Regulatory Directives. This report is to be filed annually with FERC on or before March 31 of each year in accordance with Section 321.6 of the NERC Rules of Procedure ("Rule 321") that was approved by the FERC on March 17, 2011. The progress against the directives issued is outlined in the aforementioned report.

### Regional Standards Development

Regional standards work within NERC and the Regions has seen a great deal of development and implementation of new initiatives since the beginning of 2011. First, the Regional Reliability Standards Working Group (RRSWG) transitioned into the Regional Standards Group (RSG). Comprised of the NERC Vice President of Standards and Training and the Standards Managers from each of the eight Regional Entities, the RSG reports to the ERO Executive Management Group (EMG). Its purpose is to provide process and policy recommendations in the execution of the Regional Entity delegation agreements and the NERC Rules of Procedure. An overarching objective is to coordinate the development of Regional and continent-wide standards to support and continually enhance reliability across North America for the benefit of all bulk electric system users, owners and operators.

In support of this purpose and this objective, a primary initiative of the RSG is to create and sustain viable standards development coordination processes to obtain consistency and uniformity, where appropriate, across the ERO enterprise – NERC and the Regional Entities – while ensuring efficient and effective use of resources in executing the statutory responsibilities of the ERO as the reliability standards development authority. To that end, the RSG developed a combined list of all regional standards and variances in the development process in order to prioritize these projects continent-wide. This will allow NERC to coordinate the necessary resources through the development and ultimate filing of these standards and variances with applicable regulatory authorities. Project information for each of those regional standards and variances in the development process is provided in this Plan, along with a high-level overview of the project timeline.

### Rapid Development and Rapid Revision Projects

NERC's Standards Committee (SC) tentatively has identified two ways to accelerate project development while staying within the boundaries established in the Standard Processes Manual. Both approaches are consistent with the original vision of standards development when the ERO was being developed.

The first, called "Rapid Development," utilizes a small team of professionals to draft a standard over a short, but intensive period of time. The standard is then submitted with its associated SAR and the project moves directly into the first formal comment phase. Under this model, it may be possible to develop and ballot a standard within a period less than a year. The SC is evaluating the approach as part of Project 2010-05.1 Phase 1 of Protection Systems: Misoperations. Initial results have provided useful lessons learned, including the need to carefully select members of the small team to ensure not just subject matter expertise, but balance of interests as well.

The second approach, called "Rapid Revision," takes a similar approach, but is focused on dealing with concerns identified during the Interpretation process. If an interpretation drafting team identifies simple modifications to a standard that can address an interpretation request more effectively than an interpretation can alone, the team may propose to the requester that the team instead make such changes and submit them with an associated SAR. If agreed to by the requester, and following SC review, the changes may move directly to comment and ballot. This approach is being tested with project 2011-INT-01 Interpretation of MOD-028-1 R3.1 for Florida Power and Light.

## Challenges facing Standards

### Five-Year Review Obligation

As part of its Rules of Procedure, NERC has committed to review each of its standards for modification once every five years. 2012 marks the fifth year since NERC's first set of standards became mandatory and enforceable in the United States; many of those standards are now due for that five-year review. While not giving the appearance of being onerous, this obligation has proved challenging to meet. The work load of the ERO remains high, and maintaining focus on those projects that are most beneficial to reliability has resulted in a delay of the work required for these five-year reviews (except when already associated with a project of significant reliability value). Using current assumptions, the five-year review obligation will not be met for a number of standards. NERC and the SC are working together with the NERC Board of Trustees to evaluate options for addressing this issue.

### Product Quality

As NERC's and the industry's experience with standards has evolved, it has become increasingly clear that minor problems with the quality of standards can have significant repercussions when it comes to clarity and compliance. NERC has undertaken efforts to improve the quality of its work products, and will continue to do so in 2012. Steps being taken include creating technical writer positions, enhanced training for staff, and developing additional internal quality assurance processes.

### Standards Program Throughput

One continuing challenge is the ability to not only produce quality products, but to do so consistently and efficiently. While in some cases limited by necessity due to the scarcity of industry resources available in the workforce, the Standards Program continues to look for ways to improve the efficiency of its processes and its ability to demonstrate tangible progress

in standards development on a regular basis. In 2012, Standards staff will be implementing enhanced document management capabilities, as well as portfolio-level project controls to ensure optimal use of resources and overall consistency of throughput. This more global "portfolio view" was used to in part to develop this Plan, but additional improvements are expected in 2012 as well. As such, it should be noted that this, in addition to the normal variables associated with consensus-based product development, may lead to changes in the schedules used to develop the forecasts within this document

## Conclusion

The Standards Program continues to make changes to improve its overall effectiveness, and looks forward to additional improvements in 2012. The SC's work on this Plan has appropriately focused the industry on standards development to ensure the best progress in improving reliability, addressing concerns in a timely manner, and assisting with implementation complexity. Additionally, the plan was developed with the use of a subjective review of the implications of cost. NERC believes this approach correctly balances the needs of the industry with the public interest, and will continue to work with the industry to ensure the continued protection of reliability in North America.

# Chapter 4 – Project Development Overview

## Project Prioritization and Plan Development

This year, NERC continued use of the Prioritization Tool (the Tool) developed by the Standards Committee (SC) in late 2010 and early 2011 to help determine how best to assign resources and perform work. Following the finalization of the 2011-2013 Plan, the Standards Committee's Process Subcommittee (SCPS) began to work on improving the Tool for use in the development of the 2012-2014 Plan.

Similar to last year, the Tool utilizes a simple scoring mechanism to identify key considerations for use in determining project priority. Revisions were made to the tool in response to comments received during the development of the 2011-2013 Plan. Changes included the elimination and consolidation of scores that seemed to overlap or be redundant, removal of the "Project Percent Complete" evaluations (as there is currently no intention of moving projects into Informal Development, as was considered during the development of the 2011-2013 Plan), the addition of a score to account for projects related to the NERC President's Top Priority Issues for Bulk Power System Reliability, and trial testing of a new metric that accounts for "cost considerations." In addition, the Tool was modified to allow a more sophisticated analysis of each of the key drivers in project prioritization. This allowed the SC to consider each of those factors separately, as well as in aggregate, to determine how best to allocate resources.

During the month of July 2011, NERC solicited the industry at-large for additional projects for consideration in the 2012-2014 Plan. NERC received nine submissions, resulting in the creation of six new projects. NERC created one project to account for the remaining Order 729 directives yet to be resolved, and one project to account for issues with the MOD-029-01 standard that will need to be addressed at some point in the future. NERC created four additional projects to account for projects to modify standards based on NERC's five-year review obligation, as identified in its Rules of Procedure.

In August, the SC began reviewing each of these projects, assigning them various scores based on input from constituents within their respective segments. NERC staff assembled the results in September, and an initial Prioritization and Work Plan was approved for posting at the September meeting of the SC. This Work Plan assumed an overall throughput capacity of thirteen projects in development concurrently, and divided that capability into three areas:

- Reliability Projects – those projects expected to be the most beneficial to Reliability. Capacity for eight concurrent projects was assigned to this area.
- Time-Sensitive Projects – those projects with time sensitivity, such as those responsive to FERC orders with specified deadlines, as well as those projects needed to meet the ERO's five-year review obligation. Capacity for three concurrent projects was assigned to this area.

- Practicality Projects – those projects that improve the overall effectiveness of NERC's Reliability Standards, including addressing failed interpretations, improving the clarity of often violated standards, and other such general improvements. Capacity for two concurrent projects was assigned to this area.

The Work Plan identified each project and the amount of work associated with it, then allocated projects in their respective areas in order or priority as resources came available. Some projects were identified that needed additional research and were scheduled for initiation with sufficient time to allow such work to be completed. Additionally, some projects require specific expertise. To the extent such needs were identified, that expertise was managed to ensure the volume of work did not exceed the resource capacity. For example, projects related to protection systems generally were not started until another project related to protection systems was completed.

This Work Plan, along with the prioritization itself and this document in draft form, were posted for industry comment in September. Comments were received and considered at the October 2011 SCPS meeting; the final prioritization and Plan was approved by the SC at its October meeting. The Plan was presented to NERC' Board of Trustees and was approved at the Board's November meeting.

## Project Implementation

Standards development projects at NERC proceed through a specific set of steps, identified in NERC's Standard Processes Manual. In general, the process can be summarized as follows:

- Initiation – projects are identified, and simple problem statements are developed. These problem statements are used to assist in the overall project prioritization effort described above.
- Planning – projects are further developed to determine their scope and merits. The drafting of a formal Standards Authorization Request (SAR) occurs in this step, as well as the development of communication plans if deemed to be necessary. In some cases, this step may occur concurrently with the initial steps of Execution and Control.
- Execution and Control – once the SC has approved a project for moving into this phase, standards or other work products are produced and the project begins moving forward in earnest. A detailed project schedule is developed, and standards are drafted, posted for comment, and balloted, culminating in review by NERC's Board of Trustees for adoption.
- Regulatory Submission - Following adoption by NERC's Board of Trustees, the standards are submitted to regulatory authorities.

- Closing – Following action by NERC's Board of Trustees, the project is reviewed and analyzed for "lessons learned." Public information is updated as necessary, and any necessary supplemental regulatory filings are made.

For more information on the specific details of each step in the implementation of projects to develop NERC Reliability Standards, readers are directed to various resources posted at the NERC Standards Resources page:

http://www.nerc.com/commondocs.php?cd=2

# Chapter 5 – Project Work Plan Summary

This chapter summarizes the Reliability Standards Development Plan (the "Plan") for years 2012-2014. The following is based on the Standards Committee's Prioritization of Projects (included as Appendix 1) and the associated staff-developed Work Plan (included as Appendix 2). The Regional Work Plan is included as Appendix 3. A detailed summary of projects, including regional projects, is included as Appendix 4.

## Projects for 2012-2014

NERC intends to continue development of the following projects in 2012. These are Active Projects, and are expected to continue until completion. Although there are other projects that ranked higher this year than some of these projects, the Standards Committee believes that the industry has committed to completing these projects, and given that the workload is reaching a manageable size, moving any of these projects into informal development would be counterproductive.

The projects below have been color coded, to indicate their focus area (Reliability, Time Sensitivity, or Practicality). While most projects impact all three of these areas in some way, this is intended to illustrate the primary consideration driving each project's development priority.

**Existing Active Projects:**

- 2006-06 Reliability Coordination.
- 2007-02 Operating Personnel Communication Protocols.
- 2007-03 Real-time Transmission Operations.
- 2007-06 Protection System Coordination.
- 2007-07 Vegetation Management. This project is expected to be completed in early 2012, but at the time of this document's finalization, it has not yet been formally completed.
- 2007-09 Generator Verification.
- 2007-12 Frequency Response.
- 2007-17 Protection System Maintenance and Testing.
- 2008-06 Cyber Security – Order 706.
- 2009-01 Disturbance and Sabotage Reporting.
- 2010-05.1 Phase 1 of Protection Systems: Misoperations.
- 2010-07 Generator Requirements at the Transmission Interface.
- 2010-14.1 Phase 1 of Balancing Authority Reliability-based Controls: Reserves.
- 2010-17 Definition of Bulk Electric System.

NERC intends to initiate development of the following additional projects in 2012. These projects have been assigned based on priority, but constrained by the need to have a limited

number of projects under active development at any given time. Project 2010-05.2 is not schedule to start until later in 2012 due to the need for subject matter expertise in misoperations, which is already committed to Phase 1 of the project. 2012-04 is not starting until later in 2012 due to the need for subject matter expertise in protection system testing, which is already committed to Project 2007-17.

While this Plan is a reasonable approach to Standards development, it cannot account for unforeseen events. The Plan is subject to modification in response to factors such as delays in the completion of current projects, the need to complete background research prior to initiation of standards development work, unforeseen regulatory directives, and factors such as new or emerging reliability risks to the Bulk Electric System. Changes to the Plan during its execution are not only possible, but likely, and should be expected.

**Additional Projects in 2012:**

- 2008-02 Undervoltage Load Shedding.
- 2009-02 Real-time Monitoring and Analysis Capabilities. This project is currently in informal development.
- 2009-03 Emergency Operations. This project is currently in informal development.
- 2010-01 Support Personnel Training. This project requires research prior to initiation, which is expected to be completed in the earlier part of 2012.
- 2010-05.2 Phase 2 of Protection Systems: SPS and RAS. This project is expected to be started upon the completion of the first phase of the project, 2010-05.1 Phase 1 of Protection Systems: Misoperations. This project requires research prior to initiation, which is expected to be completed in the earlier part of 2012.
- 2010-13.2 Phase 2 of Relay Loadability: Generation. This project is currently in informal development. This project has been identified as having a higher priority, as it has a FERC deadline. While this was accounted for in the Prioritization, the SC agreed that this should take precedence over the 5-year review projects considered in the Prioritization.
- 2012-04 Protection System Commissioning Testing. This project is expected to be started upon the completion of 2007-17 Protection System Maintenance and Testing. This project requires research prior to initiation, which is expected to be completed in the earlier part of 2012.

NERC intends to initiate development of the following projects in 2013. As noted above, these projects generally have been assigned based on priority and constrained by the need to have a limited number of projects under active development at any given time. 2012-06 is not starting until 2013 due to the need for subject matter expertise in reserves and in generator characteristics, which are already committed to projects 2010-14.1 and 2007-09, respectively. 2009-07 is not starting until 2013 due to the need for subject matter expertise in protection systems, which is already committed to project 2007-06.

**Additional Projects in 2013:**

- 2007-11 Disturbance Monitoring. This project is currently in informal development.
- 2008-01 Voltage and Reactive Planning and Control. This project is currently in informal development.
- 2008-12 Coordinate Interchange Standards. This project is currently in informal development.
- 2009-07 Reliability of Protection Systems. Based on the limited number of experts in this subject matter area, and the need for research prior to beginning work, this project is not expected to start until after the completion of 2007-06 Protection System Coordination.
- 2010-14.2 Project 2010-14.2 Phase 2 of Balancing Authority Reliability-based Control: Time Error, AGC, and Inadvertent. This project is currently in informal development.
- 2012-01 Equipment Monitoring and Diagnostic Devices. This project requires research prior to initiation, which is expected to be completed in the latter part of 2012.
- 2012-06 Generator Capabilities. Based on the limited number of experts in this subject matter area, and the need for research prior to beginning work, this project is not expected to start until completion of both 2010-14.1 Phase 1 of Balancing Authority Reliability-based Controls: Reserves and 2007-09 Generator Verification.

NERC intends to initiate development of the following projects in 2014. These projects have been identified as having a lower priority, although some are associated with the 5-year review obligation. In general, these projects are not projected to be initiated until 2014 due to the need to limit the number of projects active at any given time. 2010-13.3 is not projected to start until 2014 due to the need for subject matter expertise in relay loadability, which is already committed to Phase 2 of the project.

**Additional Projects in 2014:**

- 2009-04 Phasor Measurements. This project requires research prior to initiation, which is expected to be completed in 2013.
- 2009-05 Resource Adequacy Assessments.
- 2010-03 Modeling Data. This project requires research prior to initiation, which is expected to be completed in the latter part of 2013.
- 2010-04 Demand Data. This project requires research prior to initiation, which is expected to be completed in 2014.
- 2010-08 Functional Glossary Model Revisions.

- 2010-13.3 Phase 3 of Relay Loadability: Stable Power Swings. Based on the limited number of experts in this subject matter area, and the need for research prior to beginning work, this project is expected to not start until completion of the previous phase of this project, 2010-13.2 Phase 2 of Relay Loadability: Generation.
- 2010-16 Definition of System Operator.
- 2012-05 ATC Revisions - Order 729.

## Projects for 2015 and Beyond

NERC intends to develop the following projects in 2015 or later, which is beyond the scope of this Plan. These projects have been identified as having a lower priority. There also is some question as to whether or not they will provide sufficient value to be cost justified at this time. They have been included for completeness and to ensure that they are recognized as necessary projects.

It should be noted that several of these projects are related to NERC's ongoing obligation to review its standard every five years, as required in the Rules of Procedure. This is discussed in more detail in the General chapter.

- 2010-02 Connecting New Facilities to the Grid
- 2012-02 Physical Protection
- 2012-03 PRC-004 VSLs
- 2012-07 Obsolescence Review
- 2012-08 Glossary Updates
- 2012-09 IRO Review
- 2012-11 FAC Review
- 2012-12 PER Review
- 2012-13 NUC Review
- 2012-14 Risk Analysis

The following two projects were identified as potential projects for consideration, but not included in the prioritization. If necessary, they will be evaluated mid-year on an ad-hoc basis; otherwise, they will be considered in the prioritization process for the 2013-2015 Reliability Standards Development Plan.

- 2006-06.2 Phase 2 of Reliability Coordination
- 2012-15 Flow Limited Paths

# Appendix 1 - Prioritization

The following pages show the project rankings in each of the three primary categories: Reliability, Time Sensitivity and Practicality. The assignment of scores was based on the mean of individual scores provide by members of the Standards Committee. Scores highlighted in red indicate areas where the members of the SC were divided regarding how to assign a particular score.

Following the identification of potential projects, this prioritization is the next step in the creation of the Reliability Standards Development Plan, and provides a starting point for further discussion. The prioritization is used to create the Work Plan that follows as Appendix 2.

# NERC Standards Committee
# Project Prioritization Worksheet

| STANDARDS COMMITTEE Reliability Standard Project Prioritization | | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | RELIABILITY SORT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Number and Name | Short Description | **Addresses an ERO Strategic Priority** (to be completed by NERC Staff) 50 = Yes 0 = No | **Addresses a reliability risk not covered by an existing standard** 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | **Improves one or more existing standards:** 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | **Cost of Implementation** The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Cost of Administration** The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Time Sensitivity** (to be competed by NERC Staff) Number of months until due date, if any | **Addresses compliance issues from NERC Staff or Stakeholders** 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | **Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is** 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | **Other Practicality Concern** (Explanation for the rating must be indicated in the column to the right) (0 to 50) | **Explanation** | **Reliability Score (0 - 250)** | **Cost Consideration Score (0 - 100)** | **Time Sensitivity Score (0 - 100)** | **Practicality Score (0 - 150)** | **Reliability Ranking** | **Cost Consideration Ranking** | **Time Sensitivity Ranking** | **Practicality Ranking** |
| Project 2009-07 Reliability of Protection Systems | 20 - Requires facility owners to have protection system equipment installed such that, if there were a failure to a specified component of that protection system, the failure would not prevent meeting the BES performance identified in the TPL standards. Related to System Protection Initiative. New standard(s). | 50 | 83.3 | 88.3 | 66.7 | 41.7 | 0 | 12.5 | 25 | | | 221.6 | 66 | 0 | 37.5 | 1 | 3 | 33 | 17 |
| Project 2008-06 Cyber Security - Order 706 (ACTIVE) | 13 - The project requires modifications to CIP-002 thru CIP-009 to bring the standards into conformance with the ERO Rules of Procedure and to address the directives from FERC Order 706. | 50 | 70.8 | 100 | 87.5 | 75 | 48 | 45.8 | 45.8 | | | 220.8 | 52 | 22 | 91.6 | 2 | 17 | 29 | 6 |
| Project 2007-17 Protection System Maintenance & Testing (ACTIVE) | 10 - Intended to consolidate several standards into a single maintenance and testing standard: PRC-005 (Transmission and Generation Protection System Maintenance and Testing), PRC-008-0 (Underfrequency Load Shedding Equipment Maintenance Programs), PRC-011-0 (UVLS System Maintenance and Testing), and PRC-017-0 (Special Protection System Maintenance and Testing). Standards PRC-008-0, PRC-011-0, and PRC-017-0 would then be withdrawn. Related to System Protection Initiative. | 50 | 50 | 100 | 60 | 50 | 5 | 45.8 | 25 | | | 200 | 60 | 94 | 70.8 | 3 | 7 | 7 | 9 |
| Project 2007-06 System Protection Coordination (ACTIVE) | 5 - Requires upgrading and expanding the existing requirements from PRC-001 to identify criteria for determining where to install protection system devices and for requiring the installation of those devices to protect the reliability of the bulk electric system. PRC-027. Related to System Protection Initiative. | 50 | 62.5 | 83.3 | 55 | 45 | 5 | 12.5 | 41.7 | | | 195.8 | 61 | 94 | 54.2 | 4 | 6 | 6 | 14 |
| Project 2007-02 Operating Personnel Communications Protocols (ACTIVE) | 3 - Requires developing new requirements in support of blackout recommendation #26 to ensure that real-time system operators use standard communication protocols during normal and emergency operations. COM-003. | 50 | 75 | 70.8 | 25 | 25 | 5 | 4.2 | 0 | | | 195.8 | 74 | 94 | 4.2 | 5 | 1 | 2 | 29 |
| Project 2012-06 Generator Capabilities | 40 - For all synchronous generators, specify minimum droop settings and frequency response performance. Require proven voltage support and reactive response to a specific level. Related to Frequency Response Initiative. Related to BAL-003 and the Continent Wide Reserve Policy. New standard(s). | 50 | 50 | 91.7 | 62.5 | 37.5 | 0 | 0 | 0 | | | 191.7 | 60 | 0 | 0 | 6 | 8 | 34 | 38 |
| Project 2010-05.1 Phase 1 of Protection Systems: Misoperations (ACTIVE) | 25 - Modify current PRC-003 and -004 standards and definitions related to Protection System Misoperations to support a good metric for measurement of Protection System performance and ensure the reliability of the bulk power system. Does not include SPS and RAS. Related to System Protection Initiative. | 50 | 62.5 | 62.5 | 33.3 | 37.5 | 5 | 50 | 25 | | | 175 | 64 | 94 | 75 | 7 | 5 | 5 | 8 |
| Project 2009-01 Disturbance and Sabotage Reporting (ACTIVE) | 15 - This project will entail revision to existing standards CIP-001 and EOP-004. The standards may be merged to eliminate redundancy and provide clarity on sabotage events. EOP-004 has some 'fill-in-the-blank' components to eliminate. The development may include other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable and technically sufficient bulk power system reliability standards. EOP-004, CIP-001 and CIP-008. | 50 | 66.7 | 56.1 | 16.7 | 16.7 | 5 | 50 | 27.8 | | | 172.8 | 72 | 94 | 77.8 | 8 | 2 | 3 | 7 |
| Project 2012-04 Protection System Commissionning Testing | 38 - Establish minimum level of required commissioning testing prior to putting protection systems into service. Related to System Protection Initiative. New standard(s). | 50 | 48.3 | 67.7 | 41.7 | 50 | 0 | 0 | 0 | | | 166 | 56 | 0 | 0 | 9 | 10 | 35 | 39 |
| Project 2010-17 Definition of BES (ACTIVE) | 34 - Define the BES as per FERC Order 743. | 0 | 87.5 | 75 | 81.3 | 75 | 5 | 37.5 | 29.2 | 1.7 | From Stakeholder Comments, foundation of standards. | 162.5 | 52 | 94 | 68.4 | 10 | 18 | 14 | 10 |
| Project 2010-05.2 Phase 2 of Protections Systems: SPS and RAS | 26 - Modify current PRC-012, -014, and -016 standards and definitions related to SPS/RAS Misoperations to support a good metric for measurement of Protection System performance and ensure the reliability of the bulk power system. May include additional updates to PRC-004 as well Related to System Protection Initiative. | 50 | 42.7 | 60 | 40 | 45 | 5 | 33.3 | 12.5 | | | 152.7 | 54 | 94 | 45.8 | 11 | 14 | 11 | 16 |
| Project 2010-07 Generator Requirements at the Transmission Interface (ACTIVE) | 27 - This project proposes changes to the requirements and the addition of new requirements to add significant clarity to Generator Owners and Generator Operators regarding their reliability standard obligations at the interface with the interconnected grid. Multiple standards. | 0 | 75 | 75 | 66.7 | 66.7 | 5 | 50 | 8.3 | | | 150 | 54 | 94 | 58.3 | 12 | 15 | 12 | 13 |
| Project 2006-06 Reliability Coordination (ACTIVE) | 2 - Requires upgrading and expanding existing requirements that address reliability coordinator actions to prevent instability, uncontrolled separation or cascading outages. COM-001, COM-002, IRO-001, IRO-002, IRO-005, IRO-014, IRO-015, IRO-016, and IRO-003. | 50 | 33.3 | 66.7 | 37.5 | 37.5 | 5 | 4.2 | 25 | | | 150 | 56 | 94 | 29.2 | 13 | 11 | 9 | 18 |
| Project 2008-02 Undervoltage Load Shedding | 12 - Consider consolidating PRC-010-0 (Assessment of the Design and Effectiveness of UVLS Program) and (PRC-022-1 — Under-Voltage Load Shedding Program Performance). Currently missing are any criteria for identifying where UVLS should be installed. The team will utilize the FIDVR (Fault-Induced Delayed Voltage Recovery) Technical Reference Paper in the development of requirements. Related to System Protection Initiative. | 50 | 29.2 | 70.8 | 83.3 | 50 | 5 | 0 | 0 | | | 150 | 42 | 94 | 0 | 14 | 24 | 19 | 32 |

# NERC Standards Committee
# Project Prioritization Worksheet

| STANDARDS COMMITTEE Reliability Standard Project Prioritization | | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | RELIABILITY SORT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Number and Name** | **Short Description** | **Addresses an ERO Strategic Priority** (to be completed by NERC Staff) 50 = Yes 0 = No | **Addresses a reliability risk not covered by an existing standard** 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | **Improves one or more existing standards:** 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | **Cost of Implementation** The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Cost of Administration** The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Time Sensitivity** (to be competed by NERC Staff) Number of months until due date, if any | **Addresses compliance issues from NERC Staff or Stakeholders** 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | **Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is** 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | **Other Practicality Concern** (Explanation for the rating must be indicated in the column to the right) (0 to 50) | **Explanation** | **Reliability Score (0 - 250)** | **Cost Consideration Score (0 - 100)** | **Time Sensitivity Score (0 - 100)** | **Practicality Score (0 - 150)** | **Reliability Ranking** | **Cost Consideration Ranking** | **Time Sensitivity Ranking** | **Practicality Ranking** |
| Project 2010-01 Support Personnel Training | 21 - Require the use of a systematic approach to determining training needs of generator operators and operations planning and support staff with a direct impact on the reliable operations of the bulk power system. New standard(s). | 50 | 45.8 | 50 | 85 | 41.7 | 0 | 0 | 0 | | | 145.8 | 42 | 0 | 0 | 15 | 25 | 37 | 41 |
| Project 2008-01 Voltage and Reactive Planning and Control (INFORMAL) | 11 - This project supports a blackout recommendation. Industry debate is needed on whether there should be a North American standard that requires a specific amount of reserves, or whether requirements for specific reserves should continue to be addressed at the regional level. The requirements in the existing standards need to be upgraded to be more specific in defining voltage and reactive power schedules. Consideration should be given to adding a requirement for the Reliability Coordinator to monitor and take action if reactive power falls outside identified limits. VAR-001 and -002. | 0 | 66.7 | 78.3 | 54.2 | 30 | 5 | 35.2 | 8.3 | 50 | Addressing Reactive Requirements key to reliability of system. Lenght of Time since the reliability need was identified -- Project was identified to address a Blackout Recommendation (elapsed time = 7 years) and FERC Order 693 directives (elapsed time = 4-1/2 years). Subsequently, NERC Transmission Issues Subcommitte. | 145 | 65 | 94 | 93.5 | 16 | 4 | 4 | 3 |
| Project 2010-14.1 Phase 1 of Balancing Authority Reliability-based Control: Reserves (ACTIVE) | 31 - The project includes of modifications to BAL-001 and BAL-002 to support Frequency Response project. Includes Continent-wide Reserve Policy. 5 Year review of BAL-001. Related to Frequency Response Initiative. | 0 | 50 | 87.5 | 81.3 | 31.3 | 1 | 8.3 | 45.8 | 40 | There is a significant disagreement between FERC Staff, NERC Staff and the industry as to what is required under BAL-002. There could also be signifcant cost savings to the industry if the revisions to BAL-001 were to be realized. | 137.5 | 56 | 100 | 94.1 | 17 | 12 | 1 | 2 |
| Project 2010-13-3 Phase 3 of Relay Loadability: Stable Power Swings | 30 - Address concerns with Stable Power Swings as identified in the FERC Order on Relay Loadability. Related to System Protection Initiative. New standard(s). | 50 | 41.7 | 41.7 | 81.3 | 68.8 | 36 | 5 | 12.5 | 50 | Relay performance during "stable" swings is complex. Restraint from tripping during stable swings must be balanced with the necessity of separation during unstable swings. The FERC order ignores this. | 133.4 | 33 | 42 | 67.5 | 18 | 35 | 27 | 11 |
| Project 2007-12 Frequency Response (ACTIVE) | 9 - Requires entities to provide data needed to model each interconnection's frequency response, as well as establishes Frequency Response Obligation. Related to Frequency Response Initiative. BAL-003. | 0 | 50 | 79.2 | 50 | 75 | 5 | 16.7 | 10 | 36.7 | Frequency response has declined over the years. This issue is a high priority for FERC. | 129.2 | 51 | 94 | 63.4 | 19 | 20 | 16 | 12 |
| Project 2007-09 Generator Verification (ACTIVE) | 7 - Requires upgrading existing requirements for generators to verify their capabilities to ensure that accurate data is used in model to assess the bulk electric system. MOD-025, -026, 027; PRC-019 and -024. | 0 | 66.7 | 62.5 | 75 | 45.8 | 5 | 10 | 0 | | | 129.2 | 52 | 94 | 10 | 20 | 19 | 15 | 25 |
| Project 2010-13.2 Phase 2 of Relay Loadability: Generation (INFORMAL) | 29 - Draft new standard PRC-025-1 Generator Relay Loadability in compliance with the FERC Order 733 issued March 18, 2010. Related to System Protection Initiative. | 50 | 29.2 | 50 | 62.5 | 50 | 12 | 0 | 0 | | | 129.2 | 42 | 82 | 0 | 21 | 26 | 24 | 34 |
| Project 2009-02 Real-time Reliability Monitoring and Analysis Capabilities (INFORMAL) | 16 - The project will establish requirements for the functionality, performance, and management of Real-time tools for Reliability Coordinators, Transmission Operators, and Balancing Authorities for use by their System Operators in support of reliable System operations. New standard(s). | 0 | 66.7 | 58.3 | 90 | 85 | 27 | 37.5 | 10 | 50 | Getting industry buy in to the deveopment of the tool required. | 125 | 38 | 57 | 97.5 | 22 | 32 | 25 | 1 |
| Project 2009-03 Emergency Operations (INFORMAL) | 17 - This set of EOP standards may be merged into a single standard. There are some requirements in IRO-001 that may be improved and merged into the new EOP standard. EOP-001, -002, -003, IRO-001. | 0 | 45.8 | 72.7 | 45 | 45 | 5 | 12.5 | 29.2 | 50 | Getting the industry to agree to combining the standards into one or two instead of four. | 118.5 | 57 | 94 | 91.7 | 23 | 9 | 8 | 4 |
| Project 2007-07 Vegetation Management (ACTIVE) | 6 - Project 2007-07 Vegetation Management Requires upgrading the existing requirements for entities to implement a vegetation management program to prevent transmission outages that adversely impact the reliability of the bulk electric system. FAC-003. | 50 | 4.2 | 58.3 | 58.3 | 45 | 5 | 0 | 0 | 50 | Results-Based Proof-of-Concept | 112.5 | 40 | 94 | 50 | 24 | 29 | 20 | 15 |
| Project 2007-11 Disturbance Monitoring (INFORMAL) | 8 - Requires upgrading and expanding existing requirements for entities to install disturbance monitoring equipment and report disturbance data to ensure information is available to analyze bulk power system disturbances. PRC-002, PRC-018. | 0 | 25 | 72 | 75 | 66.7 | 5 | 0 | 0 | 26.7 | High Regional Priority | 97 | 39 | 94 | 26.7 | 25 | 31 | 22 | 20 |
| Project 2012-01 Equipment Monitoring and Diagnostic Devices | 35 - Consider the development of reliability standards for the application of major equipment monitoring and diagnostic devices and procedures. New standard(s). | 0 | 25 | 70.8 | 87.5 | 62.5 | 0 | 0 | 0 | | | 95.8 | 36 | 0 | 0 | 26 | 34 | 41 | 43 |
| Project 2010-03 Modeling Data | 23 - Requires merging, upgrading and expanding existing requirements for entities to provide data used to model the bulk electric system. Related to Blackout recommendation and Modeling Initiative. MOD-010 thru -015. | 0 | 41.7 | 47.7 | 33.3 | 33.3 | 5 | 0 | 0 | | | 89.4 | 56 | 94 | 0 | 27 | 13 | 10 | 30 |
| Project 2007-03 Real-time Transmission Operations (ACTIVE) | 4 - Requires upgrading and expanding existing requirements that address transmission operator responsibilities to ensure the real-time operating reliability of the transmission assets within the transmission operator's area. PER-001, TOP-001- through TOP-008 | 0 | 4.2 | 66.7 | 33.3 | 50 | 5 | 50 | 41.7 | | | 70.9 | 47 | 94 | 91.7 | 28 | 21 | 17 | 5 |
| Project 2008-12 Coordinate Interchange Standards (INFORMAL) | 14 - Revise the set of Coordinate Interchange standards to 1) ensure that each requirement is assigned to an owner, operator or user of the bulk power system, and not to a tool used to coordinate interchange, 2) to address the Interchange Subcommittee's concerns related to the Dynamic Transfers and Pseudo-ties, and 3) to address previously identified stakeholder comments and applicable directives from Order 693. INT-001 through -010. | 0 | 45.8 | 25 | 41.7 | 41.7 | 5 | 25 | 1.7 | | | 70.8 | 47 | 94 | 26.7 | 29 | 22 | 18 | 19 |
| Project 2009-04 Phasor Measurements | 18 - Supports a blackout recommendation. Several industry studies were issued that need to be analyzed to determine appropriate requirements for a NERC standard. Related to North-American Synchro-Phasor Initiative. New standard(s). | 0 | 66.7 | 0 | 50 | 33.3 | 0 | 0 | 0 | | | 66.7 | 46 | 0 | 0 | 30 | 23 | 36 | 40 |

# NERC Standards Committee
# Project Prioritization Worksheet

| STANDARDS COMMITTEE Reliability Standard Project Prioritization | | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | RELIABILITY SORT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Number and Name** | **Short Description** | **Addresses an ERO Strategic Priority** (to be completed by NERC Staff) 50 = Yes 0 = No | **Addresses a reliability risk not covered by an existing standard** 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | **Improves one or more existing standards:** 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | **Cost of Implementation** The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Cost of Administration** The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Time Sensitivity** (to be competed by NERC Staff) Number of months until due date, if any | **Addresses compliance issues from NERC Staff or Stakeholders** 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | **Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is** 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | **Other Practicality Concern** (Explanation for the rating must be indicated in the column to the right) (0 to 50) | **Explanation** | **Reliability Score (0 - 250)** | **Cost Consideration Score (0 - 100)** | **Time Sensitivity Score (0 - 100)** | **Practicality Score (0 - 150)** | **Reliability Ranking** | **Cost Consideration Ranking** | **Time Sensitivity Ranking** | **Practicality Ranking** |
| Project 2009-05 Resource Adequacy Assessments | 19 - Implements recommendations from the Resource and Transmission Adequacy Task Force (RTATF) Report and the Gas/Electricity Interdependency Task Force Report, approved by the NERC Board on June 15, 2004, related to resource adequacy. New standard(s). | 50 | 8.3 | 0 | 33.3 | 25 | 0 | 0 | 0 | | | 58.3 | 38 | 0 | 0 | 31 | 33 | 40 | 42 |
| Project 2012-02 Physical Protection | 36 - Consider the development of reliability standards for the safety and protection of essential equipment, buildings and people located in power generation, transmission, or distribution system locations in order to mitigate the associated reliability risks to the bulk power system. New standard(s). | 0 | 45.8 | 8.3 | 91.7 | 83.3 | 0 | 0 | 0 | | | 54.1 | 20 | 0 | 0 | 32 | 37 | 42 | 44 |
| Project 2010-04 Demand Data | 24 - As envisioned, this project will result in two standards — with MOD-016 through MOD-020 being merged into a single standard, and MOD-021 remaining as a separate standard. The requirements need to be more specific to clearly identify the format, etc., for providing data. | 0 | 0 | 51.7 | 18.8 | 18.8 | 5 | 0 | 0 | | | 51.7 | 54 | 94 | 0 | 33 | 16 | 13 | 31 |
| Project 2010-16 Definition of System Operator | 33 - Refine definition of "System Operator" to exclude the Generator Operator, as all other "System Operators" have a more wide-area view. | 0 | 8.3 | 25 | 33.3 | 37.5 | 0 | 4.2 | 0 | 3.3 | From Stakeholder Comments, foundation of standards. | 33.3 | 41 | 0 | 7.5 | 34 | 27 | 38 | 27 |
| Project 2010-08 Functional Model Glossary Revisions | 28 - The Functional Model Working Group (FMWG) has received many comments and questions from stakeholders concerning the differences in definitions between the Functional Model and the NERC Glossary of Terms Used in Reliability Standards. This project is designed to address these comments and make the definitions of functional entities consistent between the Functional Model and the NERC Glossary of Terms Used in Reliability Standards. | 0 | 0 | 29.2 | 33.3 | 33.3 | 0 | 0 | 0 | 12 | Foundational piece of ERO | 29.2 | 41 | 0 | 12 | 35 | 28 | 39 | 24 |
| Project 2010-02 Connecting New Facilities to the Grid | 22 - Ensure that all of the elements that should be addressed when a new facility is connected to the grid are included in the revised standard. FAC-001 and -002. | 0 | 0 | 25 | 33.3 | 33.3 | 5 | 0 | 0 | | | 25 | 40 | 94 | 0 | 36 | 30 | 21 | 33 |
| Project 2012-14 Risk Analysis | 47 - Require entities to have and maintain a checklist of potential threats to the power system that must be addressed by each TOP/BA. The checklist should include things like GMD, voltage collapse, and other extreme events. New standard(s). | 0 | 25 | 0 | 100 | 50 | 0 | 0 | 0 | | | 25 | 19 | 0 | 0 | 37 | 38 | 43 | 45 |
| Project 2012-07 Obsolescence Review | 41 - Require all TOs and GOs to periodically review their electronic, electric, mechanical, and other control systems, as well as protection systems, to replace obsolete equipment. New standard(s). | 0 | 25 | 0 | 100 | 75 | 0 | 0 | 0 | | | 25 | 13 | 0 | 0 | 38 | 39 | 44 | 46 |
| Project 2010-14.1 Phase 2 of Balancing Authority Reliability-based Control: Time Error, AGC, and Inadvertent (INFORMAL) | 32 - The project includes elimination of Time Error Corrections, 5-year review of BAL-005, miscellaneous clean up and modification to BAL-006. | 0 | 4.2 | 0 | 50 | 50 | 5 | 0 | 25 | | | 4.2 | 26 | 94 | 25 | 39 | 36 | 23 | 21 |
| Project 2012-11 FAC Review | 44 - 5-Year Review of FAC-010, -011, -014 | 0 | 0 | 0 | 50 | 50 | 27 | 0 | 0 | | | 0 | 0 | 57 | 0 | 40 | 40 | 26 | 35 |
| Project 2012-05 ATC-Revisions - Order 729 | 39 - Respond to directives in Order 729 related to ATC Standards. Perform 5-year review of MOD-001, -004, -008, -029, and -030. Also includes MOD-028. | 0 | 0 | 0 | 50 | 50 | 51 | 0 | 25 | | | 0 | 0 | 17 | 25 | 41 | 41 | 31 | 22 |
| Project 2012-09 IRO Review | 43 - 5-Year review of IRO-006, -008, -009, and -010. | 0 | 0 | 0 | 50 | 50 | 54 | 16.7 | 8.3 | | | 0 | 0 | 12 | 25 | 42 | 42 | 32 | 23 |
| Project 2012-13 NUC Review | 46 - 5-Year Review of NUC-001. | 0 | 0 | 0 | 25 | 25 | 39 | 0 | 0 | | | 0 | 0 | 37 | 0 | 43 | 43 | 28 | 36 |
| Project 2012-12 PER Review | 45 - 5-Year Review of PER-003, -004 and -005. | 0 | 0 | 0 | 50 | 50 | 49 | 0 | 0 | | | 0 | 0 | 20 | 0 | 44 | 44 | 30 | 37 |
| Project 2012-03 PRC-004 VSLs | 37 - Update VSLs to address the situation where Corrective Action Plans were developed or documented, but not fully implemented. PRC-004. | 0 | 0 | 0 | 25 | 50 | 0 | 8.3 | 0 | | | 0 | 0 | 0 | 8.3 | 45 | 45 | 45 | 26 |
| Project 2012-08 Glossary Updates | 42 - Per FERC Order 693, define Bulk Power System, Reliability Standard, and Reliable Operation. Modify definition of Generator Operator and Transmission Operator. | 0 | 0 | 0 | 75 | 75 | 0 | 4.2 | 0 | 3.3 | From Stakeholder Comments, foundation of standards. | 0 | 0 | 0 | 7.5 | 46 | 46 | 46 | 28 |
| Project 2006-06.2 Phase 2 of Reliability Coordination | NA - Address specific directives from FERC Order 693 related to reliability standard IRO-003-2 - Reliability Coordination - Wide-Area View | | | | | | | | | | | 0 | 0 | 0 | 0 | 47 | 47 | 47 | 47 |
| Project 2012-15 Flow Limited Paths | NA - Address concerns identified with MOD-029 and its treatment of flow-limited paths. | | | | | | | | | | | 0 | 0 | 0 | 0 | 48 | 48 | 48 | 48 |

# NERC Standards Committee
# Project Prioritization Worksheet

| STANDARDS COMMITTEE Reliability Standard Project Prioritization | | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | TIME SENSITIVITY SORT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Number and Name** | **Short Description** | **Addresses an ERO Strategic Priority** (to be completed by NERC Staff) 50 = Yes 0 = No | **Addresses a reliability risk not covered by an existing standard** 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | **Improves one or more existing standards:** 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | **Cost of Implementation** The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Cost of Administration** The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Time Sensitivity** (to be competed by NERC Staff) Number of months until due date, if any | **Addresses compliance issues from NERC Staff or Stakeholders** 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | **Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is** 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | **Other Practicality Concern** (Explanation for the rating must be indicated in the column to the right) (0 to 50) | **Explanation** | **Reliability Score (0 - 250)** | **Cost Consideration Score (0 - 100)** | **Time Sensitivity Score (0 - 100)** | **Practicality Score (0 - 150)** | **Reliability Ranking** | **Cost Consideration Ranking** | **Time Sensitivity Ranking** | **Practicality Ranking** |
| Project 2010-14.1 Phase 1 of Balancing Authority Reliability-based Control: Reserves (ACTIVE) | 31 - The project includes of modifications to BAL-001 and BAL-002 to support Frequency Response project. Includes Continent-wide Reserve Policy. 5 Year review of BAL-001. Related to Frequency Response Initiative. | 0 | 50 | 87.5 | 81.3 | 31.3 | 1 | 8.3 | 45.8 | 40 | There is a significant disagreement between FERC Staff, NERC Staff and the industry as to what is required under BAL-002. There could also be signifcant cost savings to the industry if the revisions to BAL-001 were to be realized. | 137.5 | 56 | 100 | 94.1 | 17 | 12 | 1 | 2 |
| Project 2007-17 Protection System Maintenance & Testing (ACTIVE) | 10 - Intended to consolidate several standards into a single maintenance and testing standard: PRC-005 (Transmission and Generation Protection System Maintenance and Testing), PRC-008-0 (Underfrequency Load Shedding Equipment Maintenance Programs), PRC-011-0 (UVLS System Maintenance and Testing), and PRC-017-0 (Special Protection System Maintenance and Testing). Standards PRC-008-0, PRC-011-0, and PRC-017-0 would then be withdrawn. Related to System Protection Initiative. | 50 | 50 | 100 | 60 | 50 | 5 | 45.8 | 25 | | | 200 | 60 | 94 | 70.8 | 3 | 7 | 2 | 9 |
| Project 2007-06 System Protection Coordination (ACTIVE) | 5 - Requires upgrading and expanding the existing requirements from PRC-001 to identify criteria for determining where to install protection system devices and for requiring the installation of those devices to protect the reliability of the bulk electric system. PRC-027. Related to System Protection Initiative. | 50 | 62.5 | 83.3 | 55 | 45 | 5 | 12.5 | 41.7 | | | 195.8 | 61 | 94 | 54.2 | 4 | 6 | 3 | 14 |
| Project 2007-02 Operating Personnel Communications Protocols (ACTIVE) | 3 - Requires developing new requirements in support of blackout recommendation #26 to ensure that real-time system operators use standard communication protocols during normal and emergency operations. COM-003. | 50 | 75 | 70.8 | 25 | 25 | 5 | 4.2 | 0 | | | 195.8 | 74 | 94 | 4.2 | 5 | 1 | 4 | 29 |
| Project 2010-05.1 Phase 1 of Protection Systems: Misoperations (ACTIVE) | 25 - Modify current PRC-003 and -004 standards and definitions related to Protection System Misoperations to support a good metric for measurement of Protection System performance and ensure the reliability of the bulk power system. Does not include SPS and RAS. Related to System Protection Initiative. | 50 | 62.5 | 62.5 | 33.3 | 37.5 | 5 | 50 | 25 | | | 175 | 64 | 94 | 75 | 7 | 5 | 5 | 8 |
| Project 2009-01 Disturbance and Sabotage Reporting (ACTIVE) | 15 - This project will entail revision to existing standards CIP-001 and EOP-004. The standards may be merged to eliminate redundancy and provide clarity on sabotage events. EOP-004 has some 'fill-in-the-blank' components to eliminate. The development may include other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable and technically sufficient bulk power system reliability standards. EOP-004, CIP-001 and CIP-008. | 50 | 66.7 | 56.1 | 16.7 | 16.7 | 5 | 50 | 27.8 | | | 172.8 | 72 | 94 | 77.8 | 8 | 2 | 6 | 7 |
| Project 2010-17 Definition of BES (ACTIVE) | 34 - Define the BES as per FERC Order 743. | 0 | 87.5 | 75 | 81.3 | 75 | 5 | 37.5 | 29.2 | 1.7 | From Stakeholder Comments, foundation of standards. | 162.5 | 52 | 94 | 68.4 | 10 | 18 | 7 | 10 |
| Project 2010-05.2 Phase 2 of Protections Systems: SPS and RAS | 26 - Modify current PRC-012, -014, and -016 standards and definitions related to SPS/RAS Misoperations to support a good metric for measurement of Protection System performance and ensure the reliability of the bulk power system. May include additional updates to PRC-004 as well. Related to System Protection Initiative. | 50 | 42.7 | 60 | 40 | 45 | 5 | 33.3 | 12.5 | | | 152.7 | 54 | 94 | 45.8 | 11 | 14 | 8 | 16 |
| Project 2010-07 Generator Requirements at the Transmission Interface (ACTIVE) | 27 - This project proposes changes to the requirements and the addition of new requirements to add significant clarity to Generator Owners and Generator Operators regarding their reliability standard obligations at the interface with the interconnected grid. Multiple standards. | 0 | 75 | 75 | 66.7 | 66.7 | 5 | 50 | 8.3 | | | 150 | 54 | 94 | 58.3 | 12 | 15 | 9 | 13 |
| Project 2006-06 Reliability Coordination (ACTIVE) | 2 - Requires upgrading and expanding existing requirements that address reliability coordinator actions to prevent instability, uncontrolled separation or cascading outages. COM-001, COM-002, IRO-001, IRO-002, IRO-005, IRO-014, IRO-015, IRO-016, and IRO-003. | 50 | 33.3 | 66.7 | 37.5 | 37.5 | 5 | 4.2 | 25 | | | 150 | 56 | 94 | 29.2 | 13 | 11 | 10 | 18 |
| Project 2008-02 Undervoltage Load Shedding | 12 - Consider consolidating PRC-010-0 (Assessment of the Design and Effectiveness of UVLS Program) and (PRC-022-1 — Under-Voltage Load Shedding Program Performance). Currently missing are any criteria for identifying where UVLS should be installed. The team will utilize the FIDVR (Fault-Induced Delayed Voltage Recovery) Technical Reference Paper in the development of requirements. Related to System Protection Initiative. | 50 | 29.2 | 70.8 | 83.3 | 50 | 5 | 0 | 0 | | | 150 | 42 | 94 | 0 | 14 | 24 | 11 | 32 |
| Project 2008-01 Voltage and Reactive Planning and Control (INFORMAL) | 11 - This project supports a blackout recommendation. Industry debate is needed on whether there should be a North American standard that requires a specific amount of reserves, or whether requirements for specific reserves should continue to be addressed at the regional level. The requirements in the existing standards need to be upgraded to be more specific in defining voltage and reactive power schedules. Consideration should be given to adding a requirement for the Reliability Coordinator to monitor and take action if reactive power falls outside identified limits. VAR-001 and -002. | 0 | 66.7 | 78.3 | 54.2 | 30 | 5 | 35.2 | 8.3 | 50 | Addressing Reactive Requirements key to reliability of system. Lenght of Time since the reliability need was identified -- Project was identified to address a Blackout Recommendation (elapsed time = 7 years) and FERC Order 693 directives (elapsed time = 4-1/2 years). Subsequently, NERC Transmission Issues Subcommitte. | 145 | 65 | 94 | 93.5 | 16 | 4 | 12 | 3 |
| Project 2007-12 Frequency Response (ACTIVE) | 9 - Requires entities to provide data needed to model each interconnection's frequency response, as well as establishes Frequency Response Obligation. Related to Frequency Response Initiative. BAL-003. | 0 | 50 | 79.2 | 50 | 75 | 5 | 16.7 | 10 | 36.7 | Frequency response has declined over the years. This issue is a high priority for FERC. | 129.2 | 51 | 94 | 63.4 | 19 | 20 | 13 | 12 |

# NERC Standards Committee
# Project Prioritization Worksheet

**STANDARDS COMMITTEE Reliability Standard Project Prioritization**

# TIME SENSITIVITY SORT

| Project Number and Name | Short Description | (E) Addresses an ERO Strategic Priority (to be completed by NERC Staff) 50 = Yes 0 = No | (F) Addresses a reliability risk not covered by an existing standard 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | (G) Improves one or more existing standards: 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | (H) Cost of Implementation The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | (I) Cost of Administration The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | (J) Time Sensitivity (to be competed by NERC Staff) Number of months until due date, if any | (K) Addresses compliance issues from NERC Staff or Stakeholders 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | (L) Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | (M) Other Practicality Concern (Explanation for the rating must be indicated in the column to the right) (0 to 50) | (N) Explanation | Reliability Score (0 - 250) | Cost Consideration Score (0 - 100) | Time Sensitivity Score (0 - 100) | Practicality Score (0 - 150) | Reliability Ranking | Cost Consideration Ranking | Time Sensitivity Ranking | Practicality Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project 2007-09 Generator Verification (ACTIVE) | 7 - Requires upgrading existing requirements for generators to verify their capabilities to ensure that accurate data is used in model to assess the bulk electric system. MOD-025, -026, 027; PRC-019 and -024. | 0 | 66.7 | 62.5 | 75 | 45.8 | 5 | 10 | 0 | | | 129.2 | 52 | 94 | 10 | 20 | 19 | 14 | 25 |
| Project 2009-03 Emergency Operations (INFORMAL) | 17 - This set of EOP standards may be merged into a single standard. There are some requirements in IRO-001 that may be improved and merged into the new EOP standard. EOP-001, -002, -003, IRO-001. | 0 | 45.8 | 72.7 | 45 | 45 | 5 | 12.5 | 29.2 | 50 | Getting the industry to agree to combining the standards into one or two instead of four. | 118.5 | 57 | 94 | 91.7 | 23 | 9 | 15 | 4 |
| Project 2007-07 Vegetation Management (ACTIVE) | 6 - Project 2007-07 Vegetation Management Requires upgrading the existing requirements for entities to implement a vegetation management program to prevent transmission outages that adversely impact the reliability of the bulk electric system. FAC-003. | 50 | 4.2 | 58.3 | 58.3 | 45 | 5 | 0 | 0 | 50 | Results-Based Proof-of-Concept | 112.5 | 40 | 94 | 50 | 24 | 29 | 16 | 15 |
| Project 2007-11 Disturbance Monitoring (INFORMAL) | 8 - Requires upgrading and expanding existing requirements for entities to install disturbance monitoring equipment and report disturbance data to ensure information is available to analyze bulk power system disturbances. PRC-002, PRC-018. | 0 | 25 | 72 | 75 | 66.7 | 5 | 0 | 0 | 26.7 | High Regional Priority | 97 | 39 | 94 | 26.7 | 25 | 31 | 17 | 20 |
| Project 2010-03 Modeling Data | 23 - Requires merging, upgrading and expanding existing requirements for entities to provide data used to model the bulk electric system. Related to Blackout recommendation and Modeling Initiative. MOD-010 thru -015. | 0 | 41.7 | 47.7 | 33.3 | 33.3 | 5 | 0 | 0 | | | 89.4 | 56 | 94 | 0 | 27 | 13 | 18 | 30 |
| Project 2007-03 Real-time Transmission Operations (ACTIVE) | 4 - Requires upgrading and expanding existing requirements that address transmission operator responsibilities to ensure the real-time operating reliability of the transmission assets within the transmission operator's area. PER-001, TOP-001-through TOP-008 | 0 | 4.2 | 66.7 | 33.3 | 50 | 5 | 50 | 41.7 | | | 70.9 | 47 | 94 | 91.7 | 28 | 21 | 19 | 5 |
| Project 2008-12 Coordinate Interchange Standards (INFORMAL) | 14 - Revise the set of Coordinate Interchange standards to 1) ensure that each requirement is assigned to an owner, operator or user of the bulk power system, and not to a tool used to coordinate interchange, 2) to address the Interchange Subcommittee's concerns related to the Dynamic Transfers and Pseudo-ties, and 3) to address previously identified stakeholder comments and applicable directives from Order 693. INT-001 through -010. | 0 | 45.8 | 25 | 41.7 | 41.7 | 5 | 25 | 1.7 | | | 70.8 | 47 | 94 | 26.7 | 29 | 22 | 20 | 19 |
| Project 2010-04 Demand Data | 24 - As envisioned, this project will result in two standards — with MOD-016 through MOD-020 being merged into a single standard, and MOD-021 remaining as a separate standard. The requirements need to be more specific to clearly identify the format, etc., for providing data. | 0 | 0 | 51.7 | 18.8 | 18.8 | 5 | 0 | 0 | | | 51.7 | 54 | 94 | 0 | 33 | 16 | 21 | 31 |
| Project 2010-02 Connecting New Facilities to the Grid | 22 - Ensure that all of the elements that should be addressed when a new facility is connected to the grid are included in the revised standard. FAC-001 and -002. | 0 | 0 | 25 | 33.3 | 33.3 | 5 | 0 | 0 | | | 25 | 40 | 94 | 0 | 36 | 30 | 22 | 33 |
| Project 2010-14.1 Phase 2 of Balancing Authority Reliability-based Control: Time Error, AGC, and Inadvertent (INFORMAL) | 32 - The project includes elimination of Time Error Corrections, 5-year review of BAL-005, miscellaneous clean up and modification to BAL-006. | 0 | 4.2 | 0 | 50 | 50 | 5 | 0 | 25 | | | 4.2 | 26 | 94 | 25 | 39 | 36 | 23 | 21 |
| Project 2010-13.2 Phase 2 of Relay Loadability: Generation (INFORMAL) | 29 - Draft new standard PRC-025-1 Generator Relay Loadability in compliance with the FERC Order 733 issued March 18, 2010. Related to System Protection Initiative. | 50 | 29.2 | 50 | 62.5 | 50 | 12 | 0 | 0 | | | 129.2 | 42 | 82 | 0 | 21 | 26 | 24 | 34 |
| Project 2009-02 Real-time Reliability Monitoring and Analysis Capabilities (INFORMAL) | 16 - The project will establish requirements for the functionality, performance, and management of Real-time tools for Reliability Coordinators, Transmission Operators, and Balancing Authorities for use by their System Operators in support of reliable System operations. New standard(s). | 0 | 66.7 | 58.3 | 90 | 85 | 27 | 37.5 | 10 | 50 | Getting industry buy in to the deveopment of the tool required. | 125 | 38 | 57 | 97.5 | 22 | 32 | 25 | 1 |
| Project 2012-11 FAC Review | 44 - 5-Year Review of FAC-010, -011, -014 | 0 | 0 | 0 | 50 | 50 | 27 | 0 | 0 | | | 0 | 0 | 57 | 0 | 40 | 40 | 26 | 35 |
| Project 2010-13-3 Phase 3 of Relay Loadability: Stable Power Swings | 30 - Address concerns with Stable Power Swings as identified in the FERC Order on Relay Loadability. Related to System Protection Initiative. New standard(s). | 50 | 41.7 | 41.7 | 81.3 | 68.8 | 36 | 5 | 12.5 | 50 | Relay performance during "stable" swings is complex. Restraint from tripping during stable swings must be balanced with the necessity of separation during unstable swings. The FERC order ignores this. | 133.4 | 33 | 42 | 67.5 | 18 | 35 | 27 | 11 |
| Project 2012-13 NUC Review | 46 - 5-Year Review of NUC-001. | 0 | 0 | 0 | 25 | 25 | 39 | 0 | 0 | | | 0 | 0 | 37 | 0 | 43 | 43 | 28 | 36 |
| Project 2008-06 Cyber Security - Order 706 (ACTIVE) | 13 - The project requires modifications to CIP-002 thru CIP-009 to bring the standards into conformance with the ERO Rules of Procedure and to address the directives from FERC Order 706. | 50 | 70.8 | 100 | 87.5 | 75 | 48 | 45.8 | 45.8 | | | 220.8 | 52 | 22 | 91.6 | 2 | 17 | 29 | 6 |
| Project 2012-12 PER Review | 45 - 5-Year Review of PER-003, -004 and -005. | 0 | 0 | 0 | 50 | 50 | 49 | 0 | 0 | | | 0 | 0 | 20 | 0 | 44 | 44 | 30 | 37 |
| Project 2012-05 ATC-Revisions - Order 729 | 39 - Respond to directives in Order 729 related to ATC Standards. Perform 5-year review of MOD-001, -004, -008, -029, and -030. Also includes MOD-028. | 0 | 0 | 0 | 50 | 50 | 51 | 0 | 25 | | | 0 | 0 | 17 | 25 | 41 | 41 | 31 | 22 |
| Project 2012-09 IRO Review | 43 - 5-Year review of IRO-006, -008, -009, and -010. | 0 | 0 | 0 | 50 | 50 | 54 | 16.7 | 8.3 | | | 0 | 0 | 12 | 25 | 42 | 42 | 32 | 23 |

# NERC Standards Committee
# Project Prioritization Worksheet

| STANDARDS COMMITTEE Reliability Standard Project Prioritization | | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | TIME SENSITIVITY SORT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Number and Name | Short Description | Addresses an ERO Strategic Priority (to be completed by NERC Staff) 50 = Yes 0 = No | Addresses a reliability risk not covered by an existing standard 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | Improves one or more existing standards: 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | Cost of Implementation The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | Cost of Administration The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | Time Sensitivity (to be competed by NERC Staff) Number of months until due date, if any | Addresses compliance issues from NERC Staff or Stakeholders 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | Other Practicality Concern (Explanation for the rating must be indicated in the column to the right) (0 to 50) | Explanation | Reliability Score (0 - 250) | Cost Consideration Score (0 - 100) | Time Sensitivity Score (0 - 100) | Practicality Score (0 - 150) | Reliability Ranking | Cost Consideration Ranking | Time Sensitivity Ranking | Practicality Ranking |
| Project 2009-07 Reliability of Protection Systems | 20 - Requires facility owners to have protection system equipment installed such that, if there were a failure to a specified component of that protection system, the failure would not prevent meeting the BES performance identified in the TPL standards. Related to System Protection Initiative. New standard(s). | 50 | 83.3 | 88.3 | 66.7 | 41.7 | 0 | 12.5 | 25 | | | 221.6 | 66 | 0 | 37.5 | 1 | 3 | 33 | 17 |
| Project 2012-06 Generator Capabilities | 40 - For all synchronous generators, specify minimum droop settings and frequency response performance. Require proven voltage support and reactive response to a specific level. Related to Frequency Response Initiative. Related to BAL-003 and the Continent Wide Reserve Policy. New standard(s). | 50 | 50 | 91.7 | 62.5 | 37.5 | 0 | 0 | 0 | | | 191.7 | 60 | 0 | 0 | 6 | 8 | 34 | 38 |
| Project 2012-04 Protection System Commissionning Testing | 38 - Establish minimum level of required commissioning testing prior to putting protection systems into service. Related to System Protection Initiative. New standard(s). | 50 | 48.3 | 67.7 | 41.7 | 50 | 0 | 0 | 0 | | | 166 | 56 | 0 | 0 | 9 | 10 | 35 | 39 |
| Project 2010-01 Support Personnel Training | 21 - Require the use of a systematic approach to determining training needs of generator operators and operations planning and support staff with a direct impact on the reliable operations of the bulk power system. New standard(s). | 50 | 45.8 | 50 | 85 | 41.7 | 0 | 0 | 0 | | | 145.8 | 42 | 0 | 0 | 15 | 25 | 36 | 41 |
| Project 2012-01 Equipment Monitoring and Diagnostic Devices | 35 - Consider the development of reliability standards for the application of major equipment monitoring and diagnostic devices and procedures. New standard(s). | 0 | 25 | 70.8 | 87.5 | 62.5 | 0 | 0 | 0 | | | 95.8 | 36 | 0 | 0 | 26 | 34 | 37 | 43 |
| Project 2009-04 Phasor Measurements | 18 - Supports a blackout recommendation. Several industry studies were issued that need to be analyzed to determine appropriate requirements for a NERC standard. Related to North-American Synchro-Phasor Initiative. New standard(s). | 0 | 66.7 | 0 | 50 | 33.3 | 0 | 0 | 0 | | | 66.7 | 46 | 0 | 0 | 30 | 23 | 38 | 40 |
| Project 2009-05 Resource Adequacy Assessments | 19 - Implements recommendations from the Resource and Transmission Adequacy Task Force (RTATF) Report and the Gas/Electricity Interdependency Task Force Report, approved by the NERC Board on June 15, 2004, related to resource adequacy. New standard(s). | 50 | 8.3 | 0 | 33.3 | 25 | 0 | 0 | 0 | | | 58.3 | 38 | 0 | 0 | 31 | 33 | 39 | 42 |
| Project 2012-02 Physical Protection | 36 - Consider the development of reliability standards for the safety and protection of essential equipment, buildings and people located in power generation, transmission, or distribution system locations in order to mitigate the associated reliability risks to the bulk power system. New standard(s). | 0 | 45.8 | 8.3 | 91.7 | 83.3 | 0 | 0 | 0 | | | 54.1 | 20 | 0 | 0 | 32 | 37 | 40 | 44 |
| Project 2010-16 Definition of System Operator | 33 - Refine definition of "System Operator" to exclude the Generator Operator, as all other "System Operators" have a more wide-area view. | 0 | 8.3 | 25 | 33.3 | 37.5 | 0 | 4.2 | 0 | 3.3 | From Stakeholder Comments, foundation of standards. | 33.3 | 41 | 0 | 7.5 | 34 | 27 | 41 | 27 |
| Project 2010-08 Functional Model Glossary Revisions | 28 - The Functional Model Working Group (FMWG) has received many comments and questions from stakeholders concerning the differences in definitions between the Functional Model and the NERC Glossary of Terms Used in Reliability Standards. This project is designed to address these comments and make the definitions of functional entities consistent between the Functional Model and the NERC Glossary of Terms Used in Reliability Standards. | 0 | 0 | 29.2 | 33.3 | 33.3 | 0 | 0 | 0 | 12 | Foundational piece of ERO | 29.2 | 41 | 0 | 12 | 35 | 28 | 42 | 24 |
| Project 2012-14 Risk Analysis | 47 - Require entities to have and maintain a checklist of potential threats to the power system that must be addressed by each TOP/BA. The checklist should include things like GMD, voltage collapse, and other extreme events. New standard(s). | 0 | 25 | 0 | 100 | 50 | 0 | 0 | 0 | | | 25 | 19 | 0 | 0 | 37 | 38 | 43 | 45 |
| Project 2012-07 Obsolescence Review | 41 - Require all TOs and GOs to periodically review their electronic, electric, mechanical, and other control systems, as well as protection systems, to replace obsolete equipment. New standard(s). | 0 | 25 | 0 | 100 | 75 | 0 | 0 | 0 | | | 25 | 13 | 0 | 0 | 38 | 39 | 44 | 46 |
| Project 2012-03 PRC-004 VSLs | 37 - Update VSLs to address the situation where Corrective Action Plans were developed or documented, but not fully implemented. PRC-004. | 0 | 0 | 0 | 25 | 50 | 0 | 8.3 | 0 | | | 0 | 0 | 0 | 8.3 | 45 | 45 | 45 | 26 |
| Project 2012-08 Glossary Updates | 42 - Per FERC Order 693, define Bulk Power System, Reliability Standard, and Reliable Operation. Modify definition of Generator Operator and Transmission Operator. | 0 | 0 | 0 | 75 | 75 | 0 | 4.2 | 0 | 3.3 | From Stakeholder Comments, foundation of standards. | 0 | 0 | 0 | 7.5 | 46 | 46 | 46 | 28 |
| Project 2006-06.2 Phase 2 of Reliability Coordination | NA - Address specific directives from FERC Order 693 related to reliability standard IRO-003-2 - Reliability Coordination - Wide-Area View | | | | | | | | | | | 0 | 0 | 0 | 0 | 47 | 47 | 47 | 47 |
| Project 2012-15 Flow Limited Paths | NA - Address concerns identified with MOD-029 and its treatment of flow-limited paths. | | | | | | | | | | | 0 | 0 | 0 | 0 | 48 | 48 | 48 | 48 |

# NERC Standards Committee
# Project Prioritization Worksheet

| STANDARDS COMMITTEE Reliability Standard Project Prioritization | | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | PRACTICALITY SORT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Number and Name | Short Description | **Addresses an ERO Strategic Priority** (to be completed by NERC Staff) 50 = Yes 0 = No | **Addresses a reliability risk not covered by an existing standard** 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | **Improves one or more existing standards:** 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | **Cost of Implementation** The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Cost of Administration** The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Time Sensitivity** (to be competed by NERC Staff) Number of months until due date, if any | **Addresses compliance issues from NERC Staff or Stakeholders** 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | **Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is** 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | **Other Practicality Concern** (Explanation for the rating must be indicated in the column to the right) (0 to 50) | **Explanation** | **Reliability Score (0 - 250)** | **Cost Consideration Score (0 - 100)** | **Time Sensitivity Score (0 - 100)** | **Practicality Score (0 - 150)** | **Reliability Ranking** | **Cost Consideration Ranking** | **Time Sensitivity Ranking** | **Practicality Ranking** |
| Project 2009-02 Real-time Reliability Monitoring and Analysis Capabilities (INFORMAL) | 16 - The project will establish requirements for the functionality, performance, and management of Real-time tools for Reliability Coordinators, Transmission Operators, and Balancing Authorities for use by their System Operators in support of reliable System operations. New standard(s). | 0 | 66.7 | 58.3 | 90 | 85 | 27 | 37.5 | 10 | 50 | Getting industry buy in to the deveopment of the tool required. | 125 | 38 | 57 | 97.5 | 22 | 32 | 25 | 1 |
| Project 2010-14.1 Phase 1 of Balancing Authority Reliability-based Control: Reserves (ACTIVE) | 31 - The project includes of modifications to BAL-001 and BAL-002 to support Frequency Response project. Includes Continent-wide Reserve Policy. 5 Year review of BAL-001. Related to Frequency Response Initiative. | 0 | 50 | 87.5 | 81.3 | 31.3 | 1 | 8.3 | 45.8 | 40 | There is a significant disagreement between FERC Staff, NERC Staff and the industry as to what is required under BAL-002. There could also be signifcant cost savings to the industry if the revisions to BAL-001 were to be realized. | 137.5 | 56 | 100 | 94.1 | 17 | 12 | 1 | 2 |
| Project 2008-01 Voltage and Reactive Planning and Control (INFORMAL) | 11 - This project supports a blackout recommendation. Industry debate is needed on whether there should be a North American standard that requires a specific amount of reserves, or whether requirements for specific reserves should continue to be addressed at the regional level. The requirements in the existing standards need to be upgraded to be more specific in defining voltage and reactive power schedules. Consideration should be given to adding a requirement for the Reliability Coordinator to monitor and take action if reactive power falls outside identified limits. VAR-001 and -002. | 0 | 66.7 | 78.3 | 54.2 | 30 | 5 | 35.2 | 8.3 | 50 | Addressing Reactive Requirements key to reliability of system. Lenght of Time since the reliability need was identified -- Project was identified to address a Blackout Recommendation (elapsed time = 7 years) and FERC Order 693 directives (elapsed time = 4-1/2 years). Subsequently, NERC Transmission Issues Subcommitte. | 145 | 65 | 94 | 93.5 | 16 | 4 | 12 | 3 |
| Project 2009-03 Emergency Operations (INFORMAL) | 17 - This set of EOP standards may be merged into a single standard. There are some requirements in IRO-001 that may be improved and merged into the new EOP standard. EOP-001, -002, -003, IRO-001. | 0 | 45.8 | 72.7 | 45 | 45 | 5 | 12.5 | 29.2 | 50 | Getting the industry to agree to combining the standards into one or two instead of four. | 118.5 | 57 | 94 | 91.7 | 23 | 9 | 15 | 4 |
| Project 2007-03 Real-time Transmission Operations (ACTIVE) | 4 - Requires upgrading and expanding existing requirements that address transmission operator responsibilities to ensure the real-time operating reliability of the transmission assets within the transmission operator's area. PER-001, TOP-001-through TOP-008 | 0 | 4.2 | 66.7 | 33.3 | 50 | 5 | 50 | 41.7 | | | 70.9 | 47 | 94 | 91.7 | 28 | 21 | 19 | 5 |
| Project 2008-06 Cyber Security - Order 706 (ACTIVE) | 13 - The project requires modifications to CIP-002 thru CIP-009 to bring the standards into conformance with the ERO Rules of Procedure and to address the directives from FERC Order 706. | 50 | 70.8 | 100 | 87.5 | 75 | 48 | 45.8 | 45.8 | | | 220.8 | 52 | 22 | 91.6 | 2 | 17 | 29 | 6 |
| Project 2009-01 Disturbance and Sabotage Reporting (ACTIVE) | 15 - This project will entail revision to existing standards CIP-001 and EOP-004. The standards may be merged to eliminate redundancy and provide clarity on sabotage events. EOP-004 has some 'fill-in-the-blank' components to eliminate. The development may include other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable and technically sufficient bulk power system reliability standards. EOP-004, CIP-001 and CIP-008. | 50 | 66.7 | 56.1 | 16.7 | 16.7 | 5 | 50 | 27.8 | | | 172.8 | 72 | 94 | 77.8 | 8 | 2 | 6 | 7 |
| Project 2010-05.1 Phase 1 of Protection Systems: Misoperations (ACTIVE) | 25 - Modify current PRC-003 and -004 standards and definitions related to Protection System Misoperations to support a good metric for measurement of Protection System performance and ensure the reliability of the bulk power system. Does not include SPS and RAS. Related to System Protection Initiative. | 50 | 62.5 | 62.5 | 33.3 | 37.5 | 5 | 50 | 25 | | | 175 | 64 | 94 | 75 | 7 | 5 | 5 | 8 |
| Project 2007-17 Protection System Maintenance & Testing (ACTIVE) | 10 - Intended to consolidate several standards into a single maintenance and testing standard: PRC-005 (Transmission and Generation Protection System Maintenance and Testing), PRC-008-0 (Underfrequency Load Shedding Equipment Maintenance Programs), PRC-011-0 (UVLS System Maintenance and Testing), and PRC-017-0 (Special Protection System Maintenance and Testing). Standards PRC-008-0, PRC-011-0, and PRC-017-0 would then be withdrawn. Related to System Protection Initiative. | 50 | 50 | 100 | 60 | 50 | 5 | 45.8 | 25 | | | 200 | 60 | 94 | 70.8 | 3 | 7 | 2 | 9 |
| Project 2010-17 Definition of BES (ACTIVE) | 34 - Define the BES as per FERC Order 743. | 0 | 87.5 | 75 | 81.3 | 75 | 5 | 37.5 | 29.2 | 1.7 | From Stakeholder Comments, foundation of standards. | 162.5 | 52 | 94 | 68.4 | 10 | 18 | 7 | 10 |
| Project 2010-13-3 Phase 3 of Relay Loadability: Stable Power Swings | 30 - Address concerns with Stable Power Swings as identified in the FERC Order on Relay Loadability. Related to System Protection Initiative. New standard(s). | 50 | 41.7 | 41.7 | 81.3 | 68.8 | 36 | 5 | 12.5 | 50 | Relay performance during "stable" swings is complex. Restraint from tripping during stable swings must be balanced with the necessity of separation during unstable swings. The FERC order ignores this. | 133.4 | 33 | 42 | 67.5 | 18 | 35 | 27 | 11 |
| Project 2007-12 Frequency Response (ACTIVE) | 9 - Requires entities to provide data needed to model each interconnection's frequency response, as well as establishes Frequency Response Obligation. Related to Frequency Response Initiative, BAL-003. | 0 | 50 | 79.2 | 50 | 75 | 5 | 16.7 | 10 | 36.7 | Frequency response has declined over the years. This issue is a high priority for FERC. | 129.2 | 51 | 94 | 63.4 | 19 | 20 | 13 | 12 |
| Project 2010-07 Generator Requirements at the Transmission Interface (ACTIVE) | 27 - This project proposes changes to the requirements and the addition of new requirements to add significant clarity to Generator Owners and Generator Operators regarding their reliability standard obligations at the interface with the interconnected grid. Multiple standards. | 0 | 75 | 75 | 66.7 | 66.7 | 5 | 50 | 8.3 | | | 150 | 54 | 94 | 58.3 | 12 | 15 | 9 | 13 |

# NERC Standards Committee
# Project Prioritization Worksheet

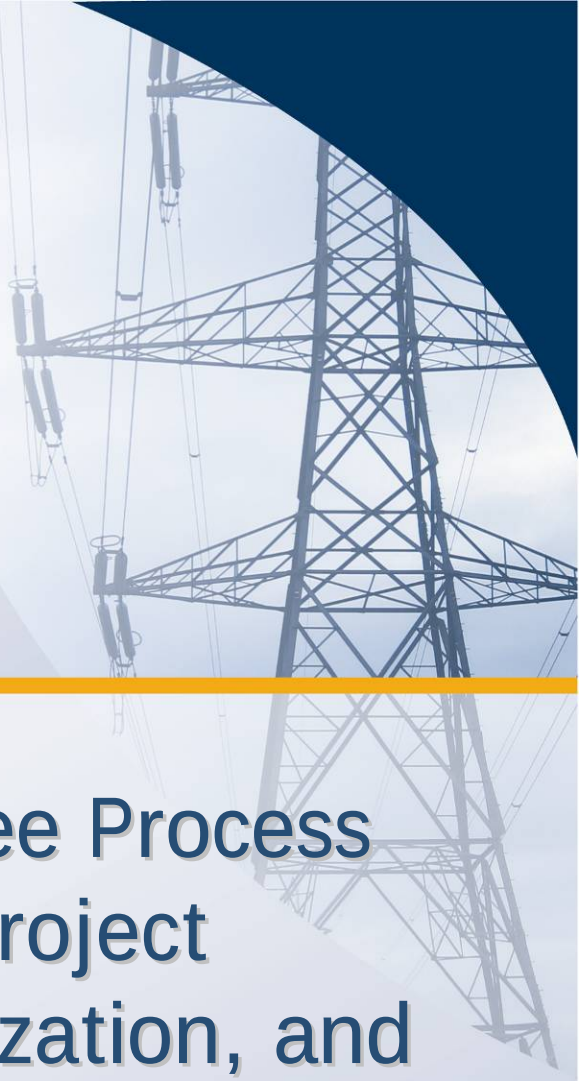
| STANDARDS COMMITTEE Reliability Standard Project Prioritization | | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | PRACTICALITY SORT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Number and Name** | **Short Description** | **Addresses an ERO Strategic Priority** (to be completed by NERC Staff) 50 = Yes 0 = No | **Addresses a reliability risk not covered by an existing standard** 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | **Improves one or more existing standards:** 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | **Cost of Implementation** The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Cost of Administration** The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Time Sensitivity** (to be competed by NERC Staff) Number of months until due date, if any | **Addresses compliance issues from NERC Staff or Stakeholders** 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | **Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is** 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | **Other Practicality Concern** (Explanation for the rating must be indicated in the column to the right) (0 to 50) | **Explanation** | **Reliability Score (0 - 250)** | **Cost Consideration Score (0 - 100)** | **Time Sensitivity Score (0 - 100)** | **Practicality Score (0 - 150)** | **Reliability Ranking** | **Cost Consideration Ranking** | **Time Sensitivity Ranking** | **Practicality Ranking** |
| Project 2007-06 System Protection Coordination (ACTIVE) | 5 - Requires upgrading and expanding the existing requirements from PRC-001 to identify criteria for determining where to install protection system devices and for requiring the installation of those devices to protect the reliability of the bulk electric system. PRC-027. Related to System Protection Initiative. | 50 | 62.5 | 83.3 | 55 | 45 | 5 | 12.5 | 41.7 | | | 195.8 | 61 | 94 | 54.2 | 4 | 6 | 3 | 14 |
| Project 2007-07 Vegetation Management (ACTIVE) | 6 - Project 2007-07 Vegetation Management Requires upgrading the existing requirements for entities to implement a vegetation management program to prevent transmission outages that adversely impact the reliability of the bulk electric system. FAC-003. | 50 | 4.2 | 58.3 | 58.3 | 45 | 5 | 0 | 0 | 50 | Results-Based Proof-of-Concept | 112.5 | 40 | 94 | 50 | 24 | 29 | 16 | 15 |
| Project 2010-05.2 Phase 2 of Protections Systems: SPS and RAS | 26 - Modify current PRC-012, -014, and -016 standards and definitions related to SPS/RAS Misoperations to support a good metric for measurement of Protection System performance and ensure the reliability of the bulk power system. May include additional updates to PRC-004 as well. Related to System Protection Initiative. | 50 | 42.7 | 60 | 40 | 45 | 5 | 33.3 | 12.5 | | | 152.7 | 54 | 94 | 45.8 | 11 | 14 | 8 | 16 |
| Project 2009-07 Reliability of Protection Systems | 20 - Requires facility owners to have protection system equipment installed such that, if there were a failure to a specified component of that protection system, the failure would not prevent meeting the BES performance identified in the TPL standards. Related to System Protection Initiative. New standard(s). | 50 | 83.3 | 88.3 | 66.7 | 41.7 | 0 | 12.5 | 25 | | | 221.6 | 66 | 0 | 37.5 | 1 | 3 | 33 | 17 |
| Project 2006-06 Reliability Coordination (ACTIVE) | 2 - Requires upgrading and expanding existing requirements that address reliability coordinator actions to prevent instability, uncontrolled separation or cascading outages. COM-001, COM-002, IRO-001, IRO-002, IRO-005, IRO-014, IRO-015, IRO-016, and IRO-003. | 50 | 33.3 | 66.7 | 37.5 | 37.5 | 5 | 4.2 | 25 | | | 150 | 56 | 94 | 29.2 | 13 | 11 | 10 | 18 |
| Project 2007-11 Disturbance Monitoring (INFORMAL) | 8 - Requires upgrading and expanding existing requirements for entities to install disturbance monitoring equipment and report disturbance data to ensure information is available to analyze bulk power system disturbances. PRC-002, PRC-018. | 0 | 25 | 72 | 75 | 66.7 | 5 | 0 | 0 | 26.7 | High Regional Priority | 97 | 39 | 94 | 26.7 | 25 | 31 | 17 | 19 |
| Project 2008-12 Coordinate Interchange Standards (INFORMAL) | 14 - Revise the set of Coordinate Interchange standards to 1) ensure that each requirement is assigned to an owner, operator or user of the bulk power system, and not to a tool used to coordinate interchange, 2) to address the Interchange Subcommittee's concerns related to the Dynamic Transfers and Pseudo-ties, and 3) to address previously identified stakeholder comments and applicable directives from Order 693. INT-001 through -010. | 0 | 45.8 | 25 | 41.7 | 41.7 | 5 | 25 | 1.7 | | | 70.8 | 47 | 94 | 26.7 | 29 | 22 | 20 | 20 |
| Project 2010-14.1 Phase 2 of Balancing Authority Reliability-based Control: Time Error, AGC, and Inadvertent (INFORMAL) | 32 - The project includes elimination of Time Error Corrections, 5-year review of BAL-005, miscellaneous clean up and modification to BAL-006. | 0 | 4.2 | 0 | 50 | 50 | 5 | 0 | 25 | | | 4.2 | 26 | 94 | 25 | 39 | 36 | 23 | 21 |
| Project 2012-05 ATC-Revisions - Order 729 | 39 - Respond to directives in Order 729 related to ATC Standards. Perform 5-year review of MOD-001, -004, -008, -029, and -030. Also includes MOD-028. | 0 | 0 | 0 | 50 | 50 | 51 | 0 | 25 | | | 0 | 0 | 17 | 25 | 41 | 41 | 31 | 22 |
| Project 2012-09 IRO Review | 43 - 5-Year review of IRO-006, -008, -009, and -010. | 0 | 0 | 0 | 50 | 50 | 54 | 16.7 | 8.3 | | | 0 | 0 | 12 | 25 | 42 | 42 | 32 | 23 |
| Project 2010-08 Functional Model Glossary Revisions | 28 - The Functional Model Working Group (FMWG) has received many comments and questions from stakeholders concerning the differences in definitions between the Functional Model and the NERC Glossary of Terms Used in Reliability Standards. This project is designed to address these comments and make the definitions of functional entities consistent between the Functional Model and the NERC Glossary of Terms Used in Reliability Standards. | 0 | 0 | 29.2 | 33.3 | 33.3 | 0 | 0 | 0 | 12 | Foundational piece of ERO | 29.2 | 41 | 0 | 12 | 35 | 28 | 42 | 24 |
| Project 2007-09 Generator Verification (ACTIVE) | 7 - Requires upgrading existing requirements for generators to verify their capabilities to ensure that accurate data is used in model to assess the bulk electric system. MOD-025, -026, 027; PRC-019 and -024. | 0 | 66.7 | 62.5 | 75 | 45.8 | 5 | 10 | 0 | | | 129.2 | 52 | 94 | 10 | 20 | 19 | 14 | 25 |
| Project 2012-03 PRC-004 VSLs | 37 - Update VSLs to address the situation where Corrective Action Plans were developed or documented, but not fully implemented. PRC-004. | 0 | 0 | 0 | 25 | 50 | 0 | 8.3 | 0 | | | 0 | 0 | 0 | 8.3 | 45 | 45 | 45 | 26 |
| Project 2010-16 Definition of System Operator | 33 - Refine definition of "System Operator" to exclude the Generator Operator, as all other "System Operators" have a more wide-area view. | 0 | 8.3 | 25 | 33.3 | 37.5 | 0 | 4.2 | 0 | 3.3 | From Stakeholder Comments, foundation of standards. | 33.3 | 41 | 0 | 7.5 | 34 | 27 | 41 | 27 |
| Project 2012-08 Glossary Updates | 42 - Per FERC Order 693, define Bulk Power System, Reliability Standard, and Reliable Operation. Modify definition of Generator Operator and Transmission Operator. | 0 | 0 | 0 | 75 | 75 | 0 | 4.2 | 0 | 3.3 | From Stakeholder Comments, foundation of standards. | 0 | 0 | 0 | 7.5 | 46 | 46 | 46 | 28 |
| Project 2007-02 Operating Personnel Communications Protocols (ACTIVE) | 3 - Requires developing new requirements in support of blackout recommendation #26 to ensure that real-time system operators use standard communication protocols during normal and emergency operations. COM-003. | 50 | 75 | 70.8 | 25 | 25 | 5 | 4.2 | 0 | | | 195.8 | 74 | 94 | 4.2 | 5 | 1 | 4 | 29 |

# NERC Standards Committee
# Project Prioritization Worksheet

| STANDARDS COMMITTEE Reliability Standard Project Prioritization | | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | PRACTICALITY SORT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Number and Name** | **Short Description** | **Addresses an ERO Strategic Priority** (to be completed by NERC Staff) 50 = Yes 0 = No | **Addresses a reliability risk not covered by an existing standard** 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | **Improves one or more existing standards:** 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | **Cost of Implementation** The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Cost of Administration** The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | **Time Sensitivity** (to be competed by NERC Staff) Number of months until due date, if any | **Addresses compliance issues from NERC Staff or Stakeholders** 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | **Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is** 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | **Other Practicality Concern** (Explanation for the rating must be indicated in the column to the right) (0 to 50) | **Explanation** | **Reliability Score (0 - 250)** | **Cost Consideration Score (0 - 100)** | **Time Sensitivity Score (0 - 100)** | **Practicality Score (0 - 150)** | **Reliability Ranking** | **Cost Consideration Ranking** | **Time Sensitivity Ranking** | **Practicality Ranking** |
| Project 2008-02 Undervoltage Load Shedding | 12 - Consider consolidating PRC-010-0 (Assessment of the Design and Effectiveness of UVLS Program) and (PRC-022-1 — Under-Voltage Load Shedding Program Performance). Currently missing are any criteria for identifying where UVLS should be installed. The team will utilize the FIDVR (Fault-Induced Delayed Voltage Recovery) Technical Reference Paper in the development of requirements. Related to System Protection Initiative. | 50 | 29.2 | 70.8 | 83.3 | 50 | 5 | 0 | 0 | | | 150 | 42 | 94 | 0 | 14 | 24 | 11 | 30 |
| Project 2010-03 Modeling Data | 23 - Requires merging, upgrading and expanding existing requirements for entities to provide data used to model the bulk electric system. Related to Blackout recommendation and Modeling Initiative. MOD-010 thru -015. | 0 | 41.7 | 47.7 | 33.3 | 33.3 | 5 | 0 | 0 | | | 89.4 | 56 | 94 | 0 | 27 | 13 | 18 | 31 |
| Project 2010-04 Demand Data | 24 - As envisioned, this project will result in two standards — with MOD-016 through MOD-020 being merged into a single standard, and MOD-021 remaining as a separate standard. The requirements need to be more specific to clearly identify the format, etc., for providing data. | 0 | 0 | 51.7 | 18.8 | 18.8 | 5 | 0 | 0 | | | 51.7 | 54 | 94 | 0 | 33 | 16 | 21 | 32 |
| Project 2010-02 Connecting New Facilities to the Grid | 22 - Ensure that all of the elements that should be addressed when a new facility is connected to the grid are included in the revised standard. FAC-001 and -002. | 0 | 0 | 25 | 33.3 | 33.3 | 5 | 0 | 0 | | | 25 | 40 | 94 | 0 | 36 | 30 | 22 | 33 |
| Project 2010-13.2 Phase 2 of Relay Loadability: Generation (INFORMAL) | 29 - Draft new standard PRC-025-1 Generator Relay Loadability in compliance with the FERC Order 733 issued March 18, 2010. Related to System Protection Initiative. | 50 | 29.2 | 50 | 62.5 | 50 | 12 | 0 | 0 | | | 129.2 | 42 | 82 | 0 | 21 | 26 | 24 | 34 |
| Project 2012-11 FAC Review | 44 - 5-Year Review of FAC-010, -011, -014 | 0 | 0 | 0 | 50 | 50 | 27 | 0 | 0 | | | 0 | 0 | 57 | 0 | 40 | 40 | 26 | 35 |
| Project 2012-13 NUC Review | 46 - 5-Year Review of NUC-001. | 0 | 0 | 0 | 25 | 25 | 39 | 0 | 0 | | | 0 | 0 | 37 | 0 | 43 | 43 | 28 | 36 |
| Project 2012-12 PER Review | 45 - 5-Year Review of PER-003, -004 and -005. | 0 | 0 | 0 | 50 | 50 | 49 | 0 | 0 | | | 0 | 0 | 20 | 0 | 44 | 44 | 30 | 37 |
| Project 2012-06 Generator Capabilities | 40 - For all synchronous generators, specify minimum droop settings and frequency response performance. Require proven voltage support and reactive response to a specific level. Related to Frequency Response Initiative. Related to BAL-003 and the Continent Wide Reserve Policy. New standard(s). | 50 | 50 | 91.7 | 62.5 | 37.5 | 0 | 0 | 0 | | | 191.7 | 60 | 0 | 0 | 6 | 8 | 34 | 38 |
| Project 2012-04 Protection System Commissionning Testing | 38 - Establish minimum level of required commissioning testing prior to putting protection systems into service. Related to System Protection Initiative. New standard(s). | 50 | 48.3 | 67.7 | 41.7 | 50 | 0 | 0 | 0 | | | 166 | 56 | 0 | 0 | 9 | 10 | 35 | 39 |
| Project 2010-01 Support Personnel Training | 21 - Require the use of a systematic approach to determining training needs of generator operators and operations planning and support staff with a direct impact on the reliable operations of the bulk power system. New standard(s). | 50 | 45.8 | 50 | 85 | 41.7 | 0 | 0 | 0 | | | 145.8 | 42 | 0 | 0 | 15 | 25 | 36 | 40 |
| Project 2012-01 Equipment Monitoring and Diagnostic Devices | 35 - Consider the development of reliability standards for the application of major equipment monitoring and diagnostic devices and procedures. New standard(s). | 0 | 25 | 70.8 | 87.5 | 62.5 | 0 | 0 | 0 | | | 95.8 | 36 | 0 | 0 | 26 | 34 | 37 | 41 |
| Project 2009-04 Phasor Measurements | 18 - Supports a blackout recommendation. Several industry studies were issued that need to be analyzed to determine appropriate requirements for a NERC standard. Related to North-American Synchro-Phasor Initiative. New standard(s). | 0 | 66.7 | 0 | 50 | 33.3 | 0 | 0 | 0 | | | 66.7 | 46 | 0 | 0 | 30 | 23 | 38 | 42 |
| Project 2009-05 Resource Adequacy Assessments | 19 - Implements recommendations from the Resource and Transmission Adequacy Task Force (RTATF) Report and the Gas/Electricity Interdependency Task Force Report, approved by the NERC Board on June 15, 2004, related to resource adequacy. New standard(s). | 50 | 8.3 | 0 | 33.3 | 25 | 0 | 0 | 0 | | | 58.3 | 38 | 0 | 0 | 31 | 33 | 39 | 43 |
| Project 2012-02 Physical Protection | 36 - Consider the development of reliability standards for the safety and protection of essential equipment, buildings and people located in power generation, transmission, or distribution system locations in order to mitigate the associated reliability risks to the bulk power system. New standard(s). | 0 | 45.8 | 8.3 | 91.7 | 83.3 | 0 | 0 | 0 | | | 54.1 | 20 | 0 | 0 | 32 | 37 | 40 | 44 |
| Project 2012-14 Risk Analysis | 47 - Require entities to have and maintain a checklist of potential threats to the power system that must be addressed by each TOP/BA. The checklist should include things like GMD, voltage collapse, and other extreme events. New standard(s). | 0 | 25 | 0 | 100 | 50 | 0 | 0 | 0 | | | 25 | 19 | 0 | 0 | 37 | 38 | 43 | 45 |
| Project 2012-07 Obsolescence Review | 41 - Require all TOs and GOs to periodically review their electronic, electric, mechanical, and other control systems, as well as protection systems, to replace obsolete equipment. New standard(s). | 0 | 25 | 0 | 100 | 75 | 0 | 0 | 0 | | | 25 | 13 | 0 | 0 | 38 | 39 | 44 | 46 |
| Project 2006-06.2 Phase 2 of Reliability Coordination | NA - Address specific directives from FERC Order 693 related to reliability standard IRO-003-2 - Reliability Coordination - Wide-Area View | | | | | | | | | | | 0 | 0 | 0 | 0 | 47 | 47 | 47 | 47 |
| Project 2012-15 Flow Limited Paths | NA - Address concerns identified with MOD-029 and its treatment of flow-limited paths. | | | | | | | | | | | 0 | 0 | 0 | 0 | 48 | 48 | 48 | 48 |

NERC

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION



# Standards Committee Process for Standards Project Identification, Prioritization, and Monitoring

to ensure the reliability of the bulk power system

Revised July 2011

116-390 Village Blvd., Princeton, NJ 08540
609.452.8060 | 609.452.9550 fax
www.nerc.com

# Table of Contents

*Objective* ..... *3*

*Changes in this Revision* ..... *3*

*Background* ..... *4*

1. Identifying the List of Standards Projects ..... 4
2. Identifying NERC Project Capacity ..... 4
3. Identifying the Project Portfolio Mix ..... 5
4. Evaluating Each Project ..... 5
5. Determining Cost Considerations ..... 6
6. Determining Projects for Each Program ..... 6
7. Adding New Projects Intra-year and Adjusting Project Priority ..... 6

*Attachment A – Project Prioritization Tool Details* ..... 9

*Attachment B: Prioritization Tool* ..... 13

## *Objective*

This document presents a Standards Committee process for identifying, prioritizing, and monitoring NERC standards development projects, taking into account the various drivers for project initiation and the industry's resource constraints. The process provides the flexibility to accommodate new projects and to adjust project priority and completion schedule in response to changing conditions.

## *Changes in this Revision*

When first used in developing the 2011-2013 Reliability Standard Development Plan (RSDP), the Standards Committee solicited feedback on the use of this tool. Stakeholders submitted several comments and suggestions that the Standards Committee deferred until the development of this revision. In response to those comments and suggestions, as well as other feedback received during the development of this revision, the Standards Committee made the following changes:

- Elimination of the perceived duplication between the process of assigning a score based on the number and type of regulatory directives assigned (previously column G) and the process of assigning scores for "Reliability Gap" (previously column H) and "Reliability Improvement" (previously column I). Some concern has been expressed that ranking the priority of directives assigned to a project based on their reliability impact and then additionally rating a project on its reliability impact was "double counting."
- Addition of a score to account for projects that address ERO Strategic Priorities
- Consolidation of all deadlines (regulatory directive based (previously column F), 5-year review based (column K), or otherwise) into one single new "Time Sensitivity" score. While previously, the Standards Committee felt that time limits derived from directives should be given special consideration, further discussion has led to the questioning of that assertion. Instead, all time limits will be considered, and the Standards Committee may elect to use its judgment to make additional modifications to project prioritization results based on specific knowledge or situations.
- Elimination of the "Project Percent Complete" (previously column N) evaluation
- Addition of two preliminary "cost" considerations
- Modification of the scoring mechanism, such that the "total" score is now the sum of the four subject area scores. In two cases, subject matter scores are no longer simple summations, but instead are determined based on slightly more complex equations.
- The ability to rank projects based on different factors (Reliability, Cost Considerations, Time Sensitivity, Practicality, or all factors combined)

## *Background*

Since the startup of the ERO, the number of standards development projects has been significant. Coupled with the increasing number of requests for interpretations and directives issued by regulatory authorities, the industry has experienced a rapid and sustained increase in standards development related workload. The standards development process allows for any individual to propose a new project or request an interpretation. While the Standards Committee can exercise its discretion to delay the start of any project to cope with increased workload and to better manage standard projects to achieve timely completion, additional flexibility beyond just withholding the start of a project is needed.

At its April 2010 meeting, the NERC Standards Committee endorsed a proposal to develop a structured process to assist in managing standards development projects from the project planning stage through submission of a completed standard to the NERC Board of Trustees. The process outlined in this document takes into account industry resource constraints and changing conditions as new projects emerge and as issues are encountered during the course of standard development. It is expected that this process will occur on an annual basis. Projects that are requested mid-cycle will be scored and evaluated as described in Section 7.

1. **Identifying the List of Standards Projects**

   In general, standard projects may be initiated for a variety of reasons, including:

   a. **To meet a deadline.** These deadlines may include the five-year standard revision cycle requirement, regulatory-imposed deadlines, or other time-based commitments.

   b. **To address a Reliability Need** — Industry participants, regulators, NERC staff or the Board of Trustees identify the need for a new standard or revision to an existing standard to meet a reliability need or fill a reliability gap

   c. **To address practical implementation issues.**— Industry participants, NERC and Regional Entity staff identify quality and clarity gaps in NERC's existing reliability standards that need to be remedied to ensure consistent industry compliance. These may be indentified through compliance, through the need for interpretations, or through other means (for example, Regional Entities and stakeholders may propose continent-wide NERC standards that will avoid the need to develop regional standards which will be phased out when the NERC standards are put in place).

   The list of standards projects will include all current projects, all projects in informal development, and all new projects that have yet to be initiated.

   Although any stakeholder can submit a Standards Authorization Request at any time, NERC will generally solicit project candidates for a fixed period of time prior to beginning its annual prioritization. Requests received outside that window of time will be considered for prioritization either at the next annual prioritization or on a case by case basis.

2. **Identifying NERC Project Capacity**

NERC is only able to manage a finite number of projects at a given point in time, due to the limitations of both staff and industry resources. In general, NERC can accommodate 10-12 projects on an ongoing basis. Because some projects are more complex than others, NERC's Standards Committee will work with NERC staff to determine the total capacity for NERC Standards Development. NERC staff will remain responsible for the actual assignment of staff resources to projects.

3. **Identifying the Project Portfolio Mix**

Because there are many legitimate reasons for initiating projects, a simple ranking based on priorities is not sufficient. Although focusing on those projects with the greatest reliability need is important, it does not recognize the practical considerations or the time sensitivity of each project. For example, a project with a low reliability impact may nonetheless be associated with a regulatory imposed deadline; or a project may not directly improve reliability, but make a standard much easier to comprehend and implement successfully.

To address this, the Standards Committee allocates Project Capacity to three programs within the Standards Development portfolio: Time Sensitive projects, Practicality projects, and Reliability projects. This allocation is determined by the Standards Committee each year as the Reliability Standards Development Plan is being drafted. For example, assuming that the SC will pursue a total of 12 projects in 2012, this could result in capacity being allocated for three Time-sensitive projects, three Practicality projects, and six Reliability projects.

4. **Evaluating Each Project**

Each project identified will be evaluated in several areas. Members of the Standards Committee will provide the majority of the evaluation data, while NERC staff will only provide information regarding Time-Sensitivity and alignment with ERO Strategic Priorities (columns E and J in Attachment A).

Each representative on the Standards Committee will provide their recommendations for the values assigned to specific areas of each project. NERC will then aggregate and analyze this information and present it to the Standards Committee for review. In general, the arithmetic mean of all Standards Committee input will be used to set the "score" to be used in the prioritization. So if three members selected 50, 75, and 100 out of a possible total 100, the arithmetic mean would be 75.

However, in those cases where significant disagreement is noted between Standards Committee members, further discussion will occur among the Standards Committee to determine if additional changes should be considered. "Significant" disagreement shall be defined as more than 50% of the Standards Committee members participating having scores that are different from the mean by more than 30% of the maximum value for that particular score. So for example, if three members selected 0, 50, and 100, the mean would be 50. However, 66% (two) of the members would have chosen values that were different from the mean by more than 30% (50 points), so further discussion would be required to reconcile the difference.

5. **Determining Cost Considerations**

   As a first step, all projects will be evaluated for cost considerations. This is accomplished by comparing the "reliability" value to the "cost" value. The calculation of this value is explained in Attachment A's explanation of Column P.

   Cost is measured in two areas – the cost to the industry to comply with the standard, and the cost to the industry to demonstrate compliance with the standard. The first area should be focused on the incremental upgrades and investments needed to meet the standard (e.g., equipment purchases, software upgrades, training), while the second area should consider the cost of retaining data and documents, auditing and audit preparation, and reporting.

   Projects with a score of less than 50 will generally having a lower benefit relative to cost. When contemplating projects for the Reliability Program area, those with a lower benefit should be carefully considered prior to being initiated. However, a lower benefit should generally not by itself preclude a project from consideration.

6. **Determining Projects for Each Program**

   For each of the three portfolio program areas (Time Sensitive, Reliability, or Practicality), the Standards Committee will prioritize the list of projects and assign the top priority projects to the programs until program capacity is eliminated.

   Following this, the Standards Committee will review any projects that are in progress but are not currently assigned to one of the three portfolio programs. In general, the Standards Committee will displace lower priority projects within the program with projects currently in progress – effectively "filling" the programs with active work before adding new work. However, the Standards Committee may, if it so chooses, halt an existing project in order to move a project that it deems more critical forward.

   Next, the Standards Committee will review project interdependencies. If a high-priority project is expected to move forward, and relies on a lower-priority project for completion, then that lower-priority project should displace a higher-priority project to ensure the dependency is honored.

   Finally, the Standards Committee will eliminate any duplicate projects that appear in more than one program. The Standards Committee shall make the determination regarding in which program a project should reside. As these duplicate projects are eliminated, other projects may return or be added to the program.

   Additionally, the Prioritization will develop a list of potential projects for further research and planning. This list of potential projects will be brought to the Standing Committees for their assistance such that they may be considered in the following year for initiation.

7. **Adding New Projects Intra-year and Adjusting Project Priority**

When a new project emerges and is evaluated outside the annual prioritization, the resulting point scores may indicate that the new project should have priorities higher than other projects currently under active development. It is generally assumed that ongoing projects should have highest priority and should continue development work regardless of other projects' emergence. However, both emerging reliability issues and regulatory directives may lead the Standards Committee to direct that one or more projects that are currently assigned to a program be put on hold until resources become available and development work can be restarted.

The Standards Committee will decide if any of the ongoing projects should be stopped or deferred and advise the respective Standard Drafting Teams (SDTs) accordingly, or develop other remedial actions to launch the new projects and continue with all ongoing projects. If it determines that none of the ongoing projects should be stopped and the new projects should be launched, but no resource relief can be provided, the Standards Committee will bring the situation, along with options and recommendations, to the Board of Trustees for its attention and direction.

8. **Developing Projects Schedules**

The time required to complete a standard development project varies from one project to another depending on the scope of work and the complexity of the issues to be addressed. While the SAR proponents generally have a good grasp of the time required to complete a standard project from the formation of the SDT to balloting, the SDT itself may have more intimate knowledge of the technical issues involved and hence a better feel of the time needed to complete its assigned project. Further, since SDT members are industry volunteers that are committed to their projects, it is desirable and appropriate that the SDTs provide inputs into their project schedules and milestone events.

In general, NERC staff together with the Standards Committee will develop an initial project schedule based on past experience, complexity of the standards and other considerations such as available expertise, compliance deadlines, etc. Then, the SDT will be given the opportunity to review and adjust the project schedule at its initial meetings, and present a revised schedule, if necessary, to the Standards Committee for consideration. Once approved by the Standards Committee, the SDT will take ownership of the project and its schedule, and monitor and report project progress to the Standards Committee on an as-needed basis.

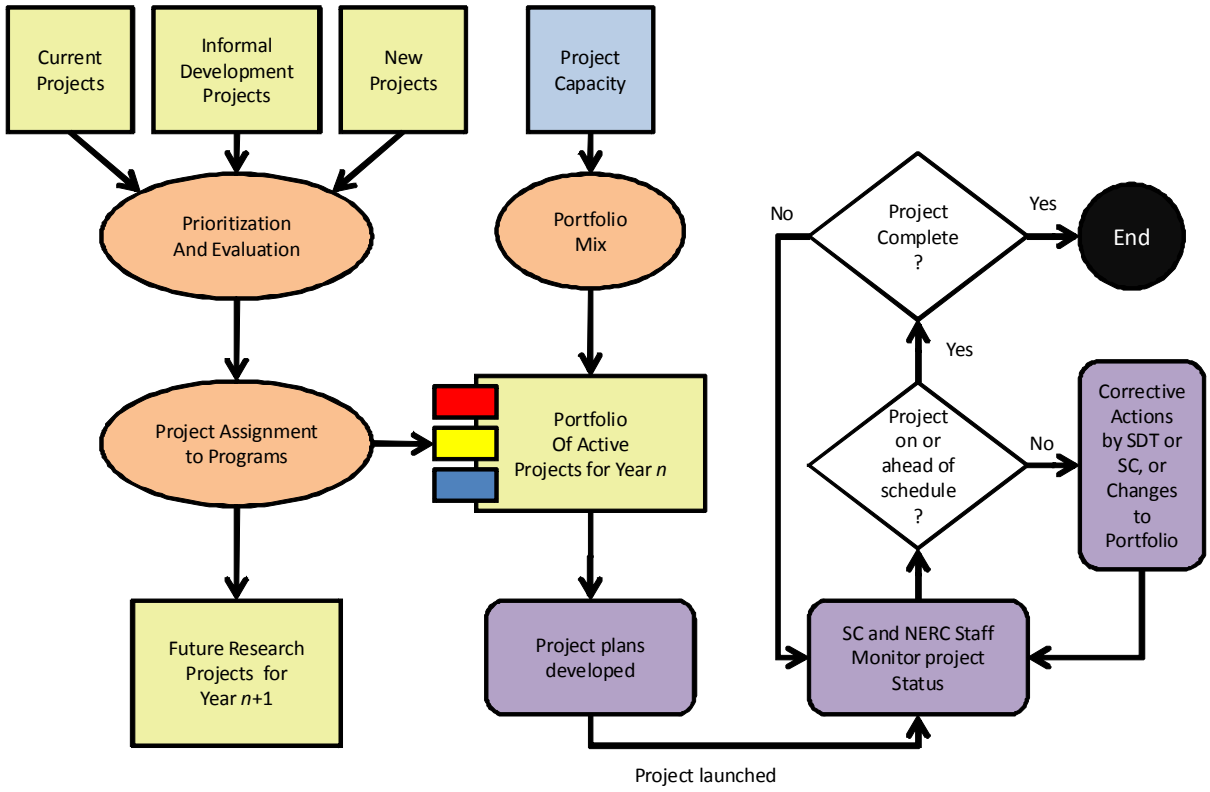
9. **Monitoring Projects**

The SDTs are responsible for monitoring all milestone events and completion schedules for their assigned projects. If at any time the milestone dates for a project are expected to be missed, the responsible SDT should report to the Standards Committee, and present options to put the project back on schedule or request accepting delays with supporting rationale. Where necessary, the SDT may seek the Standards Committee's endorsement or advice for other remedial actions including additional resource support, resolution of contentious issues, accepting an extension of the project schedule, or other actions deemed appropriate.

Such reporting should be made at least two months prior to a milestone date in danger of being missed, and at least four months prior to the scheduled completion date (end of re-circulation balloting) that is in danger of being missed. The Standards Committee will act upon receiving a report from the SDT of potential slippage. In its deliberation, it will assess impacts of implementing any remedial actions on the status of other ongoing or pending projects.

From time to time, the Standards Committee may request the Chair or a representative of an SDT to report on the progress of a project even though there is no indication of a potential slippage.

10. **Project Identification, Prioritization and Management Flow Diagram**
    A flow diagram showing the process described in 1 to 9 is shown below.



## *Attachment A – Project Prioritization Tool Details*

Below is a detailed description of the values and calculations used in the Project Prioritization Tool.

### *Rows*

Row 1 Contains general information and macro buttons.

The ***"Sort"*** macro buttons simply sorts rows 3 through 250 in descending order of the associated column and re-establishes the rankings listed in columns B, T, U, V, W, and X as appropriate.

The ***Click Here to Insert a Row*** macro button shifts all existing data down one row to insert a blank row in row 3. Data will then need to be entered into the new row.

Row 2 Contains the column headers.

### *Columns*

Column A Blank.

Column B ***Priority Number:*** The relative ranking or each project as a result of the most recent "Total" Sort performed.

Column C ***Project Number and Name***

Column D ***Short Description*** (of the Project)

Column E ***Addresses an ERO Strategic Priority***. If the project is expected to aid in meeting one of the ERO's identified strategic priorities, then 50 points are added to the project reliability score. This value is assigned by NERC staff, and is used to calculate the **Reliability Score.**

Column F ***Addresses a reliability risk not covered by an existing standard.*** This value is subjective in nature, and will be determined based on the consensus of the Standards Committee. In general, this value is intended to capture "gaps" in the reliability standards, and should consider factors such as how the project relates to instability, separation, or a cascading sequence of failures; how it relates to an adequate level of reliability; and how wide the impact of the project is. A "*Fill-in-the-blank"* standard would be one possible example of a "gap." This value is used to calculate the **Reliability Score.** It is also used with Columns G, H, and I in the calculation used to determine the **Cost Consideration Score.**

100 = Severe risk

75 = High risk

50 = Moderate risk

25 = Low risk

0 = N/A

Column G ***Improves one or more existing standards.*** This value is subjective in nature, and will be determined based on the consensus of the Standards Committee. In general, this value is intended to capture ways of improving the effectiveness of existing standards to provide improved reliability, such as raising the minimum level of compliance or adding additional requirements. This value is used to calculate the **Reliability Score.** It is also used with Columns F, H, and I in the calculation used to determine the **Cost Consideration Score.** The project is expected to improve reliability:

100 = Significantly

75 = Moderately

50 = Incrementally

25 = Minimally

0 = N/A

Column H ***Cost of Implementation.*** This value is subjective in nature, and will be determined based on the consensus of the Standards Committee. This value is used with Columns F, G, and I in the calculation of the **Cost Consideration Score,** and should consider such items as equipment purchases or upgrades, training, and similar costs. In other words, what would it cost the industry to become compliant with the standard? When considered in aggregate, the cost of complying with the standard is expected to be:

100 = Very high

75 = High

50 = Average

25 = Low

0 = Very Low

Column I ***Cost of Administration.*** This value is subjective in nature, and will be determined based on the consensus of the Standards Committee. This value is used with Columns F, G, and H in the calculation of the **Cost Consideration Score,** and should consider things such as the cost to retain data, the cost to document, and the cost of compliance staff evaluating data. In other words, what would it cost the industry (including applicable entities, regions, and NERC) to prove that the standard is being complied with? When considered in aggregate, the cost to demonstrate and verify compliance is expected to be:

100 = Very high

75 = High

50 = Average

25 = Low

0 = Very Low

Column J ***Time Sensitivity.*** Number of months until due date, if any, from the time the prioritization is effective. For example, in 2012, this should be the number of months from January 2012 to the due date. This value is assigned by NERC staff, and is used to calculate the **Time Sensitivity Score.** 0 indicates no deadline exists within the subsequent 60 months.

Column K ***Addresses compliance issues from NERC Staff or Stakeholders.*** This value is subjective in nature, and will be determined based on the consensus of the Standards Committee. For example, if Compliance had idenfied a frequently violated standard, or standards for which one or more CAN's had been developed, or standard which has been identified by stakeholders as being difficult to comprehend. This value is used to calculate the **Practicality Score.**

50 =Significant issues

25 = Moderate issues

10 = Minimal issues

0 = N/A

Column L ***Addresses a failed interpretation or SDT inability to develop an interpretation.*** This value is subjective in nature, and will be determined based on the consensus of the Standards Committee. This value is used to calculate the **Practicality Score.** The interpretation is needed to address a lack of clarity that is:

50 = Significant

25 = Moderate

10 = Minimal

0 = N/A

Column M ***Other Practicality Concern.*** This value is subjective in nature, and will be determined based on the consensus of the Standards Committee. An example of a project that would have points assigned here is the Vegetation Management project because of it being used at the prototype results based standard. Additional considerations would be the breadth of impact to registered entities, projects with active field trials, the length of time project has been in the queue, and projects that clarify a standard or delete redundant requirements. Addressing "*Fill-in-the-blank"* standard would be another area where practicality might drive a need to develop a standard by eliminating the potential for duplicate work among the regions. Between 0 and 50. This value is used to calculate the **Practicality Score**, and must be accompanied by an explanation of the relative value provided in Column N.

Column N ***Explanation:*** the explanation of the value set in column M.

Column O ***Reliability Score.*** The sum of columns E, F, and G. Between 0 and 250.

Column P ***Cost Consideration Score.*** Calculated based on the sum of columns F and G less the sum of the columns H and I, then scaled to produce a value between 0 and 100. Projects with no reliability benefit are automatically scored as 0.

Column Q ***Time Sensitivity Score.*** Calculated by dividing the number of months in column J by sixty, subtracting that value from one, and then multiplying by 100 and rounding. If the number of months is zero or greater than 60, then the score is set at 0. This results in projects with a closer deadline having a higher priority.

Column R ***Practicality Score.*** The sum of columns K, L, and M. Between 0 and 150.

Column S ***Total Score.*** The sum of the **Reliability Score, Cost Consideration Score, Time Sensitivity Score,** and **Practicality Score.** Based on total scores, results in a weighted score with approximately the following distribution of weights:

Reliability 41.6%
Cost Consideration 16.7%
Time Sensitivity 16.7%
Practicality 25%

Columns T-X ***Rankings.*** The numbers show the rankings for each area, and color codes the cells based on the following:

- The top *n* projects, where *n* is the number at the top of the column for columns U, W, and X
- All projects with a Cost Consideration Score greater than or equal to *n*, where *n* is the number at the top of column V.

# Attachment B: Prioritization Tool

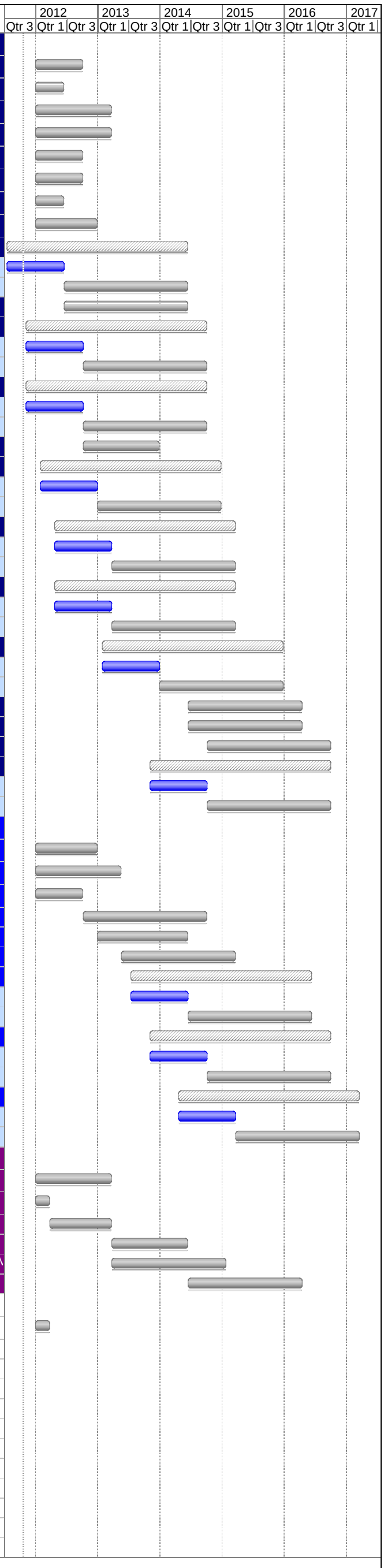
| STANDARDS COMMITTEE Reliability Standard Project Prioritization | | | (E) Click Here to Insert a Row | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | SUMMARY | | | | | | 7 | 25 | 3 | 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Cells with this color are blank and need a value entered. | | | | Sort | Sort | Sort | Sort | Sort | | | | | |
| TOTAL RANKING | Project Number and Name | Short Description | Addresses an ERO Strategic Priority (to be completed by NERC Staff) 50 = Yes 0 = No | Addresses a reliability risk not covered by an existing standard 100 = Severe risk 75 = High risk 50 = Moderate risk 25 = Low risk 0 = N/A | Improves one or more existing standards: 100 = Significantly 75 = Moderately 50 = Incrementally 25 = Minimally 0 = N/A | Cost of Implementation The cost of complying with the standard is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | Cost of Administration The cost to demonstrate and verify compliance is expected to be: 100 = Very high 75 = High 50 = Average 25 = Low 0 = Very Low | Time Sensitivity (to be competed by NERC Staff) Number of months until due date, if any | Addresses compliance issues from NERC Staff or Stakeholders 50 =Significant issues 25 = Moderate issues 10 = Minimal issues 0 = N/A | Addresses a failed interpretation or SDT inability to develop an interpretation related to a lack of clarity that is 50 = Significant 25 = Moderate 10 = Minimal 0 = N/A | Other Practicality Concern (Explanation for the rating must be indicated in the column to the right) (0 to 50) | Explanation | Reliability Score (0 - 250) | Cost Consideration Score (0 - 100) | Time Sensitivity Score (0 - 100) | Practicality Score (0 - 150) | Total Score (0-600) | TOTAL RANKING | Relaibity Ranking | Cost Consideration Ranking | Time Sensitivity Ranking | Practicality Rnaking |
| 1 | Project 2010-13.2 Phase 2 of Relay Loadability: Generation | Draft new standard PRC-025-1 Generator Relay Loadability in compliance with the FERC Order 733 issued March 18, 2010 | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 2 | Project 2010-13-3 Phase 3 of Relay Loadability: Stable Power Swings | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 |
| 3 | Project 2010.05.2 Phase 2 of Protections Systems: SPS and RAS | Modify current PRC-012, -014, and -016 standards and definitions related to SPS/RAS Misoperations to support a good metric for measurement of Protection System performance and ensure the reliability of the bulk power system. May include additional udpates to PRC-004 as well. | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 |
| 4 | Project 2010-16 Definition of System Operator | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 4 | 4 | 4 |
| 5 | Project 2007-17 Protection System Maintenance & Testing | Transmission and Generation Protection System Maintenance and Testing, to consolidate PRC-005-1, PRC-008-0 — Underfrequency Load Shedding Equipment Maintenance Programs; PRC-011-0 — UVLS System Maintenance and Testing; and PRC-017-0 — Special Protection System Maintenance and Testing into a single maintenance and testing standard. Standards PRC-008-0, PRC-011-0, and PRC-017-0 would then be withdrawn. | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 |
| 6 | Project 2007-06 System Protection Coordination | Requires upgrading and expanding the existing requirements to identify criteria for determining where to install protection system devices and for requiring the installation of those devices to protect the reliability of the bulk electric system. | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 6 | 6 | 6 | 6 | 6 |
| 7 | Project 2007-12 Frequency Response | Requires entities to provide data needed to model each interconnection's frequency response. | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 7 | 7 | 7 | 7 | 7 |
| 8 | Project 2010-05.1 Phase 1 of Protection Systems: Misoperations | Modify current PRC-003 and -004 standards and definitions related to Protection System Misoperations to support a good metric for measurement of Protection System performance and ensure the reliability of the bulk power system. Does not incude SPS and RAS. | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 |
| 9 | Project 2008-06 Cyber Security - Order 706 | This is the second phase (Phase 2) of Project 2008-06 Cyber Security Order 706. The project requires modifications to CIP-002 thru CIP-009 not included in Phase 1 of the project to bring the standards into conformance with the ERO Rules of Procedure and to address the directives from FERC Order 706. | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 9 | 9 | 9 |
| 10 | Project 2010-07 Transmission Requirements at the Generator Interface | This project proposes changes to the requirements and the addition of new requirements to add significant clarity to Generator Owners and Generator Operators regarding their reliability standard obligations at the interface with the interconnected grid. | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 10 | 10 | 10 | 10 | 10 |
| 11 | Project 2009-01 Disturbance and Sabotage Reporting | This project will entail revision to existing standards CIP-001 and EOP-004. The standards may be merged to eliminate redundancy and provide clarity on sabotage events. EOP-004 has some 'fill-in-the-blank' components to eliminate. The development may include other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable and technically sufficient bulk power system reliability standards. | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 11 | 11 | 11 | 11 | 11 |

# Appendix 2 – Work Plan

The following page shows the schedule of work in Gantt chart format. Projects for which the Standing Committees will be asked to provide research are identified with blue Gantt chart bars, and have been tentatively allocated a year duration for research (pending feedback from the Standing Committees).

Following the Prioritization, the Work Plan is the next step in the creation of the Reliability Standards Development Plan. It is used primarily to identify project predecessors and ensure resource allocations are consistent and manageable. Once complete, it identifies the estimated start and completion of all projects over the three-year period.

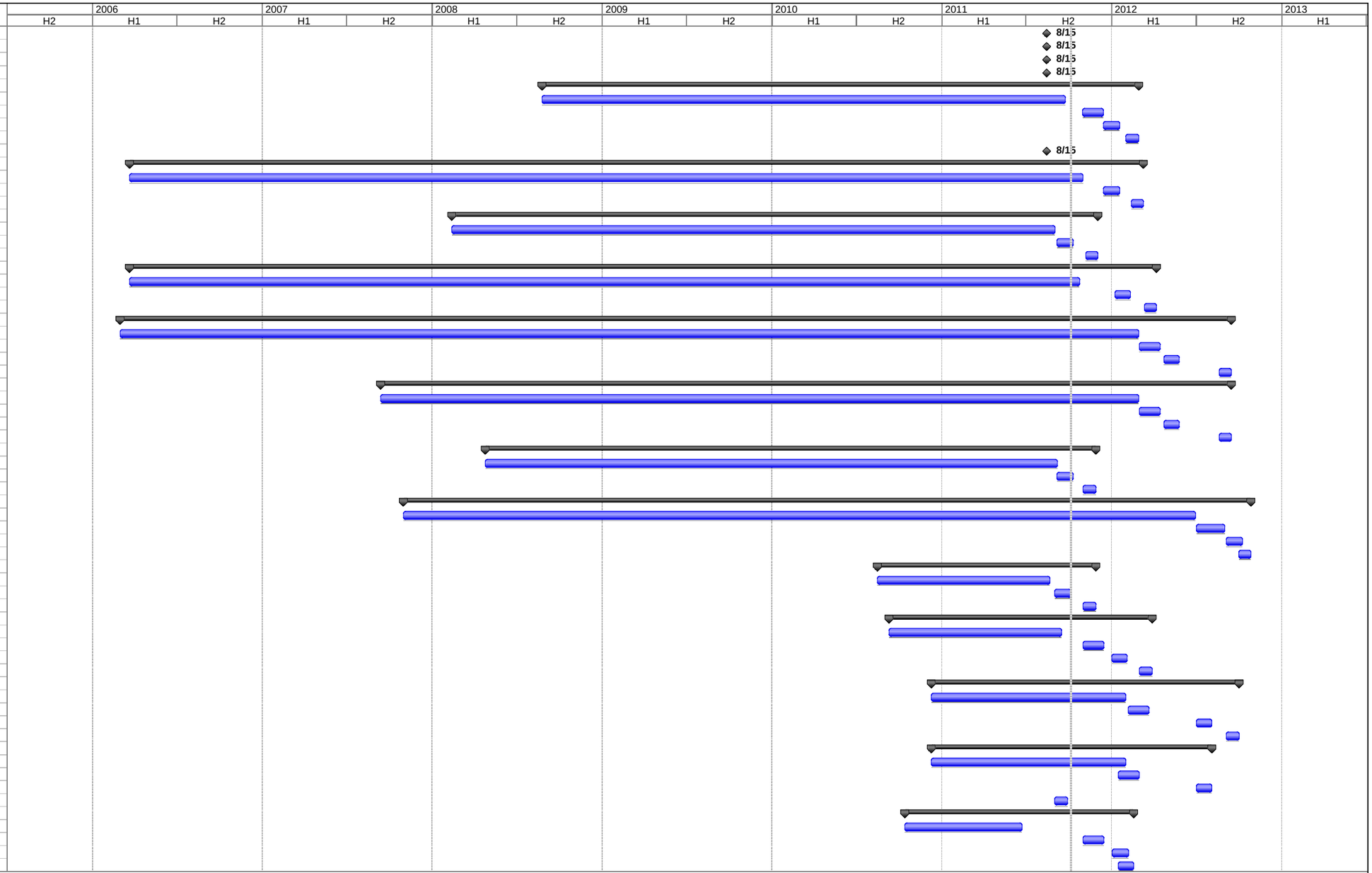
| ID | Task Name |
|---|---|
| 1 | **Reliability Projects: 8 Slots** |
| 2 | **Project 2008-06 Cyber Security - Order 706 (ACTIVE)** |
| 3 | **Project 2007-17 Protection System Maintenance & Testing (ACTIVE)** |
| 4 | **Project 2007-02 Operating Personnel Communications Protocols (ACTIVE)** |
| 5 | **Project 2007-06 System Protection Coordination (ACTIVE)** |
| 6 | **Project 2009-01 Disturbance and Sabotage Reporting (ACTIVE)** |
| 7 | **Project 2010-05.1 Phase 1 of Protection Systems: Misoperations (ACTIVE)** |
| 8 | **Project 2006-06 Reliability Coordination (ACTIVE)** |
| 9 | **Project 2007-09 Generator Verification (ACTIVE)** |
| 10 | ***Project 2012-04 Protection System Commissioning Testing*** |
| 11 | Standing Committee Research |
| 12 | Standards Development |
| 13 | Project 2008-02 Undervoltage Load Shedding |
| 14 | **Project 2010-05.2 Phase 2 of Protections Systems: SPS and RAS** |
| 15 | Standing Committee Research |
| 16 | Standards Development |
| 17 | **Project 2010-01 Support Personnel Training** |
| 18 | Standing Committee Research |
| 19 | Standards Development |
| 20 | Project 2009-03 Emergency Operations (INFORMAL) |
| 21 | **Project 2012-06 Generator Capabilities** |
| 22 | Standing Committee Research |
| 23 | Standards Development |
| 24 | **Project 2009-07 Reliability of Protection Systems** |
| 25 | Standing Committee Research |
| 26 | Standards Development |
| 27 | **Project 2012-01 Equipment Monitoring and Diagnostic Devices** |
| 28 | Standing Committee Research |
| 29 | Standards Development |
| 30 | **Project 2009-04 Phasor Measurements** |
| 31 | Standing Committee Research |
| 32 | Standards Development |
| 33 | Project 2009-05 Resource Adequacy Assessments |
| 34 | Project 2010-16 Definition of System Operator |
| 35 | Project 2010-08 Functional Model Glossary Revisions |
| 36 | **Project 2010-13.3 Phase 3 of Relay Loadability: Stable Power Swings** |
| 37 | Standing Committee Research |
| 38 | Standards Development |
| 39 | **Time-Sensitive Projects - 3 Slots** |
| 40 | **Project 2010-14.1 Phase 1 of Balancing Authority Reliability-based Control: Reserves (ACTIVE)** |
| 41 | **Project 2010-17 Definition of BES (ACTIVE)** |
| 42 | **Project 2007-12 Frequency Response (ACTIVE)** |
| 43 | Project 2010-13.2 Phase 2 of Relay Loadability: Generation (INFORMAL) |
| 44 | Project 2008-01 Voltage and Reactive Planning and Control (INFORMAL) |
| 45 | Project 2007-11 Disturbance Monitoring (INFORMAL) |
| 46 | **Project 2010-03 Modeling Data** |
| 47 | Standing Committee Research |
| 48 | Standards Development |
| 49 | **Project 2010-04 Demand Data** |
| 50 | Standing Committee Research |
| 51 | Standards Development |
| 52 | **Project 2010-02 Connecting New Facilities to the Grid** |
| 53 | Standing Committee Research |
| 54 | Standards Development |
| 55 | **Practicality Projects - 2 Slots** |
| 56 | **Project 2010-07 Generator Requirements at the Transmission Interface (ACTIVE)** |
| 57 | **Project 2007-03 Real-time Transmission Operations (ACTIVE)** |
| 58 | Project 2009-02 Real-time Reliability Monitoring and Analysis Capabilities (INFORMAL) |
| 59 | Project 2008-12 Coordinate Interchange Standards (INFORMAL) |
| 60 | Project 2010-14.2 Phase 2 of Balancing Authority Reliability-based Control: Time Error, AGC, and Inadvertent (INFORM |
| 61 | Project 2012-05 ATC-Revisions - Order 729 |
| 62 | **Excess Beyond Capacity for 2012-2014** |
| 63 | **Project 2007-07 Vegetation Management (ACTIVE)** |
| 64 | Project 2012-02 Physical Protection |
| 65 | Project 2012-03 PRC-004 VSLs |
| 66 | Project 2012-08 Glossary Updates |
| 67 | Project 2012-07 Obsolescence Review |
| 68 | Project 2012-09 IRO Review |
| 69 | Project 2012-11 FAC Review |
| 70 | Project 2012-12 PER Review |
| 71 | Project 2012-13 NUC Review |
| 72 | Project 2012-14 Risk Analysis |
| 73 | *2006-06.2 Phase 2 of Reliability Coordination* |
| 74 | *2012-15 Flow Limited Paths* |



# Appendix 3 – Regional Work Plan

The following page shows the schedule of regional work in Gantt chart format. Projects that are actively being pursued are identified with black Gantt chart bars, with blue bars representing various stages of development. Projects that are "on hold" are represented by a black diamond.

| ID | Task Name |
|---|---|
| 1 | **PRC-002-FRCC-1 (on hold)** |
| 2 | **PRC-003-FRCC-1 (on hold)** |
| 3 | **PRC-006-FRCC-1 (on hold)** |
| 4 | **PRC-024-FRCC-1 (on hold)** |
| 5 | **PRC-006-NPCC-1** |
| 6 | Regional standard development |
| 7 | Posting of Documents for process evaluation at NERC |
| 8 | Prepare BOT Material |
| 9 | Develop Initial Draft of Regulatory Filings |
| 10 | **PRC-012-NPCC-1 (on hold)** |
| 11 | **MOD-024-RFC-01** |
| 12 | Regional standard development |
| 13 | Prepare BOT Material |
| 14 | Develop Initial Draft of Regulatory Filings |
| 15 | **MOD-025-RFC-01** |
| 16 | Regional standard development |
| 17 | Prepare BOT Material |
| 18 | Develop Initial Draft of Regulatory Filings |
| 19 | **PRC-002-RFC-01** |
| 20 | Regional standard development |
| 21 | Prepare BOT Material |
| 22 | Develop Initial Draft of Regulatory Filings |
| 23 | **PRC-006-RFC-1** |
| 24 | Regional standard development |
| 25 | Posting of Documents for process evaluation at NERC |
| 26 | Prepare BOT Material |
| 27 | Develop Initial Draft of Regulatory Filings |
| 28 | **PRC-012-RFC-1** |
| 29 | Regional standard development |
| 30 | Posting of Documents for process evaluation at NERC |
| 31 | Prepare BOT Material |
| 32 | Develop Initial Draft of Regulatory Filings |
| 33 | **PRC-006-SERC-01** |
| 34 | Regional standard development |
| 35 | Prepare BOT Material |
| 36 | Develop Initial Draft of Regulatory Filings |
| 37 | **PRC-006-SPP-01** |
| 38 | Regional standard development |
| 39 | Posting of Documents for process evaluation at NERC |
| 40 | Prepare BOT Material |
| 41 | Develop Initial Draft of Regulatory Filings |
| 42 | **IRO-006-TRE-1** |
| 43 | Regional standard development |
| 44 | Prepare BOT Material |
| 45 | Develop Initial Draft of Regulatory Filings |
| 46 | **BAL-001-TRE-1** |
| 47 | Regional standard development |
| 48 | Posting of Documents for process evaluation at NERC |
| 49 | Prepare BOT Material |
| 50 | Develop Initial Draft of Regulatory Filings |
| 51 | **BAL-002-WECC-1** |
| 52 | Regional standard development |
| 53 | Posting of Documents for process evaluation at NERC |
| 54 | Prepare BOT Material |
| 55 | Develop Initial Draft of Regulatory Filings |
| 56 | **BAL-004-WECC-1** |
| 57 | Regional standard development |
| 58 | Posting of Documents for process evaluation at NERC |
| 59 | Prepare BOT Material |
| 60 | Develop Initial Draft of Regulatory Filings |
| 61 | **VAR-001-WECC-1** |
| 62 | Regional standard development |
| 63 | Posting of Documents for process evaluation at NERC |
| 64 | Prepare BOT Material |
| 65 | Develop Initial Draft of Regulatory Filings |




Project: Unified Regional Project Sche
Date: Wed 10/5/11

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

# Appendix 4 – Project Summaries

The following are detailed summaries of the projects discussed earlier within this plan.

**DEVELOPMENT 2012**

## Project 2006-06 Reliability Coordination

**Summary:**

This project ensures that the reliability-related requirements applicable to the Reliability Coordinator are clear, measurable, unique, and enforceable, and that this set of requirements is sufficient to maintain reliability of the Bulk Electric System. Most of the requirements in this set of standards were translated from Operating Policies as part of the Version 0 process. There have been suggestions for improving these requirements, and the drafting team is considering comments submitted by stakeholders, drafting teams and FERC in determining what changes should be proposed. The drafting team is reviewing all of the requirements in this set of standards and making a determination whether to:

- Modify the requirement to improve clarity and measurability while removing ambiguity;
- Move the requirement (into another project or Standard, or to the certification process); or
- Eliminate the requirement (because it is redundant or does not support BPS reliability).

This project ranked #13 in Reliability Priority.

**Standards affected:**

COM-001, COM-002, IRO-001- IRO-002, IRO-005, IRO-014, IRO-015, IRO-016

**Status:**

This project's SAR was finalized on May 2, 2007. The draft standards have been posted several times. The NERC Board of Trustees adopted IRO-002-3, IRO-005-4 and IRO-014-2, along with a conforming change to IRO-001-1.1 associated with IRO-014-2 (creating IRO-001-2) on August 4, 2011. The Board also approved the retirement of IRO-015-1 and IRO-016-1. The drafting team is continuing development on COM-001-2, COM-002-3, and additional revisions to IRO-001, which will become IRO-001-3. It is estimated this project will complete in Q2 2012.

**FUTURE CONSIDERATION**

## Project 2006.06.2 Phase 2 of Reliability Coordination: IRO-003

**Summary:**

This project will address directives from Order 693 related to the inclusion of measures in IRO-003 and the determination of "critical facilities."

**Standards affected:**

IRO-003

**Status:**

A SAR was developed and was finalized on July 14, 2010. However, no additional work has occurred for this project at this time. No estimate for starting the project has been identified.

**DEVELOPMENT 2012**

## Project 2007-02 Operating Personnel Communication Protocols

**Summary:**

This project is reviewing COM-003 to ensure the standard is complete, appropriately scoped, and enforceable. The project is also considering other general improvements and stakeholder comments received during the initial development of the standards, as well as other comments received from Electric Reliability Organization (ERO) regulatory authorities. This also satisfies the NERC requirement for five-year review of the standard.

This standard will require the use of specific communication protocols, especially for communications during alerts and emergencies. The standard will be applicable to transmission operators, balancing authorities, reliability coordinators, generator operators and distribution providers. Requirements will include protocols for communicating changes to real-time operating states and protocols for issuing and responding to operating directives.

This project ranked #5 in Reliability Priority.

**Standards affected:**

COM-003

**Status:**

This project's SAR was finalized on June 8, 2007. A draft standard was posted November 20, 2009 through January 15, 2010. Due to focusing on other priorities, this team was temporarily put on hold. The project was restarted in 2011, and the team is reviewing comments and preparing to post a new version of the standard. It is estimated this project will complete in Q1 2013.

**DEVELOPMENT 2012**

## Project 2007-03 Real-time Transmission Operations

**Summary:**

This project is clarifying requirements for real-time operations of the Bulk Electric System in several standards, as well as providing other general improvements. It will consider stakeholder comments received during the initial development of the standards, as well as other comments received from ERO regulatory authorities. This also satisfies the NERC requirement for five-year review of the standards.

This project ranked #5 in Practicality Priority.

**Standards affected:**

PER-001, TOP-001, TOP-002, TOP-003, TOP-004, TOP-004, TOP-005¸ TOP-006, TOP-007, TOP-008

**Status:**

This project's SAR was finalized November 1, 2007. The standards have been posted several times for public comment. The standards were posted most recently for Initial Ballot from May 31, 2011 through June 9, 2011. It is estimated this project will complete in Q1 2012.

**DEVELOPMENT 2012**

## Project 2007-06 System Protection Coordination

**Summary:**

This project is reviewing PRC-001-1 to assure that Protection System application and performance issues are coordinated among all related entities. It will ensure the applicable entities within the standard correctly reflect the functional responsibilities, as described in the NERC Functional Model. The project will also incorporate other general improvements, address directives received from ERO regulatory authorities, and consider the observations and recommendations developed by the NERC SPCTF. As necessary, the project will coordinate the transfer of monitoring-related requirements to other standards as appropriate through coordination with project 2006-06 Reliability Coordination.

This project ranked #4 in Reliability Priority.

**Standards affected:**

PRC-001, PRC-027 (New)

**Status:**

This project's SAR was finalized on July 27, 2007. A draft standard was posted from September 9, 2009 through October 26, 2009. Several interim drafts have been developed since that time. A new results-based version of the standard is in development. It is estimated this project will complete in Q1 2013.

**DEVELOPMENT 2012**

## Project 2007-07 Vegetation Management

**Summary:**

This project will address some 'fill-in-the-blank' components of the existing standard, which were created in 2006 (prior to mandatory and enforceable standards). The project also will investigate applicability to lower voltage transmission lines, address the issue of clearances for lines on both federal and non-federal lands, consider revising the definition of right of way to encompass required clearance areas, and review the suitability of the IEEE 516-2003 standard for minimum vegetation clearance. This also satisfies the NERC requirement for five-year review of the standard.

**Standards affected:**

FAC-003

**Status:**

This project's SAR was finalized June 27, 2007. The standards have been posted several times for public comment. The standards were most recently posted for Successive Ballot from February 18, 2011 through February 28, 2011. The team has drafted a revised standard and has requested it be posted for Recirculation Ballot. It is estimated this project will complete in Q1 2012.

**DEVELOPMENT 2012**

## Project 2007-09 Generator Verification

**Summary:**

This project will create or modify standards to ensure that generators will not trip off-line during specified voltage and frequency excursions or as a result of improper coordination between generator protective relays and generator voltage regulator controls and limit functions. It also will ensure that generator models accurately reflect the generator's capabilities and operating characteristics.

**Standards affected:**

MOD-024, MOD-025, MOD-026, MOD-027, PRC-019, PRC-024

**Status:**

This project's SAR was finalized June 14, 2007. The standards have been posted several times for public comment. Two of the standards were posted most recently for Initial Ballot from July 22, 2011 through August 1, 2011. Three other standards were posted for comment June 12, 2011 through July 15, 2011. It is estimated this project will complete in Q4 2012.

**PENDING 2013**

## Project 2007-11 Disturbance Monitoring

**Summary:**

***Purpose***
This project establishes and clarifies requirements for the installation of Disturbance Monitoring Equipment (DME) and reporting of disturbance data to facilitate analyses of events and verify system models. The project will review PRC-002 and each of the current regional programs developed in accordance with that standard, including any other associated programs and/or requirements related to or contained within the disturbance monitoring program documentation. The project will then determine which requirements should be continent-wide requirements and which requirements should be included in regional standards.

**Standards affected:**

PRC-002, PRC-018

**Status:**

This project's SAR was finalized May 21, 2007. An initial draft standard was posted from February 2, 2009, to March 18, 2009. This project was moved to informal development in 2011. It is estimated this project will start in Q2 2013 and complete in Q1 2015.

**DEVELOPMENT 2012**

## Project 2007-12 Frequency Response

**Summary:**

**Purpose:**
This project will modify the BAL-003 Standard to require sufficient Frequency Response from the Balancing Authority to maintain Interconnection Frequency within predefined bounds. It also will ensure the standard provides consistent methods for measuring Frequency Response and determining the Frequency Bias Setting.

This project is one of several that share the #2 score for Time Sensitivity Priority.

**Standards affected:**

BAL-003

**Status:**

This project's SAR was finalized June 30, 2007. The standard has been posted once for public comment, and is expected to be posted for comment in Q4 of 2011. The project is expected to complete in Q2, 2012.

**DEVELOPMENT 2012**

## Project 2007-17 Protection System Maintenance and Testing

**Summary:**

This project will modify the standards related to ensuring all transmission and generation Protection Systems affecting the reliability of the Bulk Electric System (BES) are maintained and tested. The project will respond to various FERC directives contained in Order 693, as well as make general improvements to the standard.

This project ranked #3 in Reliability Priority.

**Standards affected:**

PRC-005, PRC-008, PRC-011, PRC-017

**Status:**

This project's SAR was finalized May 7, 2007. The standards have been posted several times for public comment. The standards were posted most recently for Initial Ballot from September 19, 2011 through September 28, 2011. It is estimated this project will complete in Q2 2012.

**PENDING 2013**

## Project 2008-01 Voltage and Reactive Planning and Control

**Summary:**

This project will revise the VAR Standards to require that appropriate functional entities develop and coordinate voltage and reactive planning and operating criteria to ensure that there are sufficient reactive resources, and voltage and reactive margins, to manage the risk of voltage instability. The project will also address the FERC directives in Order 693 associated with these standards. Review and modifications to the existing VAR standards will also consider the Transmission Issues Subcommittee's "Reactive Support & Control Whitepaper" dated 05/18/2009.

This project ranked #3 in practicality.

**Standards affected:**

VAR-001, VAR-002

**Status:**

This project's SAR was finalized April of 2011. This project was moved into informal development in 2011, prior to posting any daft of the standard. It is estimated this project will begin in Q1 2013 and complete in Q2 2014.

**PENDING 2012**

## Project 2008-02 Undervoltage Load Shedding

**Summary:**

This project will improve the existing standards on Under Voltage Load Shedding (UVLS) to ensure that load is shed when needed to prevent voltage collapse and voltage instability in the Bulk Electric System. The existing standards will be consolidated, and specific criteria for UVLS programs and assessments of those UVLS programs should be added. 'Fill-in-the-blank' elements should be eliminated, and concerns related to Fault-Induced Delayed Voltage Recovery will be reviewed and addressed.

This project ranked #14 in Reliability Priority.

**Standards affected:**

PRC-010, PRC-022

**Status:**

This standard has a proposed SAR that was posted for comment from January 20, 2010, through February 19, 2010. It is estimated this project will start in Q3 2012 and complete in Q2 2014.

**DEVELOPMENT 2012**

## Project 2008-06 Cyber Security – Order 706

**Summary:**

This project establishes standards to protect the critical cyber assets (including hardware, software, data, and communications networks) essential to the reliable operations of the bulk power system. Currently the project is focused on Version 5 of the standards, which is focused on addressing the remaining directives in Order 706.

This project ranked #2 in Reliability Priority.

**Standards affected:**

CIP-002, CIP-003, CIP-004, CIP-005, CIP-006, CIP-007, CIP-008, CIP-009, CIP-010 (New), CIP-011 (New)

**Status:**

This project's SAR was finalized June 9, 2008. Older versions of the standard have been posted, balloted, and approved several times. Version 5 of the standards has not yet been posted for comment. It is estimated this project will complete in Q3 2012.

**PENDING 2013**

## Project 2008-12 Coordinate Interchange Standards

**Summary:**

This project will revise the set of Coordinate Interchange standards to ensure that each requirement is assigned to an owner, operator, or user of the bulk power system, and not to a tool used to coordinate interchange; to address the Interchange Subcommittee concerns related to the Dynamic Transfers and Pseudo-ties; and to address previously identified stakeholder comments. The project also will consider adding requirements to have backup capability for use when the interchange transaction tool fails.

**Standards affected:**

INT-001, INT-003, INT-004, INT-005, INT-006, INT-007, INT-008, INT-009, INT-010

**Status:**

This project's SAR was finalized December 1, 2008. An initial draft set of standards was developed and posted for comment from November 10, 2009 through December 9, 2009. However, the project was moved into informal development in 2011. It is estimated this project will start in Q2 2013 and complete in Q2 2014.

**DEVELOPMENT 2012**

## Project 2009-01 Disturbance and Sabotage Reporting

**Summary:**

**Purpose:**

This project entails revisions to existing standards CIP-001-1 – Sabotage Reporting and EOP-004-1 – Disturbance Reporting. The project will eliminate redundancy and provide clarity on sabotage events. Additionally, EOP-004 will be reviewed to eliminate any 'fill-in-the-blank' components.

This project ranked #8 in Reliability Priority.

**Standards affected:**

CIP-001, EOP-004

**Status:**

This project's SAR was finalized August 13, 2009. The standard has been posted for comment twice, and is being prepared for Initial Ballot. It is estimated this project will complete in Q3 2012.

**PENDING 2012**

## Project 2009-02 Real-time Reliability Monitoring and Analysis Capabilities

**Summary:**

**This project will create** new or revised standards to establish requirements for the monitoring and analysis capabilities provided to System Operators to support Real-time System Operations. The project will address availability parameters, performance metrics, and procedures for failure notification, maintenance coordination, and change management.

This project ranked #1 in Practicality Priority.

**Standards affected:**

New

**Status:**

This project's SAR was finalized March 31, 2010. The project team posted a White Paper created to illustrate the concepts it intends to pursue as the project unfolds. This posting solicited comments from February 16, 2011, through April 4, 2011. This project was moved to informal development in 2011. It is estimated this project will start in Q2 2012 and complete in Q1 2013.

**PENDING 2012**

## Project 2009-03 Emergency Operations

**Summary:**

This project will review the EOP-001, EOP-002, and EOP-003 standards and associated interpretations to ensure the requirements are clear and unambiguous. Many of the requirements in this set of standards were translated from Operating Policies as part of the Version 0 process; suggestions for improvement have been submitted by stakeholders, other drafting teams, and FERC staff.

This project ranked #4 in Practicality Priority.

**Standards affected:**

EOP-001, EOP-002, EOP-003

**Status:**

This project's SAR was finalized November 5, 2010. Prior to the development of an initial draft standard, this project was moved to informal development. It is estimated this project will start in Q3 2012 and complete in Q4 2013.

**2014 PENDING RESEARCH**

## Project 2009-04 Phasor Measurements

**Summary:**

This project will review several industry studies to determine if there should be phasor requirements developed for a NERC standard. This project is related to the North-American Synchro-Phasor Initiative, and supports a blackout recommendation.

**Standards affected:**

New

**Status:**

This is a new project, which will require SAR development and research. It is estimated this project will start in Q1 2014 and complete in Q4 2015.

**PENDING 2014**

## Project 2009-05 Resource Adequacy Assessments

**Summary:**

This project will implement certain recommendations related to resource adequacy from the *Resource and Transmission Adequacy Task Force (RTATF) Report* and the *Gas/Electricity Interdependency Task Force Report,* approved by the NERC Board on June 15, 2004. The project will create a standard with requirements to perform resource adequacy assessments, using metrics that take into account various factors (including, but not limited to, fuel deliverability). The standard would also make the results of the assessments available to the industry, NERC, and appropriate regulatory agencies.

**Standards affected:**

New

**Status:**

This project's SAR was finalized August 17. 2007. Prior to the development of an initial draft standard, this project was moved to informal development in 2011. It is estimated this project will start in Q3 2014 and complete in Q2 2016.

**2013 PENDING RESEARCH**

## Project 2009-07 Reliability of Protection Systems

**Summary:**

This project will ensure Protection Systems are designed and installed with redundancy where appropriate, such that if there were a failure to a specified component of that protection system, the failure would not prevent meeting the BES performance identified in the TPL standards.

This project ranked #1 in Reliability Priority.

**Standards affected:**

New

**Status:**

This project has an initial draft of a SAR that was posted for comment January 20, 2009, through February 18, 2009. Comment responses have not been prepared, and the SAR has not been finalized. It is estimated this project will start in Q1 2013 and complete in Q1 2015.

**2012 PENDING RESEARCH**

## Project 2010-01 Support Personnel Training

**Summary:**

This project will develop a standard that requires the use of a systematic approach to determining training needs of generator operators and operations planning and support staff with a direct impact on the reliable operations of the bulk power system.

This project ranked #15 in Reliability Priority.

**Standards affected:**

New

**Status:**

This is a new project, which will require SAR development and research. It is estimated this project will start in Q3 2012 and complete in Q3 2014.

**FUTURE CONSIDERATION, PENDING RESEARCH**

## Project 2010-02 Connecting New Facilities to the Grid

**Summary:**

22 - Ensure that all of the elements that should be addressed when a new facility is connected to the grid are included in the revised standard. FAC-001 and -002.

**Standards affected:**

FAC-001, FAC-002

**Status:**

This is a new project, which will require SAR development and research. It is estimated this project will start in Q2 2015 and complete in Q1 2017.

**2014 PENDING RESEARCH**

## Project 2010-03 Modeling Data

**Summary:**

This project will consider merging, upgrading and expanding existing requirements for entities to provide data used to model the bulk electric system. This project is related the Modeling Initiative, and supports a blackout recommendation.

**Standards affected:**

MOD-010, MOD-011, MOD-012, MOD-013, MOD-014, MOD-015, PRC-013, PRC-015

**Status:**

This is a new project, which will require SAR development and research. It is estimated this project will start in Q3 2014 and complete in Q2 2016.

**2014 PENDING RESEARCH**

## Project 2010-04 Demand Data

**Summary:**

This project will consolidate MOD-016 through MOD-020 into a single standard, with MOD-021 remaining as a separate standard. Requirements will be made be more specific to clearly identify the format for providing data, and modifications will made in support if previously received industry comments and regulatory directives.

**Standards affected:**

MOD-016, MOD-017, MOD-018, MOD-019, MOD-020, MOD-021

**Status:**

This is a new project, which will require SAR development and research. It is estimated this project will start in Q3 2014 and complete in Q3 2016.

**DEVELOPMENT 2012**

## Project 2010-05.1 Phase 1 of Protection Systems: Misoperations

**Summary:**

This project addresses a key element for Bulk Electric System (BES) reliability: the correct performance of Protection Systems. Monitoring BES Protection System events to identify and correct the root causes of Misoperations will improve overall Protection System performance. The project will revise the definition of Misoperation and redraft the standard to be more clear and unambiguous.

This project ranked #7 in Reliability Priority.

**Standards affected:**

PRC-003, PRC-004

**Status:**

This project's SAR was finalized June 9, 2011. An initial draft of the standard was posted for comment from June 10, 2011 through July 11, 2011. A second draft is being prepared for posting and initial ballot. It is estimated this project will complete in Q3 2012.

**2012 PENDING RESEARCH**

## Project 2010-05.2 Phase 2 of Protection Systems: SPS and RAS

**Summary:**

This project will moodily the current standards and definitions related to SPS/RAS Misoperations to support a good metric for measurement of Protection System performance and to ensure the reliability of the bulk power system. This project is related to the System Protection Initiative.

This project ranked #11 in Reliability Priority.

**Standards affected:**

PRC-012, PRC-014, PRC-016.

**Status:**

This project has a draft SAR, but it has not yet been posted for comment. It is estimated this project will start in Q4 2012 and complete in Q3 2014.

**DEVELOPMENT 2012**

## Project 2010-07 Generator Requirements at the Transmission Interface

**Summary:**

This project will develop any needed changes to the Reliability Standards to provide clarity to Generator Owners and Generator Operators regarding their reliability standard obligations at the interface with the interconnected grid. The project will review standard for applicability, propose changes as necessary, and ensure that requirements that should apply to all generators, regardless of interconnection configuration, are implemented effectively.

This project ranked #12 in Reliability Priority, #13 in Practicality Priority, and is one of several that share the #2 score for Time Sensitivity Priority.

**Standards affected:**

FAC-001, FAC-003, PRC-004, others as needed

**Status:**

This project's SAR was finalized November 30, 2010. A draft set of standards was developed and posted from June 17, 2011 through July 17, 2011. Discussion and coordination between NERC, FERC , and the members of the project team are ongoing to ensure adequate coverage of all reliability needs. It is estimated this project will complete in Q1 2013.

**FUTURE CONSIDERATION**

## Project 2010-08 Functional Glossary Model Revisions

**Summary:**

This project will ensure the definitions of various functional entities between the Functional Model, the NERC Glossary of Terms, and the NERC Statement of Compliance Registration Criteria are consistent.

**Standards affected:**

TBD

**Status:**

The Functional Model Working Group (FMWG) is responding to comments received from the first posting of the SAR. It is estimated this project will start in Q4 2014 and complete in Q3 2016.

**PENDING 2012**

## Project 2010-13.2 Phase 2 of Relay Loadability: Generation

**Summary:**

This project is being created in response to directives included in FERC Order 733. The project will draft a new standard to address generator relay loadability.

**Standards affected:**

New

**Status:**

This project's SAR was finalized November 1, 2010. Prior to the development of an initial draft, this project was moved to informal development in 2011. It is estimated this project will start in Q4 2012 and complete in Q3 2014.

**2014 PENDING RESEARCH**

## Project 2010-13.3 Phase 3 of Relay Loadability: Stable Power Swings

**Summary:**

This project is being created in response to directives includes in FERC Order 733. The project will draft a new standard to address protective relay operations due to power swings.

**Standards affected:**

New

**Status:**

This is a new project, which will require SAR development and research. It is estimated this project will start in Q4 2014 and complete in Q3 2016.

**DEVELOPMENT 2012**

## Project 2010-14.1 Phase 1 of Balancing Authority Reliability-based Controls: Reserves

**Summary:**

This project will review the standard related to Control Performance and Disturbance control, and propose modifications or new standards as necessary. This project includes the testing and analysis of the new Balancing Authority ACE Limit (BAAL) metric, as well as the development of a continent-wide reserve policy to support BAL-01, BAL-002, and BAL-003.

This project ranked #1 in Time Sensitivity Priority, and #2 in Practicality Priority.

**Standards affected:**

BAL-001, BAL-002, New

**Status:**

This project was created by merging two existing teams. As such, there are two SARs associated with the project – one that was finalized on November 7, 2007, and one that was finalized on December 3, 2007. The combined effort was moved into informal development in 2011, but restarted to coordinate with project 2007-12 Frequency Response. It is estimated this project will complete in Q4 2012.

**PENDING 2013**

## Project 2010-14.2 Project 2010-14.2 Phase 2 of Balancing Authority Reliability-based Control: Time Error, AGC, and Inadvertent

**Summary:**

This project will consider the Time Error Correction standard, AGC, standard, and Inadvertent Accounting standard to determine what changes, if any, are necessary to ensure the standards are clear and unambiguous. In some cases, the standard may no longer be necessary.

**Standards affected:**

BAL-004, BAL-005, BAL-006

**Status:**

This project is currently in informal development. Based on its priority, it has been identified in the 2012-2014 Work Plan to begin in Q2 2013 and complete in Q1 2015.

**PENDING 2014**

## Project 2010-16 Definition of System Operator

**Summary:**

This project will remove the 'Generator Operator' from the current definition of System Operator. This will more accurately establish the responsibilities and expectations of the Generator Operator consistent with the current manner in which the bulk electric system is operated.

**Standards affected:**

TBD

**Status:**

A proposed SAR and revision to the definition of System Operator was posted for a 30-day formal comment period from November 3, 2010 through December 3, 2010. It is estimated this project will start in Q3 2014 and complete in Q1 2016.

**DEVELOPMENT 2012**

## Project 2010-17 Definition of Bulk Electric System

**Summary:**

This project will revise the definition of Bulk Electric System (BES) to address various Federal Energy Regulatory Commissions (FERC) concerns the definition must be modified to encompass all Elements and Facilities necessary for the reliable operation and planning of the interconnected bulk power system. These concerns have been identified in FERC Order 693 issued on March 16, 2007 and in Order 743 issued on November 18, 2010 (Order 743). The project will also consider additional modifications (beyond those established in the regulatory directives) to improve clarity, to reduce ambiguity and to establish consistency across all Regions in distinguishing between BES and non-BES Elements and Facilities.

This project ranked #10 in Reliability Priority, and is one of several that share the #2 score for Time Sensitivity Priority.

**Standards affected:**

Multiple

**Status:**

This project's SAR was finalized March 25, 2011. The draft definition has been posted twice, with the most recent posting done concurrently with an initial ballot from September 30, 2011, to October 02 2011. The first part of this project is expected to complete in Q1 of 2012. The remainder of this project is estimated to complete in Q2 2013.

**2013 PENDING RESEARCH**

## Project 2012-01 Equipment Monitoring and Diagnostic Devices

**Summary:**

This project will consider the development of reliability standards for the application of major equipment monitoring and diagnostic devices and procedures, with the intent of identifying potential equipment failures prior to their occurrence. This will provide more time to address failing systems and avoid or minimize long lead times.

**Standards affected:**

New

**Status:**

This is a new project, which will require SAR development and research. It is estimated this project will start in Q2 2013 and complete in Q1 2015.

**FUTURE CONSIDERATION**

## Project 2012-02 Physical Protection

**Summary:**

This project will develop standards for the safety and protection of essential equipment, buildings, and people located in power generation, transmission, or distribution system locations in order to mitigate the associated reliability risks to the bulk power system.

**Standards affected:**

New

**Status:**

This is a new project, which will require SAR development and research. At this time, no estimate for starting the project has been identified.

**FUTURE CONSIDERATION**

## Project 2012-03 PRC-004 VSLs

**Summary:**

This project will address a problem identified in the VSLs of PRC-004. Currently, the VSLs do not address the case where a Corrective Acton Plan was developed or documented, but not fully implemented.

**Standards affected:**

PRC-004

**Status:**

This is a new project, which will require SAR development. At this time, no estimate for starting the project has been identified.

**2012 PENDING RESEARCH**

## Project 2012-04 Protection System Commissioning Testing

**Summary:**

This project will address a gap in reliability related to protection systems by creating a standard that requires commissioning testing. Improper or inadequate commissioning testing practices are a common cause of protection system Misoperation. However, the current set of approved NERC reliability standards does not address the testing of protection system equipment *before* that equipment is placed into initial service. Creating a commissioning standard would also enhance the effectiveness of the mandatory auditing program.

This project ranked #9 in Reliability Priority,

**Standards affected:**

New

**Status:**

This is a new project, which will require SAR development and research. It is estimated this project will start in Q2 2012 and complete in Q2 2014.

**PENDING 2014**

## Project 2012-05 ATC Revisions - Order 729

**Summary:**

This project will respond to the remaining directives in Order 729.

**Standards affected:**

MOD-001, MOD-004, MOD-008, MOD-028, MOD-029, MOD-030

**Status:**

This is a new project, which will require SAR development. It is estimated this project will start in Q3 2014 and complete in Q1 2016.

**2013 PENDING RESEARCH**

## Project 2012-06 Generator Capabilities

**Summary:**

This project will develop standards to ensure generator performance. The project should consider requirements that specify governor droop, frequency response, and reactive response.

This project ranked #6 in Reliability Priority

**Standards affected:**

New

**Status:**

This is a new project, which will require SAR development and research. It is estimated this project will start in Q1 2013 and complete in Q4 2014.

**FUTURE CONSIDERATION**

## Project 2012-07 Obsolescence Review

**Summary:**

This project will create a standard that requires Generator and Transmission Owners periodically review their control and protection systems to identity and electronic, electrical, or mechanical devices that have become obsolete.

**Standards affected:**

New

**Status:**

This is a new project, which will require SAR development and research. At this time, no estimate for starting the project has been identified.

**FUTURE CONSIDERATION**

## Project 2012-08 Glossary Updates

**Summary:**

This project will respond to FERC directives to either create or modify the following definitions: Transmission Operator, Generator Operator, Bulk Power System, Reliable Operation, and Reliability Standard.

**Standards affected:**

TBD

**Status:**

This is a new project, which will require SAR development. At this time, no estimate for starting the project has been identified.

**FUTURE CONSIDERATION**

## Project 2012-09 IRO Review

**Summary:**

This project will perform the five-year review of several IRO standards, pursuant to NERC's Rules of Procedure.

**Standards affected:**

IRO-006, IRO-006-EAST, IRO-008, IRO-009, and IRO-010

**Status:**

This is a new project, which will require SAR development. At this time, no estimate for starting the project has been identified.

**FUTURE CONSIDERATION**

## Project 2012-11 FAC Review

**Summary:**

This project will perform the five-year review of several FAC standards, pursuant to NERC's Rules of Procedure.

**Standards affected:**

FAC-010, FAC-011, FAC-014

**Status:**

This is a new project, which will require SAR development. At this time, no estimate for starting the project has been identified.

**FUTURE CONSIDERATION**

## Project 2012-12 PER Review

**Summary:**

This project will perform the five-year review of several PER standards, pursuant to NERC's Rules of Procedure.

**Standards affected:**

PER-003, PER-004, PER-005

**Status:**

This is a new project, which will require SAR development. At this time, no estimate for starting the project has been identified.

**FUTURE CONSIDERATION**

## Project 2012-13 NUC Review

**Summary:**

This project will perform the five-year review of the NUC standard, pursuant to NERC's Rules of Procedure.

**Standards affected:**

NUC-001

**Status:**

This is a new project, which will require SAR development. At this time, no estimate for starting the project has been identified.

**FUTURE CONSIDERATION**

## Project 2012-14 Risk Analysis

**Summary:**

This project will develop a standard that requires entities to have and maintain a checklist of potential threats to the power system that must be addressed by each TOP/BA. The checklist would include things like GMD, voltage collapse, and other extreme events.

**Standards affected:**

New

**Status:**

This is a new project, which will require SAR development and research. At this time, no estimate for starting the project has been identified.

**FUTURE CONSIDERATION**

## Project 2012-15 Flow Limited Paths

**Summary:**

The MOD-029 standard includes a provision that, if left uncorrected, could in certain scenarios result in significantly over-conservative ATC values being calculated. This project will address this problem.

**Standards affected:**

MOD-029

**Status:**

This is a new project, which will require SAR development and research. At this time, no estimate for starting the project has been identified.

**FUTURE DEVELOPMENT**

## PRC-002-FRCC-1 — FRCC Regional Disturbance Monitoring and Reporting Requirements

**Summary:**

FRCC plans to convert the existing handbook document, "FRCC Requirements for Disturbance Monitoring Equipment" (revision dated June, 2006) into a new Regional Reliability Standard that complies with the requirements of NERC Reliability Standard, PRC-002-1 — Define Regional Disturbance Monitoring and Reporting Requirements.

**Standards affected:**

PRC-002-1

**Status:**

This Regional project is currently on "hold." Based on the NERC Standards Committee reprioritization of NERC Reliability Standard Development Projects resulting in Project 2007-11 Disturbance Monitoring being classified as a "Project in Informal Development," FRCC staff will be re-evaluating the current status of the regional project to determine whether to proceed with the Regional Reliability Standard development or to revise the current FRCC Regional Criteria document "FRCC Requirements for Disturbance Monitoring Equipment."

**FUTURE DEVELOPMENT**

## PRC-003-FRCC-1 — FRCC Regional Procedure for Analysis of Misoperations of Transmission and Generation Protection Systems

**Summary:**

FRCC plans to convert the existing handbook document "FRCC Requirements for Analysis of Protection Misoperations & Corrective Actions Reporting" (revision dated October, 2003) into a new Regional Reliability Standard, that complies with the requirements of NERC Reliability Standard, PRC-003-1 — Regional Procedure for Analysis of Misoperations of Transmission and Generation Protection Systems.

**Standards affected:**

PRC-003-1

**Status:**

Based on the NERC Standards Committee reprioritization of NERC Reliability Standard Development Projects resulting in Project 2010-05.1 Protection Systems: Phase 1 (Misoperations) being classified as a "high priority" project in active development, the Regional project is currently on "hold." The FRCC has revised Regional Criteria documents ("FRCC Requirements for Analysis of Protection Misoperations and Corrective Actions Reporting," revision dateed December 2, 2010) to ensure the procedures comply with the requirements of NERC Reliability Standard, PRC-003-1 — Regional Procedure for Analysis of Misoperations of Transmission and Generation Protection Systems.

**FUTURE DEVELOPMENT**

## PRC-006-FRCC-1 — FRCC Automatic Underfrequency Load Shedding Program

**Summary:**

FRCC is developing a Regional Reliability Standard to provide last resort system preservation measures by implementing an Underfrequency Load Shedding (UFLS) program. Additional requirements may be needed due to FRCC peninsular geography and limited ties to the north. Operating experience and decades of studies by the FRCC and its predecessor reliability organizations have resulted in a well-developed UFLS program that is very resilient to frequency excursion resulting from severe and extreme contingencies. The standard development project will effectively use the proven high performance characteristics of the existing FRCC UFLS program and refine its requirements and coordination procedures to comply with the requirements of NERC Reliability Standard, PRC-006-1 — Automatic Underfrequency Load Shedding.

**Standards affected:**

PRC-006-1

**Status:**

PRC-006-FRCC-1 FRCC Automatic Underfrequency Load Shedding Program has been approved by the FRCC Registered Ballot Body and the FRCC Board of Directors. Based on concerns identified by NERC standards staff and the pending Commission (FERC) approval of the NERC Continent-Wide Reliability Standard PRC-006-1 Automatic Underfrequency Load Shedding and associated Regional variances, the Regional project has been placed on “hold.” The FRCC has since revised Regional Criteria documents (FRCC Automatic Underfrequency Load Shedding Program, revision date: April 7, 2011) to ensure the procedures comply with the requirements of NERC Reliability Standard, PRC-006-1 — Automatic Underfrequency Load Shedding.

**FUTURE DEVELOPMENT**

## PRC-024-FRCC-1 — FRCC Regional Generator Performance During Frequency and Voltage Excursions

**Summary:**

FRCC is developing a standard to establish "ride through" requirements for generators in the FRCC Region with respect to temporary grid voltage or frequency deviations from their normal range. The Standard should address time duration limits for operation of generator protection for

1) frequencies outside of the 59.5 - 60.5 hertz range,
2) voltages outside of the 95% - 105% range, and
3) generator stator current overloads.

The Standard should address exemption criteria and mitigation measures available for resolving apparent conflicts between generator capabilities and the coordination requirements. Considerable knowledge of grid frequency and voltage excursions and the time limited capabilities of generators to sustain these conditions has been gained through operating experience and previous reliability studies. This standards development project should effectively use this knowledge to define coordination requirements and procedures that comply with the requirements of NERC Reliability Standard, PRC-024-1 — Generator Performance During Frequency and Voltage Excursions.

**Standards affected:**

PRC-024-1

**Status:**

Based on the NERC Standards Committee reprioritization of NERC Reliability Standard Development Projects resulting in Project 2007-09 Generator Verification being classified as a "high priority" project in active development, the Regional project is currently on "hold." The FRCC is actively revising Regional Criteria documents (FRCC Generator Coordination Requirements) to ensure the procedures comply with the requirements of NERC Reliability Standard, PRC-024-1 — Generator Performance During Frequency and Voltage Excursions.

**2012 DEVELOPMENT**

## PRC-006-NPCC-1 — Automatic Underfrequency Load Shedding Program

**Summary:**

The purpose of this Standard is to establish the requirements for NPCC and its members to operate and maintain a coordinated Regional Underfrequency load shedding (UFLS) program. The NPCC's UFLS program will meet the requirements contained in NERC standards, and provide those entities to which it is applicable the guidance necessary to implement it. This standard will also mandate that coordination with neighboring Regional Underfrequency load shedding programs be developed when necessary. The unique character, dispersion, sensitivity and density of the NPCC regional loads emphasize the need for this Standard.

The NPCC regional UFLS standard shall apply to all applicable entities within the Region and sub-regional areas that are both synchronous and asynchronous to the Eastern Interconnection. Quebec UFLS has different parameters, and these are included in the standard and fully coordinated within the Region.

**Standards affected:**

PRC-006-1

**Status:**

This Regional project is currently in the standard drafting stage. NPCC expects to complete the drafting of this standard in 2011 and conduct a ballot of stakeholders in the first quarter of 2012. Submission to the NERC Board of Trustees and subsequent filing with FERC is expected to occur in 2012.

**FUTURE DEVELOPMENT**

## PRC-012-NPCC-1 — Special Protection Systems

**Summary:**

To support and enhance bulk power system reliability, this Standard will establish the criteria for the minimum design objectives and practices for special protection systems (the purpose of which are to detect abnormal system conditions, and take corrective actions other than the isolation of faulted elements to maintain the stability and security of the bulk power system). This Standard will also establish the requirements for close coordination between system planning, design, operating, maintenance and protection functions to ensure that the impacts of special protection system operations do not result in a significant adverse impact.

The proposed Standard will describe the requirements for the design and approval of Special Protection Systems and the technical criteria required to support its implementation. The Standard will also identify the need for close coordination among various parties to ensure that the Special Protection Systems are implemented correctly, and triggers and resulting actions are made known and communicated in an on-line database.

**Standards affected:**

PRC-012-0

**Status:**

This Regional project is currently on “hold” pending the completion of the NERC Reliability Standard Development Project 2010-05.2 Phase 2 of Protection Systems: SPS and RAS, and the outcome of the work by the NERC SPCS on the definition of SPS.

**2011 DEVELOPMENT**

## MOD-024-RFC-1 — Verification and Data Reporting of Generator Gross and Net Real Power Capability

**Summary:**

The purpose of this standard is to establish Reliability*First* requirements for verification and data reporting of generator gross and net Real Power capability to support NERC Reliability Standard MOD-024. The objective of the regional standard is to ensure accurate information on generator gross and net Real (MWs) Power capability is available for steady-state models used to assess Bulk Electric System reliability.

**Standards affected:**

MOD-024-1

**Status:**

This Regional standard has been approved by the Reliability*First* Board. Currently, VRFs and VSLs are in development. Reliability*First* expects to complete the drafting of the VRFs and VSLs in 2011, with expected submission to the NERC Board of Trustees and subsequent filing with the FERC to occur in 2012.

**2011 DEVELOPMENT**

## MOD-025-RFC-1 — Verification and Data Reporting of Gen Gross and Net Reactive Power Capability

**Summary:**

The purpose of this standard is to establish Reliability*First* requirements for verification and data reporting of generator gross and net Reactive Power capability to support NERC Reliability Standard MOD-025. The objective of this standard is to ensure that accurate information on generator gross and net Reactive (MVAR) Power capability is available for steady-state models used to assess Bulk Electric System reliability.

**Standards affected:**

MOD-025-1

**Status:**

This Regional standard will be submitted to the NERC Board of Trustees in November 2011 and subsequent filing with the FERC is expected to occur in 2012.

**2011 DEVELOPMENT**

## PRC-002-RFC-1 — Disturbance Monitoring and Reporting Requirements

**Summary:**

The purpose of this standard is to establish Reliability*First* requirements for Disturbance monitoring and reporting to support NERC Reliability Standard PRC-002.

**Standards affected:**

PRC-002-1

**Status:**

Reliability*First* is currently working on the technical justification for the locational requirements for DME equipment. This Regional standard has been approved by the Reliability*First* Board. Reliability*First* expects submission of this standard to the NERC Board of Trustees and subsequent filing with the FERC to occur in 2012.

**2012 DEVELOPMENT**

## PRC-006-RFC-1 — Automatic Under Frequency Load Shedding Requirements

**Summary:**

The purpose of this standard is to establish Reliability*First* requirements for automatic underfrequency load shedding (UFLS) programs to arrest declining frequency and assist in the recovery of frequency following underfrequency events, providing last resort system preservation measures. The standard goes beyond the NERC PRC-006-1 standard and prescribes with more certainty aspects that the Planning Coordinator's UFLS program must contain, further details on certain procedural matters with respect to how islands are addressed, and assessment of UFLS program implementation as well as program design. This standard also attempts further consolidating requirements of the Reliability*First* legacy underfrequency load shedding programs, permitting retirement of legacy documents to ensure appropriate coordination among the Reliability*First* legacy regional UFLS programs.

**Standards affected:**

PRC-006-1

**Status:**

This Regional project is currently in the standard drafting stage. Reliability*First* expects to complete the drafting of this standard in 2012, with expected submission to the NERC Board of Trustees and subsequent filing with the FERC to occur later in 2012.

**2012 DEVELOPMENT**

## PRC-012-RFC-1 — Special Protection System Requirements

**Summary:**

To purpose of the standard is to establish Reliability*First* requirements for the review, development and application of Special Protection Systems (SPS).

**Standards affected:**

PRC-012-0

**Status:**

This Regional project is currently in the initial drafting stage. Reliability*First* expects to complete the drafting of this standard in 2012, with expected submission to the NERC Board of Trustees and subsequent filing with the FERC to occur early in 2013.

**2011 DEVELOPMENT**

## PRC-006-SERC-01 — Automatic Underfrequency Load Shedding Requirements

**Summary:**

The SERC UFLS Standard: PRC-006-SERC-1 ("SERC UFLS Standard") was developed to provide regional UFLS requirements to entities in SERC. UFLS requirements have been in place at a continent-wide level and within SERC for many years prior to implementation of federally mandated reliability compliance standards in 2007.

In 2008, SERC commenced work on PRC-006-SERC-1. NERC also began work on revising PRC-006-0 at a continent-wide level. The SERC standard has been developed to be consistent with the continent-wide UFLS standard.

PRC-006-1 clearly defines the roles and responsibilities of parties to whom the standard applies. The standard identifies the Planning Coordinator ("PC") as the entity responsible for developing UFLS schemes within their PC area. This regional standard PRC-006-SERC-1 adds specificity not contained in the NERC standard for development and implementation of a UFLS scheme in the SERC Region that effectively mitigates the consequences of an underfrequency event.

**Standards affected:**

PRC-006-1

**Status:**

This Regional standard will be submitted to the NERC Board of Trustees in November 2011, and subsequent filing with FERC is expected to occur in 2012.

**2012 DEVELOPMENT**

## PRC-006-SPP-1 — Under Frequency Load Shedding

**Summary:**

PRC-006 (Development and Documentation of Regional UFLS programs) has been identified by NERC as one of the Regional "Fill-in-the Blank" Standards. At a minimum, the requirements developed in this standard need to meet the requirements for the Regional Program as identified in NERC's PRC-006-0. Operating experience and regional studies have resulted in a well developed UFLS program that is very resilient to frequency excursions resulting from severe and extreme contingencies. This standards development effort intends to effectively use the proven high performance characteristics of the existing SPP UFLS program and refine its requirements and coordination procedures through an open process as described in the SPP Standard Development Process Manual.

**Standards affected:**

PRC-006-1

**Status:**

This Regional project is currently in the standard drafting stage. SPP expects to complete the drafting of this standard in 2012, with expected submission to the NERC Board of Trustees and subsequent filing with FERC to occur later in 2012.

**2011 DEVELOPMENT**

## IRO-006-TRE-1 — IROL and SOL Mitigation in the ERCOT Interconnection

**Summary:**

IRO-006-TRE-1 was developed to support bulk power system reliability by providing enforceable requirements associated with certain existing non-routine ERCOT congestion management procedures. This Regional Standard addresses the FERC directive in Paragraph 964 of Order 693, where FERC found that the ERCOT transmission loading relief procedures were superior to the national standard, and directed the ERO to provide Reliability Standards including Requirements, Measures and Levels of Non-Compliance corresponding to the ERCOT procedures for application in the ERCOT Region.

**Standards affected:**

IRO-006-5 (Note: This regional standard provides additional requirements; it does not alter the requirements or applicability of IRO-006-5.)

**Status:**

This Regional Standard was approved by the Texas RE Board of Directors on June 28, 2011, and it will be submitted to the NERC Board of Trustees in November 2011. Subsequent filing with FERC is expected to occur in 2012.

**2011 DEVELOPMENT**

## BAL-001-TRE-1 — Primary Frequency Response in the ERCOT Region

**Summary:**

This Regional Standard is intended to support reliability by ensuring adequate primary frequency response performance in the ERCOT Interconnection. The standard addresses frequency response at the Interconnection level, as well as by individual generating units and facilities. Specific maximum governor droop and deadband settings are provided, along with primary frequency response performance standards (initial and sustained) that allow actual unit-specific performance to be measured.

In 2002, NERC approved a regional difference for ERCOT that made it exempt from Requirement R2 in BAL-001-0 (CPS2), because of ERCOT's lack of synchronous connection to other control areas and the nature of the ERCOT energy market. FERC approved the ERCOT regional difference, finding that ERCOT's practice of (a) determining the minimum frequency response needed for reliability, and (b) requiring generators to have specific governor droop, to be a more stringent practice than Requirement R2 in BAL-001-0. FERC directed NERC to file a modification of the ERCOT regional difference to include the requirements concerning frequency response contained in section 5 of the ERCOT protocols. This Regional Standard is responsive to that directive.

**Standards affected:**

BAL-001-0.1a (Note: This regional standard provides additional requirements; it does not alter the requirements or applicability of the continent-wide standard.)

**Status:**

This project has been approved by the Texas RE Board of Directors, with expected submission to the NERC Board of Trustees in 2011 and subsequent filing with FERC to occur in 2012.

**2012 DEVELOPMENT**

## BAL-002-WECC-1 — Contingency Reserves

**Summary:**

On Oct. 21, 2010, FERC found that BAL-002-WECC-1 did not meet the statutory criteria for approval and remanded the regional standard to NERC/WECC for further modification (RM09-15-000; Order 740). FERC held that BAL-002-WECC-1's less stringent requirements had not been supported by the technical data provided.

On remand, the Commission instructed WECC to modify the regional reliability standard to include a number of specific items contained in Order 740. This Request is submitted with the specific and narrow purpose of addressing only those issues mandated for modification in the October 2010 Oder 740.

**Standards affected:**

BAL-002-WECC-1

**Status:**

This Regional project is currently in the standard drafting stage. WECC expects to complete the drafting of this standard in 2012, with expected submission to the NERC Board of Trustees and subsequent filing with FERC to occur later in 2012.

**2012 DEVELOPMENT**

## BAL-004-WECC-1 — Automatic Time Error Correction

**Summary:**

In the order approving BAL-004-WECC-1 the FERC directed WECC to make several clarifying modifications to the standard. FERC directed WECC to use the FERC-approved Process for Developing and Approving WECC standards to make these clarifying modifications

In addition, the WECC staff has identified the opportunity to make additional modifications to the existing standard to clarify the intent without changing the requirements.

There is also confusion regarding the R3 requirement that the ACE used for NERC reports shall be the same ACE as the AGC operating mode in use. This seems to conflict with the NERC response to NOPR comments that entities may use ATEC ACE for control but should use Raw ACE for reporting. WECC is developing a proposed regional variance to BAL-001-0.1a to address this apparent conflict.

**Standards affected:**

BAL-004-WECC-1
BAL-001-0.1a

**Status:**

This Regional project is currently in the standard drafting stage. WECC expects to complete the drafting of this standard in 2012, with expected submission to the NERC Board of Trustees and subsequent filing with FERC to occur later in 2012.

**2011 DEVELOPMENT**

## VAR-001-WECC-1 — Voltage and Reactive Control

**Summary:**

The current draft has been converted from a Standard into a Regional Variance to the NERC VAR-001-2 Standard. The format incorporates the NERC Standard into the document with minor additions to address the scope of the variance. The regional variance specifics are included as Section E of the proposed document (see hyperlink above), and in this case, are intended to replace NERC VAR-001-2 requirements R3 and R4 as noted at the beginning of Section E.

The purpose of this regional variance to a NERC Reliability Standard is to ensure that voltage levels are within limits in real time to protect equipment and the reliable operation of the Western Interconnection. The "Rules of Procedure of the North American Electric Reliability Corporation" (Appendix 3A, page 31) permits the development of a regional variance to a NERC reliability standard on an Interconnection-wide basis when the Regional Reliability Organization has valid justification and when the variance is not inconsistent with or less stringent than the NERC Reliability Standard. The variance is an alternative method for obtaining the same reliability objective as the continent standard and is typically necessitated by a physical difference. A variance is embodied within a reliability standard and as such, if adopted by NERC and approved by the electric reliability organization governmental authority, shall be enforced within the applicable Regional Entity(ies) pursuant to delegated authority.

**Standards affected:**

VAR-001-2

**Status:**

This Regional project has been approved by the WECC Board of Directors. WECC expects to submit the draft for the mandatory NERC 45-day comment period in the near future, with expected submission to the NERC Board of Trustees and subsequent filing with FERC to occur later in 2012.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Reliability Standards Suggestions

NERC welcomes suggestions to improve the reliability of the bulk power system through improved reliability standards and improvements to the standard development process. Please use this form to submit your suggestion related to NERC's Reliability Standards, Reliability Standards Development Plan (RSDP), or standard processes in general. NERC will consider all input received for future development projects, revisions of the RSDP, or wherever else is appropriate.

Please return all completed forms via email to andy.rodriquez@nerc.net with the words "Standards Suggestions" in the subject line.

| Submitter Information | Suggestion | |
|---|---|---|
| Individual, Group, or Committee Name: | ☐ | …for consideration by a drafting team assigned to an active project |
| Company or Group Name: | ☐ | …for consideration in a future project already identified in the RSDP |
| Email: | ☐ | …to create a new project for inclusion in the RSDP |
| Telephone: | ☐ | …to modify the Standards Development Process |
| Date Submitted: | ☐ | …related to another issue or topic |

| Suggestion Detail |
|---|
| Notes:<br>1. Please be as specific as possible<br>2. Where applicable, please identify the specific element(s) of the standard (e.g. Requirement R1.2, Section D1.1, Measure M1, etc.) to which the suggestion pertains.<br>3. Where practical, please provide an example to clearly identify the issue.<br>4. Please provide an idea for improvement, including suggested alternative language where possible. |
| Standard or Project Number (if applicable): |
| Standard or Project Title (if applicable): |

| Suggestion Detail |
| --- |
| Other Identifying Information (e.g., step in the standard process): |
| Problem or Concern: |
| Example: |
| Suggestion: |
| Intended Outcome (e.g., describe how the suggestion would improve reliability, make the standard clearer for auditors, etc.): |
| Additional Information: |

Thank you for taking the time to submit your suggestion for improving the reliability of the bulk power system through improved reliability standards and standard processes!

**From:** Stacia-Ann Chambers
**To:** Stacia-Ann Chambers
**Subject:** NERC: Updated 2012 Actively Monitored List
**Date:** Thursday, April 05, 2012 11:23:38 AM
**Importance:** High

# Revised Announcement

## Actively Monitored List Update

April 5, 2012

Ladies and Gentlemen:

NERC Compliance Operations has determined the need for additional revisions to the 2012 Actively Monitored List of Reliability Standards (AML) following its quarterly update on April 2, 2012. These additional revisions to the AML include:

- Corrections to PRC-004-2a regarding self-certification. PRC-004-2a R1 is subject to self-certification and the "Requirement Detail" has been updated to reflect this.
- Addition of PRC-023-2 to the AML. PRC-023-2 has a staggered implementation plan, with R1, R2 and R3 coming into effect on 7/1/2012, R4 and R5 coming into effect on 1/1/2013, and R6 and its sub-requirements coming into effect on 1/1/2014. In response to PRC-023-2 becoming enforceable, PRC-023-1 R1 along with all its sub-requirements and R2 will be retired at midnight of 6/30/2012. PRC-023-1 R3 will remain active through 12/31/2013. The Tier designations and compliance monitoring requirements (such as self-certification) of PRC-023-2 R1, R2 and R3 are identified in anticipation of these requirements becoming active on 7/1/2012 (emphasis added to stress differing versions of PRC-023).

| PRC-023-1 | |
|---|---|
| Requirement* | Inactive Date |
| R1. | 6/30/2012 |
| R2. | 6/30/2012 |
| R3. | 12/31/2013 |
| **PRC-023-2** | |
| Requirement* | Enforcement Date |
| R1. | 7/1/2012 |

| | |
|---|---|
| R2. | 7/1/2012 |
| R3. | 7/1/2012 |
| R4. | 1/1/2013 |
| R5. | 1/1/2013 |
| R6. | 1/1/2014 |

* - dates associated with main requirement also apply to sub-requirements

While these revisions have no effect on the current contents or counts of Tiers 1, 2, or 3 for 2012, changes will take place on 7/1/2012 when portions of PRC.-23-2 come into effect. Please note the latest versions of the AML can be accessed at the following link.

For more information or assistance, please contact Kyle Howells or Jim Hughes (via email).

**3353 Peachtree Road NE**
**Suite 600, North Tower**
**Atlanta, GA 30326**
**404-446-2560 | www.nerc.com**

---
You are currently subscribed to standards as: lpedowicz@npcc.org
To unsubscribe send a blank email to leave-1287977-171282.3516124aa26cd8bdadcf80768b524b3d@listserv.nerc.com

NERC

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

| Number of Reliability Standards | | | | | | |
|---|---|---|---|---|---|---|
| **Year** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** |
| **Compliance Audit** | 39 | 60 | 49 | 56 | 39 | 36 |
| **Self-Certification** | 39 | 60 | 52 | 60 | 53 | 36 |
| **Periodic Data Submittals** | -- | -- | 12 | 13 | 14 | 14 |
| **Exception Reporting** | -- | -- | 14 | 19 | 13 | 13 |
| **Spot Check** | 0 | 0 | 13 | 19 | 1 | 0 |
| **Subject to Compliance Violation Investigation** | -- | -- | 94 | 95 | 102 | 107 |
| **Subject to Self-Reporting** | -- | -- | 94 | 95 | 102 | 107 |
| **Subject to Complaint** | -- | -- | 94 | 95 | 102 | 107 |

| 2012 CMEP Reliability Standards Summary | | | |
|---|---|---|---|
| **Reliability Standards (FERC Approved)** | **Self-Certification Annual (A)** | **Annual Program Audit - Tier 1 (X)** | **Spot Check (SC)** |
| BAL-001-0.1a | | | |
| BAL-002-1 | | X | |
| BAL-003-0.1b | | | |
| BAL-004-0 | | | |
| BAL-005-0.1b | | | |
| BAL-006-2 | | | |
| CIP-001-2a | A | X | |
| CIP-002-3 | A | X | |
| CIP-003-3 | A | X | |
| CIP-004-3 | A | | |
| CIP-005-3a | A | X | |
| CIP-006-3c | A | X | |
| CIP-007-3 | A | X | |
| CIP-008-3 | A | X | |
| CIP-009-3 | A | X | |
| COM-001-1.1 | A | X | |
| COM-002-2 | A | X | |
| EOP-001-0b (EOP-001-2b effective 7/1/2013) | A | X | |
| EOP-002-3 | A | X | |
| EOP-003-1 | | | |
| EOP-004-1 | | X | |
| EOP-005-1 (EOP-005-2 effective 7/1/2013) | A | X | |
| EOP-006-1 (EOP-006-2 effective 7/1/2013) | | X | |
| EOP-008-0 (EOP-008-1 effective 7/1/2013) | A | X | |
| EOP-009-0 | | | |
| FAC-001-0 | | X | |
| FAC-002-1 | | X | |
| FAC-003-1 | A | X | |
| FAC-008-1 (FAC-008-3 effective 1/1/2013) | A | | |
| FAC-009-1 | A | X | |
| FAC-010-2.1 | | | |
| FAC-011-2 | | | |
| FAC-013-1 (FAC-013-2 effective 4/1/2013) | | | |
| FAC-014-2 | A | | |
| INT-001-3 | | | |
| INT-003-3 | | | |
| INT-004-2 | | | |
| INT-005-3 | | | |
| INT-006-3 | | | |
| INT-007-1 | | | |
| INT-008-3 | | | |
| INT-009-1 | | | |
| INT-010-1 | | | |
| IRO-001-1.1 | | | |
| IRO-002-2 | | X | |
| IRO-003-2 | | | |
| IRO-004-2 | A | X | |
| IRO-005-3a | A | X | |
| IRO-006-5 | | | |
| IRO-006-EAST-1 | | | |
| IRO-006-WECC-1 | | | |
| IRO-008-1 | | | |
| IRO-009-1 | | | |
| IRO-010-1a | | | |
| IRO-014-1 | | | |
| IRO-015-1 | | | |

| | | | |
|---|---|---|---|
| IRO-016-1 | | | |
| MOD-001-1a | A | X | |
| MOD-004-1 | A | X | |
| MOD-008-1 | A | X | |
| MOD-010-0 | | | |
| MOD-012-0 | | | |
| MOD-016-1.1 | | | |
| MOD-017-0.1 | | | |
| MOD-018-0 | | | |
| MOD-019-0.1 | | | |
| MOD-020-0 | | | |
| MOD-021-1 | | | |
| MOD-028-1 | | | |
| MOD-029-1a | | | |
| MOD-030-2 | | | |
| NUC-001-2 | | X | |
| PER-001-0.1 | | | |
| PER-002-0 | A | X | |
| PER-003-0 | | | |
| PER-003-1 (effective 10/1/2012) | | | |
| PER-004-1 | | | |
| PER-004-2 | | | |
| PER-005-1 | | | |
| PRC-001-1 | A | X | |
| PRC-004-2a | A | | |
| PRC-005-1b | A | X | |
| PRC-007-0 | | | |
| PRC-008-0 | A | | |
| PRC-009-0 | | | |
| PRC-010-0 | | | |
| PRC-011-0 | A | | |
| PRC-015-0 | | | |
| PRC-016-0.1 | | | |
| PRC-017-0 | A | | |
| PRC-018-1 | | | |
| PRC-021-1 | | | |
| PRC-022-1 | | | |
| PRC-023-1 | A | | |
| PRC-023-2 (effective 7/1/2012) | | | |
| TOP-001-1a | | | |
| TOP-002-2b | A | X | |
| TOP-003-1 | | | |
| TOP-004-2 | A | X | |
| TOP-005-2a | | | |
| TOP-006-2 | | | |
| TOP-007-0 | | X | |
| TOP-008-1 | | | |
| TPL-001-0.1 | | | |
| TPL-002-0b | | | |
| TPL-003-0a | | X | |
| TPL-004-0 | | X | |
| VAR-001-2 | A | | |
| VAR-002-1.1b | A | | |

**Note: The Reliability Standards listed for the above monitoring methods does not necessarily imply all requirements are included in the 2012 Reliability Standard Actively Monitored list. Refer to the "Requirements Detail Tab" for specifics concerning each Reliability Standard monitoring details.**

**From:** Margaret Mayora
**To:** grpStaff
**Subject:** FW: New NERC-Related Matters (4.10.2012)
**Date:** Tuesday, April 10, 2012 11:47:55 AM

---

FYI.

**MARGARET MAYORA**
**COMPLIANCE ATTORNEY**
Northeast Power Coordinating Council, Inc.
1040 Avenue of the Americas - 10th Floor
New York, NY 10018
(T) 212 840-1070; (F) 212 302-2782

This e-mail, including attachments, constitutes non-public information intended to be conveyed only to the designated recipient(s). If you are not an intended recipient, please delete this e-mail, including attachments, and notify me. The unauthorized use, dissemination, distribution or reproduction of this e-mail, including attachments, is prohibited and may be unlawful. Northeast Power Coordinating Council, Inc. (NPCC) cannot ensure the security and confidentiality of unencrypted communications transmitted by e-mail. NPCC assumes no responsibility for damages resulting from unauthorized access, disclosures or tampering which could have occurred during transmission.

---

**From:** McCarthy, Catherine P. [mailto:CMcCarthy@deweyleboeuf.com]
**Sent:** Tuesday, April 10, 2012 9:50 AM
**To:** cmccarthy@deweyleboeuf.com
**Subject:** New NERC-Related Matters (4.10.2012)

NERC-Related Matters

1. Gridex 2011 Report

NERC completed a review of the 2011 grid security exercise, GridEx 2011, which identifies key findings and recommendations for improving the electric industry's cybersecurity programs. More than 75 organizations, including utilities and U.S. and Canadian governments, participated in the exercise, which was designed (i) to validate the readiness of the industry to respond to a cyber incident, (ii) to strengthen the crisis response functions of NERC and utilities, and (iii) to provide input for internal security program improvements by identifying gaps in plans, security programs and skills as well as assessing, testing and validating existing command, control, and communication plans for key NERC stakeholders.
http://www.nerc.com/files/NERC_GridEx_AAR_16Mar2012_Final.pdf

2. NERC Standards Report, Status and Timetable for Addressing Regulatory Directives (RR09-6)

On March 30, 2012, NERC submitted its second report to FERC summarizing the progress made and plans for identifying and processing standards-related directives received from governmental authorities. This report summarizes the directives issued to NERC addressing standards development, along with the status of each directive and NERC's progress in addressing that directive. It also summarizes NERC's timeline for addressing those directives which have not been fully resolved with FERC. Finally, to aid in understanding the specific regulatory directives received to date and the

projects assigned to those directives, it includes: (i) an appendix of regulatory orders containing directives, (ii) an appendix of directives listed by Commission order and (iii) an appendix of outstanding directives listed by project.
http://www.nerc.com/files/2012_Directives_Report_complete.pdf

### 3. AEP Notice of Penalty (NP12-19)

*** Each violation at issue in NERC's notices of penalties is described as a "violation," regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.***

On March 30, 2012, NERC issued a full notice of penalty regarding American Electric Power Service Corporation as agent for the Public Service Company of Oklahoma and SW Electric Power Company. On August 2, 2010, AEP experienced a Category 1 vegetation outage on its Longwood – SW Shreveport 345 kV transmission line which did not result in a customer outage, property damage, system disturbance, or loss of generating capacity. There were also no Interconnection Reliability Operating Limit violations, generation redispatch or reduction of generation reserves. AEP submitted a self-report to SPP which in turn determined that AEP failed to effectively perform its aerial inspections of the Longwood – SW Shreveport 345 kV transmission line in accordance with its Transmission Vegetation Management Program (TVMP), and was therefore in violation of FAC-003-1 R2. Specifically, AEP failed to identify an Elm tree for removal during its aerial patrols of the transmission line.

A settlement was reached between SPP and AEP in which AEP neither admits nor denies the violation, but agrees to the assessed penalty of $90,000 which takes the following facts into account: (i) AEP self-reported the violation; (ii) the violation was AEP's first occurrence of violations of the subject NERC reliability standards; (iii) AEP had a compliance program at the time of the violation; and (iv) there was no evidence of any attempt to conceal a violation.

### 4. Unidentified Registered Entity Notice of Penalty (NP12-20)

NERC issued a Notice of Penalty for an unidentified registered entity (URE) which self-certified violations of CIP-002-1, R1, R2, R3 and R4 to WECC for its failure to have a documented risk-based asset methodology for identifying Critical Assets, a list of Critical Assets, or a list of Critical Cyber Assets (CCAs), as well as the failure of senior management or delegates to approve a risk-based asset methodology for identifying Critical Assets, a list of Critical Assets or a list of CCAs.

URE also self-certified violations of the following reliability standards:

(i) CIP-003-1 R2 for failing to assign a senior manager with overall responsibility for leading and managing the entity's implementation of, and adherence to, Standards CIP-002 through CIP-009,

(ii) FAC-008-1 R1 for failure to include, in its Facility Ratings Methodology, a statement that the rating of the facility "shall equal the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility,"

(iii) PRC-005-1 R1 for failure to have a transmission protection system maintenance and testing program in place and for failure to maintain and test its batteries and relays within their defined intervals,

(iv) CIP-001-1 R1 for failing to have a procedure for making its operating personnel aware of multi-stage sabotage affecting larger portions of the Interconnection,

(v) CIP-001-1 R2 for failure to have procedures for the communication of information concerning sabotage events to appropriate parties in the Interconnection,

WECC conducted an off-site audit and found URE to be in violation of the following reliability standards:

(i) FAC-003-1 R1 for failure to have a formal Transmission Vegetation Management Program,

(ii) FAC-003-1 R2 for failure to have an annual plan for vegetation management, and,
(iii) PRC-023-1 for failure to evaluate relay loadability at 0.85 per unit voltage and a power factor angle of 30 degrees

Pursuant to a settlement agreement between URE and WECC, URE agrees and stipulates to the facts of the violations and agreed to the assessed $60,000 penalty. WECC considered several factors in reaching this penalty assessment such as:

(i) URE has no critical assets;
(ii) URE took voluntary corrective action to remediate these violations;
(iii) Although URE self-reported some violations, it did not receive credit because it reported during the self-certification period; and
(iv) There was no evidence of concealment or intent in committing the violation

5. Sunflower Electric Power Corporation Notice of Penalty (NP12-21)

NERC issued a full notice of penalty for Sunflower's violations of 9 reliability standards as determined by SPP. In its settlement agreement, Sunflower neither admits nor denies the violations, but agrees to the assessed $135,000 penalty.

During a compliance audit, an SPP team found that Sunflower's Transmission Protection system procedure did not include all the elements required by reliability standard PRC-005-1 including maintenance and testing intervals and their basis as well as a summary of maintenance and testing procedures.

In violation of TOP-002-2a R11, Sunflower failed to perform seasonal, next-day, and current day BES studies to determine System Operating Limits (SOL) because it lacked modeling software and thus was not prepare to mitigate a possible SOL violation.

Sunflower's 2010 Q2 Self-Certification Assessment certified the following:

(i) in violation of PRC-004-1, its System Protection Coordination policy did not assign responsibility to employees to perform when transmission Protection System misoperations occurred and failed to define misoperations resulting in some transmission and generator Protection System misoperations not being logged, monitored and analyzed;
(ii) in violation of TOP-002-2a R2, it lacked evidence of the communications between planning and operating personnel for all of its system planning studies;
(iii) in violation of VAR-001-1 R1, its policies and procedures to monitor and control voltage levels and Mvar power flows within its individual areas were incomplete;

Sunflower self-reported a violation of TOP-004-2 R6 because its policies and procedures in its System Operations Manual regarding transmission reliability were deficient because they failed to address that system operators were to operate in a manner to prevent instability, uncontrolled separation, and cascading outages and how system operators should perform when entering an unknown operating state and how system operators are responsible to operate the Sunflower system to remain connected to the interconnection.

Sunflower also self-reported violations of the following:

(i) FAC-003-1 R1 because the Sunflower TVMP did not include specific procedures for documenting and tracking the planned vegetation management work to ensure that all vegetation management work is completed according to work specifications,
(i) PRC-008-0 R1 because Sunflower did not have a listing of all of its under frequency load shedding (UFLS) equipment and did not have maintenance and testing schedules for 34 of its 74 unidentified UFLS relays,
(ii) EOP-008-0 because its Loss of Primary Control Center Plan did not include a requirement for conducting periodic tests, at least annually or for providing annual training of operating

personnel on the plan as well as the fact that Sunflower had not documented the performance of an annual test of the plan in 2008,

(iii) VAR-001-1 and VAR-002-1 because after a forced outage of its Holcomb generating unit, it restarted the unit with the unit in manual mode instead of automatic voltage regulator (AVR) mode and the Control Room Operator (CRO) failed to communicate this discovery to the TOP. When the TOP became aware of the status of the voltage regulator, the TOP failed to direct the GOP to maintain or change the Holcomb voltage schedule.

SPP considered the fact that Sunflower had a compliance program at the time of these violations a mitigating factor because the program was posted on its intranet so Sunflower employees would have access to it and it was updated on an annual basis. Sunflower also adopted SharePoint software to allow its employees easy access to its NERC procedures. It also convened a senior executives "all-hands" meeting to discuss how its internal compliance efforts could be improved and hired a third party to conduct a mock audit of its compliance with Critical Infrastructure Protection standards. Furthermore, its staff and corporate counsel attend numerous compliance workshops and training across the region.

---

Catherine P. McCarthy
Partner
Dewey & LeBoeuf LLP
1101 New York Avenue, N.W.
Washington, D.C. 20005
Direct: +1 202 346 8753
General: +1 202 346 8000
Fax: +1 202 346 8102
cmccarthy@dl.com
www.dl.com

==========
Pursuant to U.S. Treasury Department Circular 230, unless we expressly state otherwise, any tax advice contained in this communication (including any attachments) was not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties or (ii) promoting, marketing or recommending to another party any matter(s) addressed herein.

Dewey & LeBoeuf LLP in London and Paris is a limited liability partnership registered in England and Wales under number OC355432 with its registered office at 1 Minster Court, Mincing Lane, London EC3R 7YL and is a law firm authorised and regulated by the Solicitors Regulation Authority. We use the word "partner" to refer to a member of the LLP, or an employee or consultant who is a lawyer with equivalent standing and qualifications. A list of the members of Dewey & LeBoeuf LLP and of the non-members who are designated as partners is available for inspection at the above address. Further important information about Dewey & LeBoeuf can be found on www.dl.com.

Dewey & LeBoeuf LLP in Doha is licensed by the Qatar Financial Centre Authority, QFC License Number 00102.

Dewey & LeBoeuf LLP in Dubai is licensed by the Dubai Financial Services Authority, DFSA Reference No. F000755.

This e-mail message, including attachments, is confidential, is intended only for the named recipient(s) above and may contain information that is privileged, attorney work product, proprietary or exempt from disclosure under applicable law. The unauthorized use, dissemination, distribution or reproduction

of this e-mail message, including attachments, is strictly
prohibited.  If you have received this message in error, or are
not an intended recipient, please immediately notify the sender
and delete this e-mail message, including attachments,
from your computer.  Thank you.
==========

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# FAC Alert Recommendation Update Webinar Participant Q&A

On March 20, 2012, NERC hosted a webinar to present the FAC Alert Recommendation Update. This document provides answers to many of the questions NERC has received.

1. Are the lines that have not been mitigated currently de-rated?

   *Most of the lines with discrepancies were derated. A few cases revealed a reliability reason which prevented derating while others may have been at the very edge of the tolerance. In the tolerance cases, the registered entity declared a discrepancy but there may not be a need to de-rate.*

2. How does an entity request an extension?

   *Extensions should be requested through your Regional Entity contact person for the FAC Alert effort.*

3. What is the difference between Ground Survey & Field Inspection?

   *NERC and the Regional Entities are not providing definitions. However, in general, field inspections describe where an entity patrols the line and performs measurements between the conductor and the ground or structure below the conductor. A ground survey generally describes where an entity uses a device such as a "transit-level" from a common reference point to measure the distance between the conductor and the ground or other structure.*

4. You have listed the discrepancies (5,100) by miles of line (73,000), how many of the 4,300 circuits had discrepancies?

   *Because many of the registered entities did not provide information on the number of circuits correpsonding to their discrepancies found, the percentage of the total 4300 circuits which had discrepancies could not be accurately determined and, therefore, were not included in the data.*

5. In this process do any of the entities measure the clearances for vegetation management? If yes, do you have data available?

   *That may or may not have been discussed in each registered entity's assessment plan. It was not specifically requested and no metrics have been developed with respect to vegetation management practices.*

6. Will or can this slide deck be made available?

   *The slides have been posted to the Facility Ratings Alert page on the NERC website.*

7. What percentage of permanent derates are 500kV?

   *Approximately 600 miles and nine (9) 500kV circuits have been derated as of January 2012. This does not include lines that are still being evaluated. At this time, we have not determined whether the derates are permanent or temporary.*

8. What is the total number of circuits identified for assessment?

   *As of January 2012, approximately 4,300 high priority transmission circuits have been assessed. This number does not include assessments where the entity was granted an extension.*

9. What is the purpose of asking for number of circuits versus the mileage? Circuits vary vastly in distances.

   *The information was requested to assist with metric preparation.*

10. What is the difference between raise transmission/lower distribution versus increase wire clearances?

    *Raising a transmission structure may mean that a structure was replaced that was taller than the previous structure. Increasing wire clearance may be a re-conductor that has less sag and therefore increases the clearance.*

11. Please review the 2012/2013 due dates - expectations for reporting. Also, will the medium and low priority systems/lines be notified and/or reminded by NERC of their reporting obligations?

    *NERC and the Regional Entities will discuss the expectations and due dates for medium and low priority transmission assessments. Currently, two assessments are due for medium priority lines- July 15, 2012 is the first reporting due date for medium priority lines and the second reporting deadline for medium lines is January 15, 2013. NERC will conduct update webinars similar to those for the high priority lines.*

12. Do you have the percent of spans that contained discrepancies?

    *This metric is not possible to derive from the data collected. The development team did not believe that information was needed and would add more burden on the entites to provide.*

13. what is the process if entities are not able to fully complete permanent mitigations by December 31, 2012?

    *NERC encourages entities to work with their Regional Entity to develop a completion plan.*

14. Is there an interim reporting deadline for high priority lines that are still being mitigated, or just the report within 12 months after identifying the discrepancy?

    *Within 12 months from the time a discrepancy is confirmed, the registered entity is asked to complete the remediation work to correct the discrepancy. The entity is also being asked to report to their respective Regional Entity when the remediation is complete.*

15. Are we expected to report on high priority repairs with our medium priority assessment update in July 2012?

    *Completion of the remediation work associated with a discrepancy can be reported to the Regional Entity as the work is completed or it can be included in the next report for medium assessments due on July 15, 2012.*

16. Is NERC taking any action with entities who have not responded to the NERC Alert or have not started on mitigations and/or put interim mitigations in place?

    *Each Regional Entity contact has worked with all the registered entities within their region to collect the necessary information and be the liaiason for the registered entities and NERC. At this time all registered entities have been responsive. NERC and the Regional Entities are pleased with the overall response received with the Alert.*

17. How can we use the same spreadsheet if you be enhancing the spreadsheet?

    *There are not any enhancements planned as of yet.*

18. Should you fill out a seperate form for each site? Or can you combine them on one spreadsheet?

    *To reduce confusion with using multiple spreadsheets, NERC is encouraging entities to use the same spreadsheet for their medium assessments as they used with the high priority assesssments. NERC can filter out data it does not want to report on.*

19. If remediation cannot be completed within 12 months then a mitigation plan is to follow. What is that process?

    *The NERC Alert requests entities to complete remediation within 12 months of the confirmed discrepancy. If the entity is not able to meet this timeframe, the entity is encouaraged to provide an*

*explanation for not meeting the deadline and work with their Regional Entity to determine a plan for completion.*

20. What are the compliance implications to this Alert?

*The Alert is not a standard requirement; however, NERC's Rules of Procedure asks that entities respond to NERC and Regional requests associated with a NERC Alert Recommendation. NERC encourages as much cooperation and participation as possible so that the bulk power system can be operated more reliably.*

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# FAC Recommendation Update

## High Priority Assessments

Roman Carter, Manager – NERC BP System Awareness

March 20, 2012

RELIABILITY | ACCOUNTABILITY






# FAC Recommendation Update

**Background on Alert:**

- A vegetation contact by a Transmission Owner identified actual **field conditions that varied significantly from design assumptions** – to the point where some facility ratings were considered inaccurate or in question.
- Follow-up resulted in the conclusion that this **situation was not restricted to one entity or region.**
- As a result, NERC issued an Alert Recommendation to proactively identify other such conditions and **promote corrective actions.**

# FAC Recommendation Update

**FAC Alert Milestones:**

- October 7, 2010 - Original Alert issued
- October 28, 2010 and November 29, 2010 – Informational webinars
- November 30, 2010 - Revised Alert / Gerry Cauley Letter
- January 14, 2011 - Q&A document issued
- April 26, 2011 – Assessment Plan Review Criteria issued
- May 12, 2011 – Webinar: Discussed Assessment Plan Review Criteria and reporting by owners
- June 16, 2011 – Published webinar participant Q&A

# FAC Recommendation Update

## FAC Alert Milestones:

- July 15, 2011 – First “high” priority assessment due date
- September 22, 2011 webinar- results from July 2011 report
- January 15, 2012- Second assessment report on high priority transmission lines submitted by transmission owners.
- March 20, 2012- Update webinar provided to Industry to share results of the second “high priority” owner assessments performed.

# FAC Recommendation Update

**Spreadsheet Enhancements since July 2011 Report :**

- Added *Entity Info* Tab accepting "Medium" and "Low" priority response information
- Added drop down boxes for user to select options for: *Inspection Type*, *Rated KV*, *Discrepancy Category*, *Remediation Category*, etc.
- Summary Tab to request "totals" information
- Added data dictionary to help explain the information being requested.
- "Hover Over" text provided for each cell.

# FAC Recommendation Update

**Second "High Priority" Assessment Responses**:

On **January 15, 2012**, the Regional Entities received the second of two "high priority" assessment responses from 200 NERC Facility Owners:

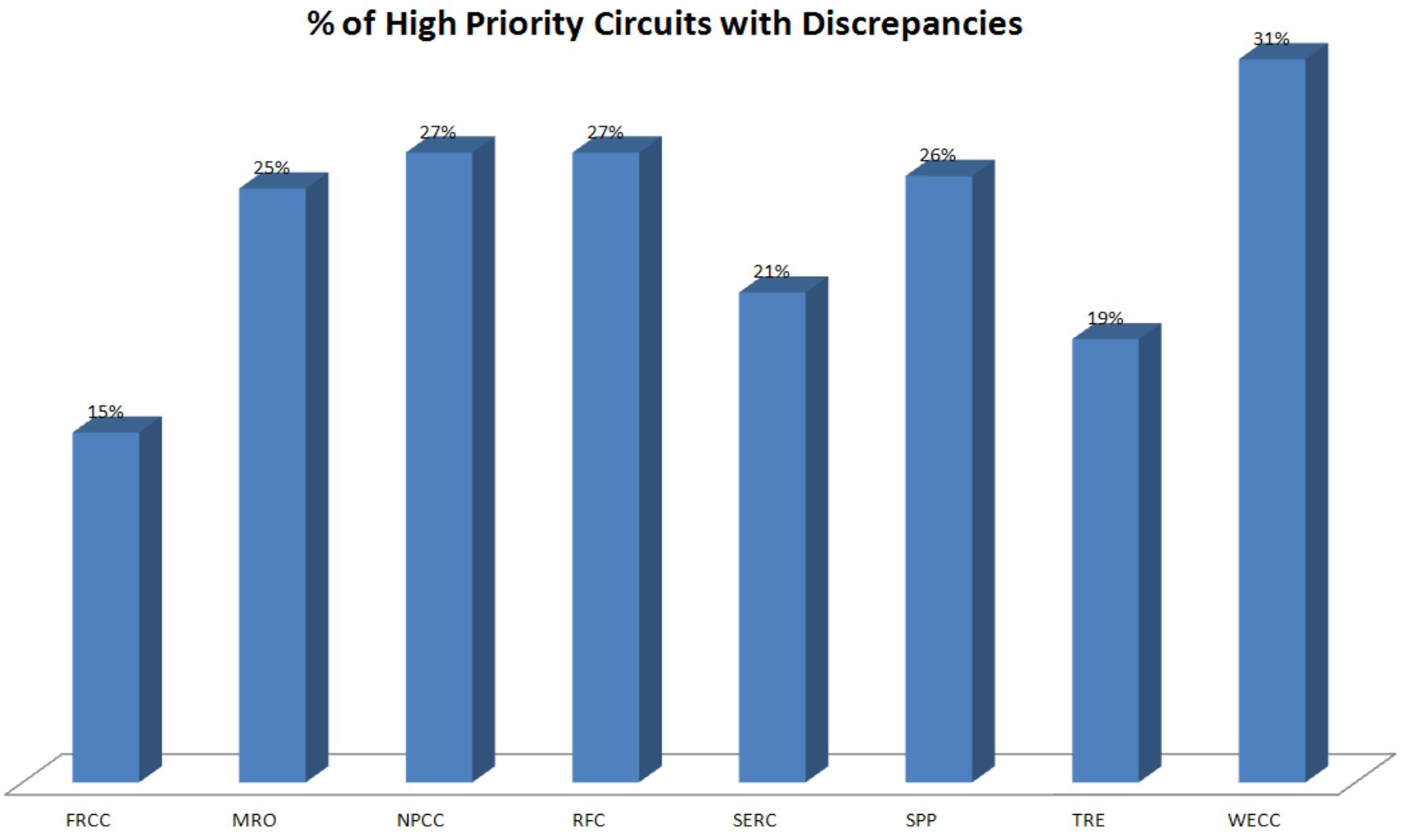
- Approximately **4,300 circuits were assessed.**
- Approximately **73,000 miles** of line were assessed.
- Approximately **5,100 discrepancies were discovered**. Of these discrepancies, approximately **42% have been mitigated** as of January 15, 2012.
- Approximately 10% of owners requested an extension. Most are due to Lidar vendors not completing their analysis.

# FAC Recommendation Update

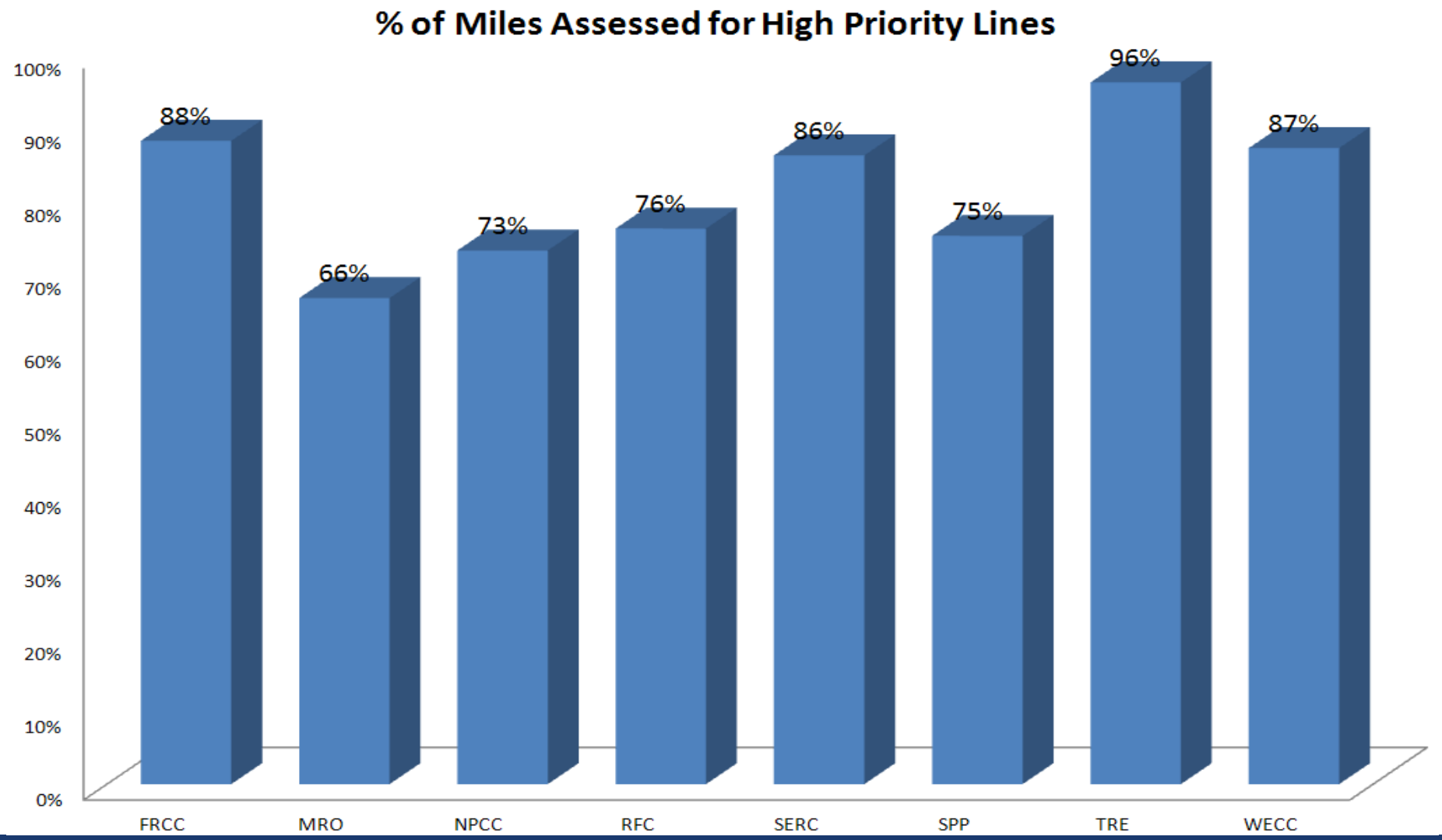
## Second "High Priority" Assessment Responses

- The owners requesting an extension rank high in miles of ownership of high priority transmission lines. For example, in one Region two of the largest line owners requested extensions.
- Therefore, NERC will revise the data in mid June 2012 to include the additional information from the entities granted an extension. The updated information will be posted to the FAC page on the NERC website.

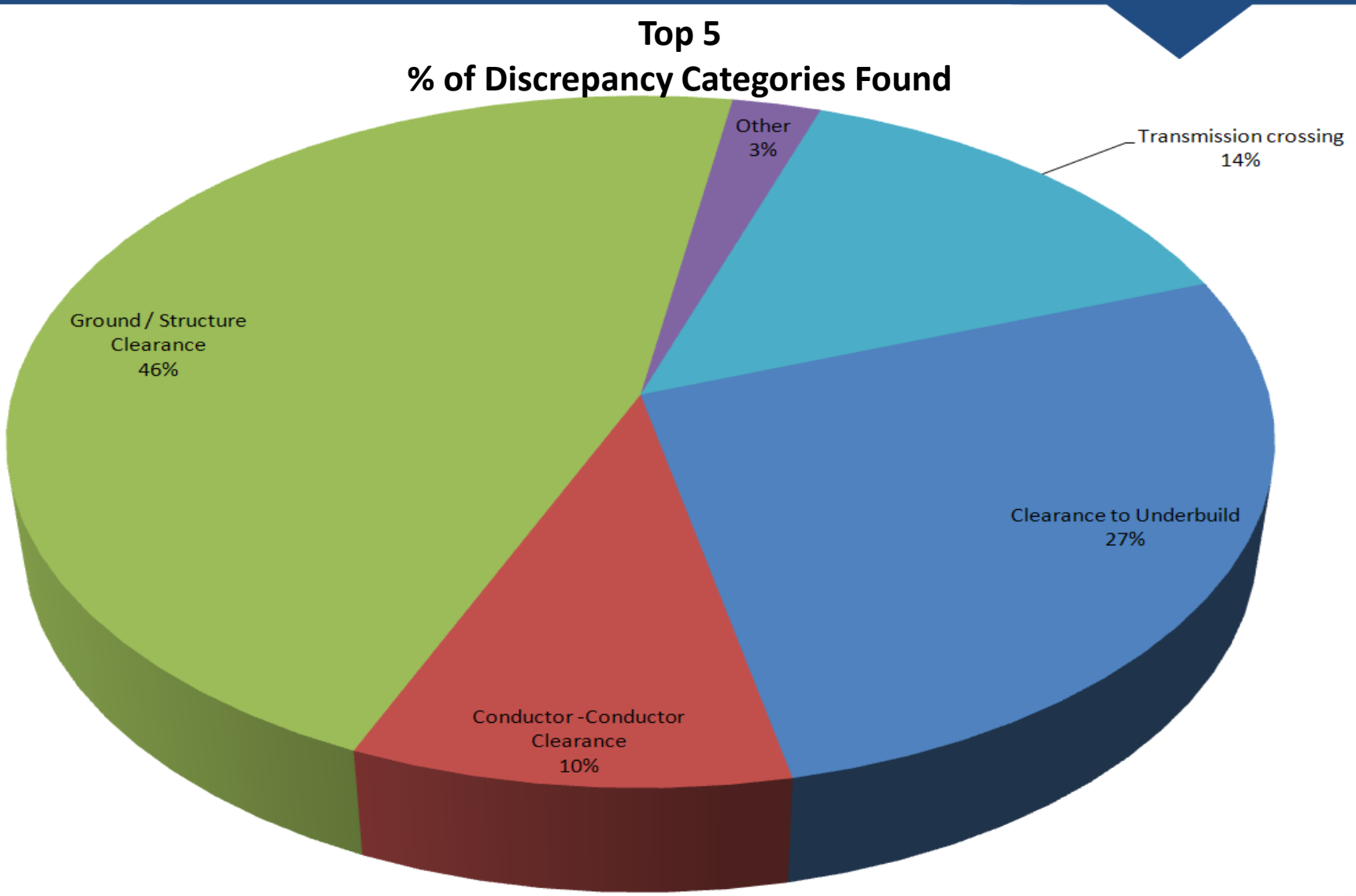
# FAC Recommendation Update



# FAC Recommendation Update

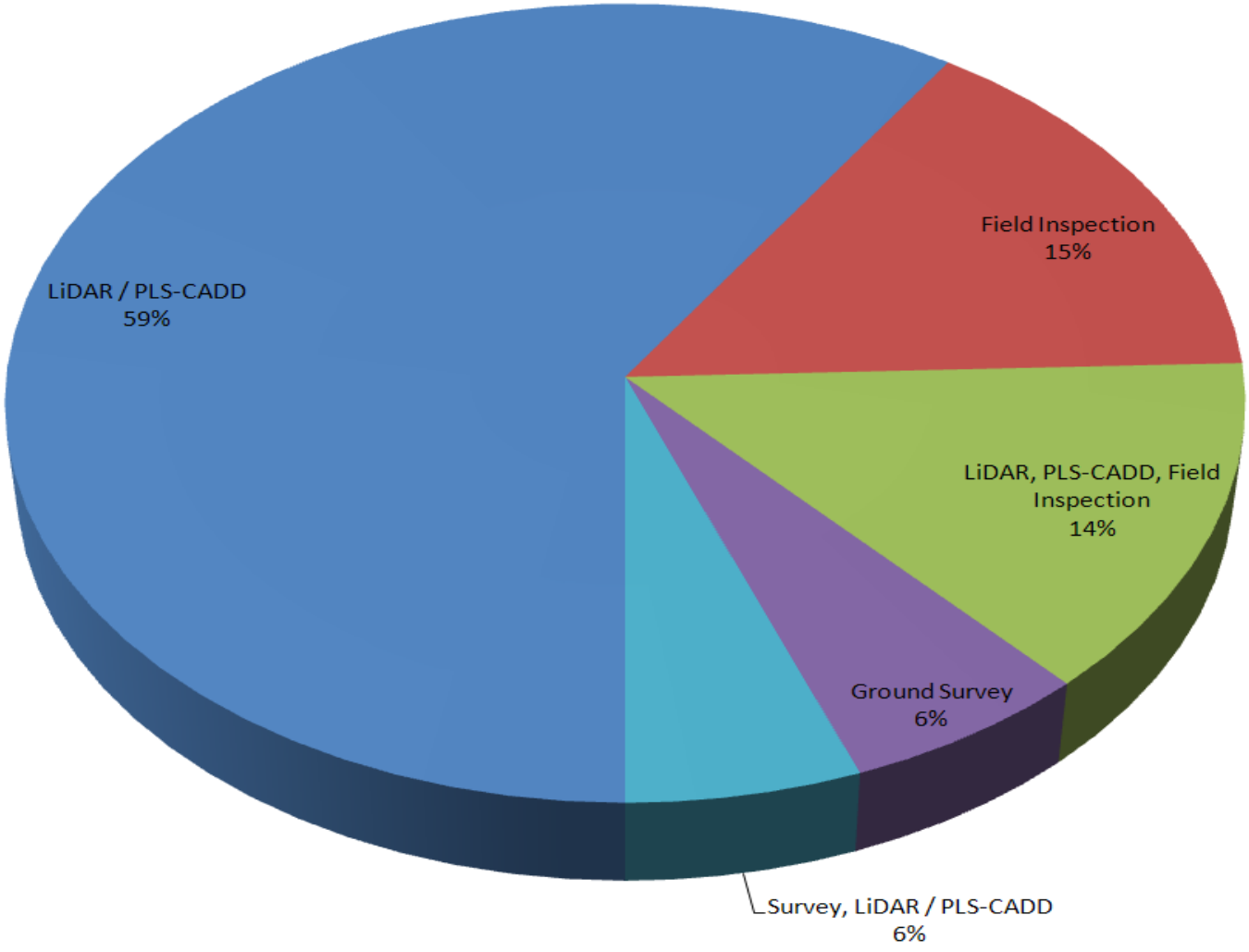


# FAC Recommendation Update



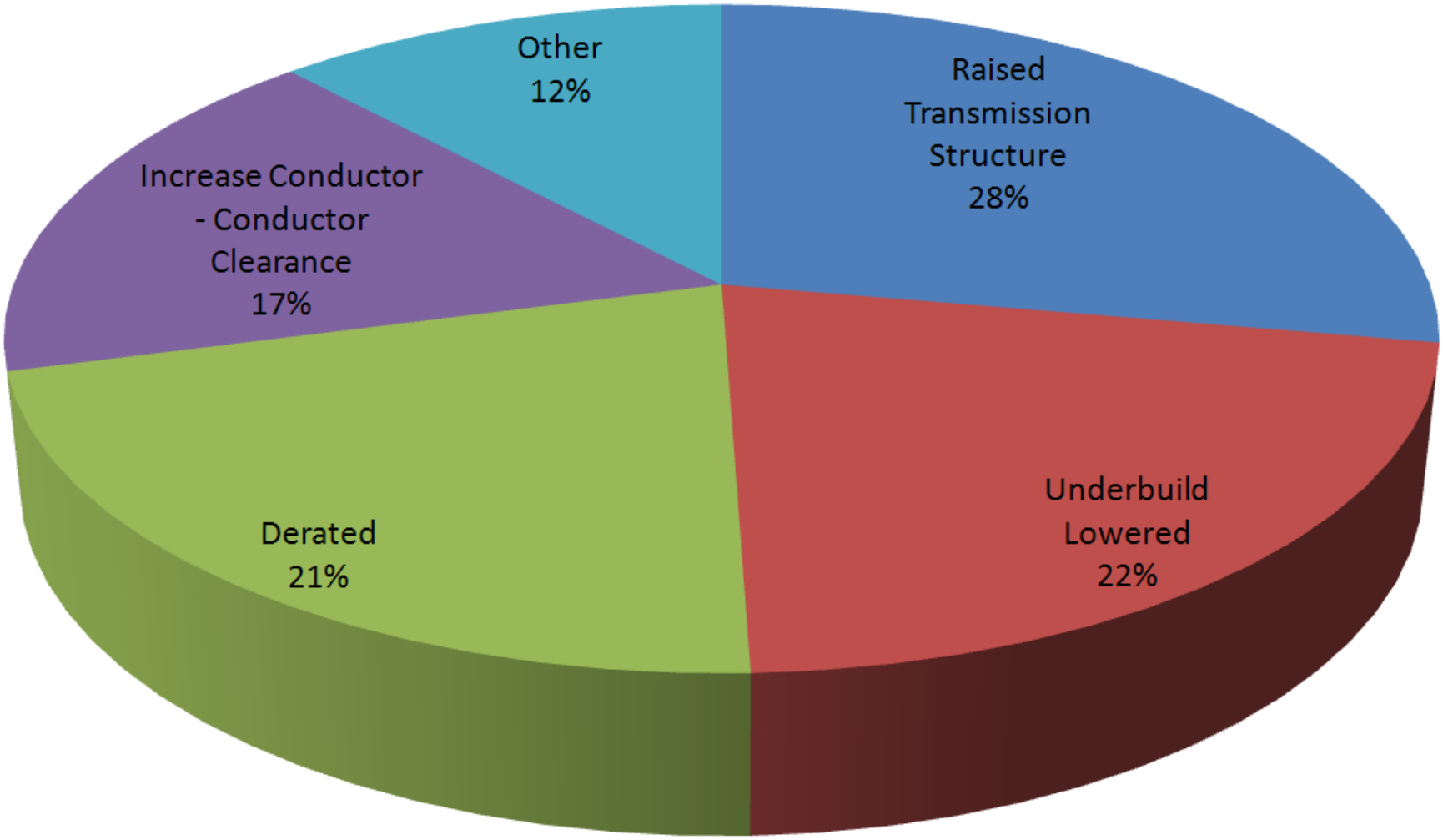
# FAC Recommendation Update

## Top 5 Inspection Types

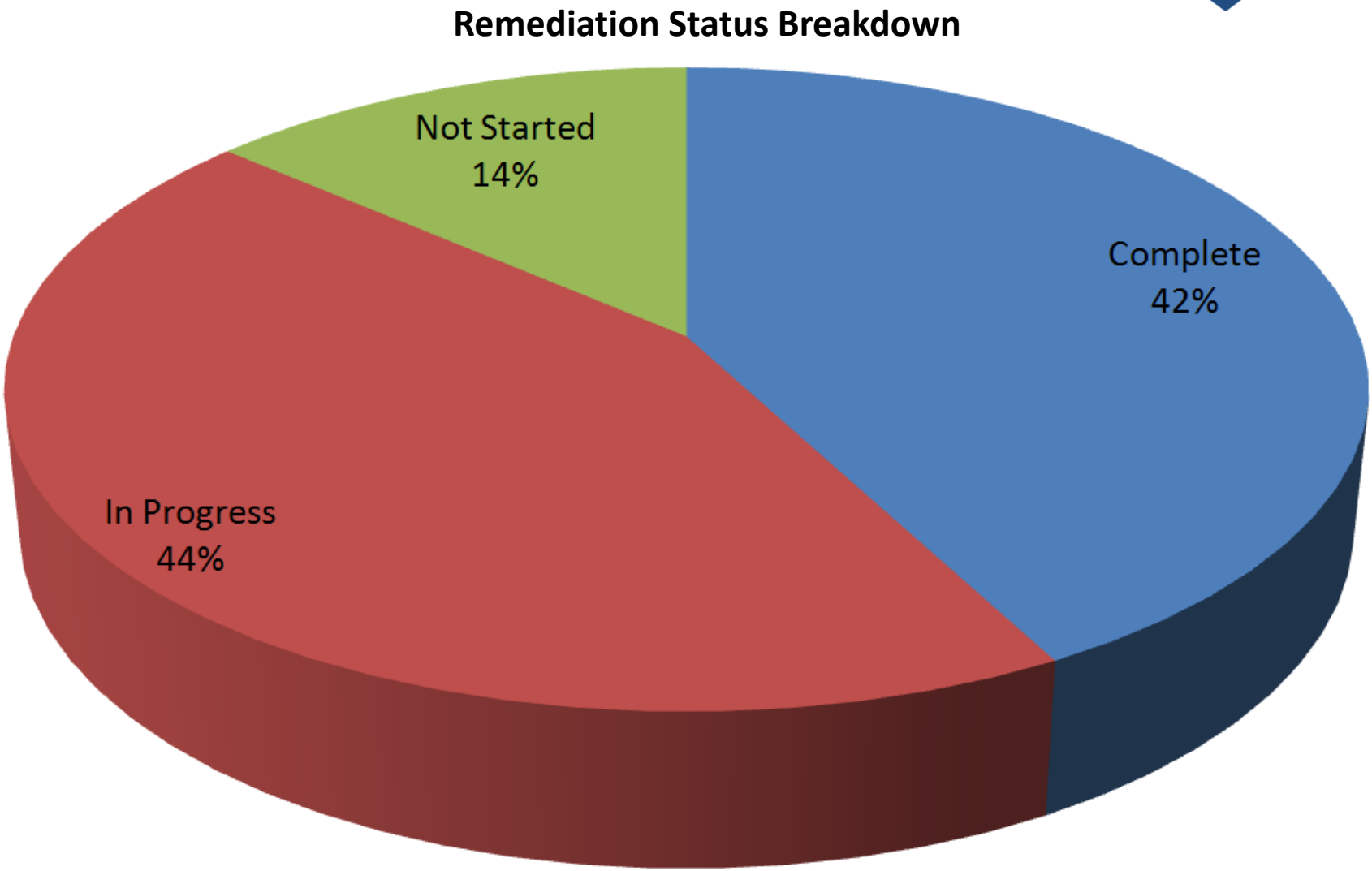


# FAC Recommendation Update

## Top 5 Remediation Categories



# FAC Recommendation Update



# *Questions*



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Agenda
# Standards Oversight and Technology Committee

May 8, 2012 | 4:45-6:00 p.m. Eastern

Westin Arlington Gateway
801 North Glebe Road
Arlington, VA 22203
703-717-6200

**Introductions and Chair's Remarks**

**NERC Antitrust Compliance Guidelines and Public Announcement**

**Agenda**

1. **Minutes*— Approve**
   a. February 8, 2012 Meeting
2. **Need for Relief from Interpretation Policy* – BAL-002 — Discuss**
3. **Status of Standards Process Improvement Group* — Discuss**
4. **Reliability Standards Status Report* — Discuss**
   a. March 2010 Orders: Review Status of NERC Responses
   b. Lower Level Facilitating Requirements–FFT Order Paragraph 81
5. **Standards Committee Report* — Information**
6. **NERC Technology Update* — Information**
   a. Major 2013 Information Technology Initiatives
7. **Standards Oversight and Technology Committee Mandate* — Review**

*Background materials included.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Antitrust Compliance Guidelines

## I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

## II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

## III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.

Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

# Draft Minutes
# Standards Oversight and Technology Committee

February 8, 2012 | 9:15–10:30 a.m. Mountain

Arizona Grand Resort
8000 S. Arizona Grand Parkway
Phoenix, AZ 85044
602-438-9000

Chair Ken Peterson convened a duly noticed open meeting of the Standards Oversight and Technology Committee of the North American Electric Reliability Corporation on February 8, 2012 at 9:15 a.m. local time, and a quorum was declared present. The agenda is attached as **Exhibit A**.

### NERC Antitrust Compliance Guidelines

Chair Peterson directed the participants' attention to the NERC Antitrust Compliance Guidelines.

### Minutes

The committee approved the November 2, 2011 meeting minutes (**Exhibit B**).

### SOTC Self-Assessment Results

Chair Peterson referred to the information contained within the Agenda Package, as well as to the presentation conducted by the consultants from TalentQuest during the Corporate Governance and Human Resources Committee meeting. Chair Peterson noted the results were favorable overall but there were areas for improvement. Chair Peterson advised the committee has a lot of work to do to get to an appropriate level on the Standards area and rethink how the committee oversees the technology area.

### Information Technology (IT)

Mr. Marvin Santerfeit, director information technology and services, conducted an update on NERC/ERO IT initiatives and IT developments and plans for NERC.

#### NERC/ERO IT Initiatives

Mr. Santerfeit reviewed several highlights:

- The Data Center relocation from Princeton to Atlanta is at 95 percent completion and should be fully completed in the near future. Mr. Santerfeit noted that the NERC Washington, DC office also relocated on December 16, 2011 with a relatively seamless transition.
- To improve the ability to gain metrics and evaluate causes of internal system issues or failures, the IT department has implemented a single point of contact structure within NERC. There is now one phone number to reach IT support, as well as one online system for submitting help desk tickets. This allows for centralized reporting that will provide the ability to drill down to the causes of failures and allow a more efficient process for corrective measures.

- NERC Intranet site has been updated which allows for more user friendly access and internal use. NERC Public Website was evaluated by Dell over a three week period to review the current set up and the provide recommendations to NERC on how best to update the site, most specifically in the search capability. NERC will be continuing to work with Dell, as well as utilizing Sharepoint in the update process and hopes to have the new site operational by fourth quarter 2012, first quarter 2013.

**Progress on IT Developments and Plans for NERC**

In this section Mr. Santerfeit reviewed the status of the Project Management Office (PMO) stating that the infrastructure follows best practices but some applications do not follow best practices, CRATs database an example. Within the PMO, IT will as part of a multi-year strategy be able to pull these areas together and mine data across applications. The end result of the multi-year strategy will be to have a centralized data repository. The PMO has a Team Manager, a Project Manager, and a Business Analyst.

Further, Mr. Santerfeit reviewed the CRATs database which continues to be one of IT's largest challenges. IT is managing the synchronization of the data with the Regions and currently has seven synchronized with the eighth Region to be completed by month end February 2012. The next step is to determine if the best practice is to stop and maintain the existing CRATs application while ensuring stability and then determine the business requirements for new version of CRATs since these requirements have changed over the past several years, create those functional requirements, and then forward bid proposals to vendors to rewrite the application. Compliance Committee Chair Bruce Scherr noted the Compliance Committee reviewed CRATs in their Closed Session on February 7 and are quite concerned at the data inaccuracy, cleanliness of the data, and the regional interface not working as the Committee had though. Would request that NERC look to implement an immediate effort between NERC, the Compliance Committee, and the Regions to ensure accurate data and output is received during the timeline that NERC is determining the next steps for CRATs. Mr. Santerfeit indicated that NERC is working on those solutions and will continue to update both the SOTC and the Compliance Committee.

Concluding this section, Mr. Santerfeit reported that an "Extranet" site is under development for the Regions to have easier access to information and updates on projects.

**IDC Transition**

Mike Walker, senior vice president and chief financial and administrative officer, reviewed NERC has been facilitating the transition of the IDC and noting NERC is not a user but has been a sponsor over the past few years. NERC will be working with IDC users on transition, to include NERC potentially remaining as the billing agent. An agreement to is being drafted and will be incorporated in the NERC budget subject to Board of Trustees and FERC approval.

**Reliability Standards Policy and Guidance**
Mr. Schrayshuen presented two items to the committee for policy review and discussion: Generator Operator (GO)/Transmission Operator (TO) and the COM-002 Interpretation.

**Generator Operator (GO)/Transmission Operator (TO)**
Mr. Schrayshuen provided a brief overview of the background to this standard. Mr. Schrayshuen stated the Ad Hoc report recommendations offers changes to 32 requirements, adding Generator Interconnection Facility to the requirements. The recommendations would affect 12 requirements in FAC-003-1, two requirements expanding applicability to GO/GOP and eight new requirements. Within the report there are also recommended changes to definitions. Mr. Schrayshuen further reported the conclusions of the Standard Drafting Team (SDT) which included:

- Certain requirements are covered by other standards
- Certain requirements will be addressed by standards to be revised or made applicable in the future
- Modifying certain standards is not in the scope of the SDT

At the conclusion of his report, Mr. Schrayshuen offered two policy questions for discussion:

- Should NERC staff hold off filing when future work, that would complete the regulatory package more fully, is pending?
- How best to resolve the question of whether the response of the SDT is complete?

Discussion amongst members in attendance ensued and at the conclusion, Chair Peterson noted the good points presented and looked forward to additional discussion during the Board meeting.

**COM-002 Interpretation**
Mr. Schrayshuen provided an overview of the background on the COM-002 Interpretation noting the work on the interpretation was initially delayed based on reprioritization of the total standards workload and revision by the Standards Committee's process for addressing interpretations, in April 2011, the Standards Committee Interpretation Guidelines were approved, and noting the Standards Committee initiated a plan to simultaneously address three part communication protocols through the interpretation of COM-002-2 as Project 2009-22 and through Project 2007-02 Operating Personnel Communications Protocols COM-003. Mr. Schrayshuen stated, if enacted, the Interpretation will put Operators in the position of having to change their communications approach during an emergency and the compliance concern is that it will create an unnecessary level of confusion for registered entities and compliance auditors.

Mr. Schrayshuen further reviewed that a Level 1 Appeal was received in August and a return response was provided, both the Level 1 Appeal and the response are contained within the Agenda Package. The essence of the appeal was to give immediate priority to this Interpretation and thus it's been accelerated and presented today for discussion and for approval on the Board agenda.

Mr. Schrayshuen advised that there were no specific policy questions presented before the committee but welcomed any questions or comments. Discussion amongst members in attendance ensued and at the conclusion, Chair Peterson noted the good points presented and looked forward to additional discussion during the Board meeting.

### Reliability Standards Status Report

Due to timing Chair Peterson referenced the Reliability Standards Status report in the Agenda package and asked if there were any comments/questions by the committee; there were none. (**Exhibit D**).

### Standards Committee Report

Mr. Mosher presented highlights from his report contained in the Agenda package. Chair Peterson asked if there were any comments/questions by the committee; there were none. (**Exhibit E**).

### Closing Remarks

In closing remarks, Chair Peterson previewed an area that needs continued focus, the ability of the Standards staff to continue to respond to the insurmountable number of comments received on any one specific standards item. Current expectation by industry is for comments to not only be responded to but the response meet their satisfaction. As the number of comments continues to increase the expectation that every comment can be answered and/or satisfied is not sustainable. Chair Peterson requests that the committee, NERC staff, and industry consider applicable options that would help address this area of concern.

There being no further business, Chair Peterson adjourned the meeting at 10:30 a.m.

Submitted by,



Herb Schrayshuen
Vice President
Director of Standards and Training



Marvin Santerfeit
Director Information Technology and Services

Agenda Item 2
SOTC Meeting
May 8, 2012

# Need for Relief from Interpretation Policy – BAL-002

## Action

Policy request – provide relief from the "strict construction" policy of November 2009 with respect to this single interpretation project.

## Background

On January 17, 2012 Herb Schrayshuen, in his capacity as director of standards under the Standard Processes Manual, received a Level 1 Appeal for inaction from the ISO/RTO Council's Standards Review Committee (SRC) regarding Project 2009-19 - Northwest Power Pool's (NWPP) Reserve Sharing Group's request for an interpretation of BAL-002-0 – Disturbance Control Performance, Requirement R4.

The appeal included the following request:

> The SRC requested that Project 2009-19 be given an "immediate/urgent" priority and addressed within 30 days of receiving the Level 1 Appeal alleging the subject interpretation had not been developed in accordance with the process outlined in the Standard Processes Manual. To promote resolution of the matter as a "Level 1" Appeal, the SRC requested that the Director of Standards address alleged deviations from the Standard Processes Manual.

The appeal response letter reviewed the circumstances surrounding the appeal, and did find that the standard development process had been adhered to and that the clarity requested for BAL-002-0, Requirement R4 could not be developed through an interpretation under the current framework. The response made the following recommendation:

> Given the difficulty in interpreting the existing language of the standard, NERC recommends to the IRC and NWPP that they consider developing and submitting a Standard Authorization Request (SAR) to the Standards Committee to address their concern.

The appeal and the response are both posted on the Project 2009-19 webpage:
http://www.nerc.com/filez/standards/Project2009-19_Interpretation_BAL-002-0_NWPP.html

## Discussion

The appeal was discussed during the April 11-12, 2012 meeting of the Standards Committee and that discussion led to the conclusion that this is a high priority issue from a reliability perspective and that the best course of action is to seek relief, in this one instance, from the "strict construction policy" for addressing interpretations.

BAL-002-0 was developed from Operating Policy 2 – Disturbance Control Standard. Policy 2 contained an Introduction and five "Standards". During the translation of Policy 2 into BAL-002-0, some of the content that was contained in the "Standards" sections was moved into the compliance section of the standard.

If by "strict construction" drafting teams are only allowed to use the language in the requirements of the standard to develop an interpretation, then the drafting team cannot develop an interpretation. However, if the team were allowed to apply "strict construction" to the four corners of the standard, rather than just the language in the requirements, then the drafting team can develop a clear interpretation.

Granting this relief would permit the use of the language in the compliance section of the standard and would make it clear to operators what the limits of their obligations are with respect to responses to rebalance the system after system disturbances.

In the alternative, if relief is not granted and the interpretation permitted to proceed, a SAR will be submitted to address the issue.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 3
SOTC Meeting
May 8, 2012

# MRC Standards Process Input Group (SPIG) Recommendations

## Action

Discussion of Member Representatives Committee (MRC) input.

## Background

In February 2012, the MRC was asked to commence a working group to provide policy input and recommendations for specific improvements to the existing NERC reliability standards development process. The Standards Process Input Group (SPIG) commenced in March and sought industry input and feedback on a variety of issues which included:

- Quality of standards, to include process and product
- Timeliness
- Efficiency and effectiveness
- Importance and significance of meeting ANSI requirements

The SPIG gathered valuable input and insight on a number of significant issues related to standards development and compiled a report consisting of five recommendations. The MRC followed by the Standards Oversight and Technology Committee (SOTC) plan to discuss, during May 8, these recommendations to determine:

- Which have merit and which need additional refinement;
- If concerns relative to production, efficiency and quality, raised by stakeholders and regulators, have been addressed;
- Whether additional changes to the governance of the standards development process are needed to supplement the SPIG's report; and
- What oversight the SOTC and Board of Trustees will want to see over how implementation issues are analyzed and ultimately proposed for endorsement, acceptance, or approval.

The MRC plans to discuss, during its May 8 meeting, these recommendations to determine which have merit and which need additional refinement. Once the SPIG has received the MRC's input it will finalize a proposal for the implementation of the recommendations before providing a package to the Board of Trustees for their endorsement and action at a later date. In some cases, changes to the Rules of Procedure may be required for final implementation, which will take additional time to develop and gain approval.

The SPIG will present the draft report and its recommendations to the MRC and Board of Trustees for additional discussion and targets the final report and recommendations for Board of Trustees approval in late May 2012.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Recommendations To Improve the NERC Standards Development Process

## Member Representatives Committee (MRC)
## Standards Process Input Group (SPIG)

Draft — April 2012

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Preface

## Formation of the Standards Process Input Group

At its February 9, 2012 meeting, the NERC Board of Trustees (BOT) requested the assistance of the NERC Member Representatives Committee (MRC) to provide policy input, and a proposed framework, for specific improvements needed to the standards development process. The MRC Chair and Vice Chair invited several members of the MRC, two NERC Board of Trustees members, the NERC CEO, and the Standards Committee (SC) Chair to join with them as participants in the Standards Process Input Group (SPIG) in developing recommendations to improve the standards development process in the following areas:

- Clarity on the reliability objectives, technical parameters, scope, and the relative priority of the standards project.
- The drafting process (developing the specific technical content of the standard).
- Standards project management and workflow.
- Formal balloting and commenting.

To help ensure that the SPIG focused its efforts on the best areas for improvement, they began their process by gathering input from subject matter experts (SMEs), including the regions, MRC, Standard Drafting Team leaders, NERC staff, and other stakeholders by asking the following:

- What are the issues that are keeping the process from improving the reliability benefits of the standards?
- What are the impediments to improving the efficiency of completing a new standard or standard revision?
- Are stakeholder resources being used efficiently? If not, then why?

### SPIG Timeline for Input

- Trades input was provided to NERC BOT in January 2012
- Outreach Survey comments received from 105 stakeholders in late February
- SPIG conference call with FERC staff and initial SPIG planning meeting conducted in early March
- SPIG provides preliminary report to MRC for input in early April
- Input from MRC received by April 13
- Additional SPIG planning meeting to consider MRC input conducted April 19-20
- Report revised, finalized, and posted with MRC agenda on April 25
- MRC discussion at MRC meeting on May 8
- Final report to NERC BOT in late May

# Table of Contents

Preface ..... i

Executive Summary ..... 1

Introduction ..... 3

Recommendations from the SPIG ..... 5

Recommendation 1: American National Standards Institute ..... 5

Recommendation 2: Reliability Issues Steering Committee (RISC) ..... 6

Recommendation 3: Interface with Regulatory and Governmental Authorities ..... 10

Recommendation 4: Standards Product ..... 12

Recommendation 5: Standards Development Process and Resources ..... 14

# Executive Summary

The Standards Process Input Group (SPIG) organized by the NERC Member Representatives Committee (MRC) is proposing in this report a number of changes to the way NERC develops Reliability Standards and other solutions intended to improve the priority, product and process of standards development. Inherent in these proposed changes is an effort to better understand, articulate and incorporate, into the standards development process, the appropriate accountabilities for standards development.

For example, Section 215 of the Federal Power Act creates accountability for the Federal Energy Regulatory Commission (FERC), first to certify an Electric Reliability Organization (ERO) for the purpose of establishing and enforcing reliability standards for the bulk power system, and then to approve the standards developed by the ERO. As such, FERC is accountable to the U.S. Congress, which passed the law that created Section 215.

Section 215 also creates accountability for NERC by requiring that the ERO, certified by FERC, have a demonstrated ability to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system. This accountability extends to the NERC management to see that high quality standards are developed in an efficient and effective way and to the NERC Board of Trustees (Board) that must approve those standards before they are filed with governmental regulatory authorities in the U.S. and Canada.

Finally, the stakeholders, whose technical expertise is essential to the development of the standards, have a shared accountability with NERC and with each other to see that the right standards are developed in a fair, open, balanced and inclusive way.

One of the principal recommendations of the SPIG, is the creation of a Reliability Issues Steering Committee (RISC) that is intended to address these issues of accountability by ensuring that NERC develops the right standards, in the right way, and in a timely and efficient manner. To accomplish this, the RISC will conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

In addition to recommending the creation of the RISC, the SPIG also recommends that Reliability Standards Audit Worksheets (RSAWs) be developed concurrent with their associated standards and posted along with those standards for comment. The purpose here is to make sure that the RSAWs are aligned with the intent and wording of the standards to reduce the need for Interpretations and Compliance Application Notices.

Lastly, the SPIG is recommending a redesign of the composition and process used by Standards Drafting Teams to make more efficient and effective use of the subject matter expertise resident in the industry, and to provide those experts with additional support resources in terms of project management and facilitation, legal expertise, and technical writing support.

The recommendations also aim to strengthen consensus building, first on the need for a standard and then on the requirements themselves.

Collectively, these recommendations suggest a major revision of how decisions to develop standards are determined in the first place and, once the decision is made that a new or revised standard is needed, to see that it is developed in the most efficient, effective, and timely way, taking into account throughout the process the costs, benefits and justification for all standards.

# Introduction

*Priority, product and process* are the three main focus areas addressed by the recommendations of the SPIG regarding their review and analysis of the NERC standards development process.

The SPIG provides five recommendations designed for action and for discussion. The analysis of feedback received throughout this project indicates that more discussion should occur around the variety of the changes, improvements, and implementation being proposed in these recommendations, as listed below and described in more detail in this report.

**Recommendation 1: American National Standards Institute** — NERC should continue to meet the minimum requirements of the American National Standards Institute (ANSI) process to preserve ANSI accreditation.

**Recommendation 2: Reliability Issues Steering Committee** — The NERC Board is encouraged to form a Reliability Issues Steering Committee (RSIC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.

**Recommendation 3: Interface with Regulatory and Governmental Authorities** — The NERC Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.

**Recommendation 4: Standards Product Issues** — The NERC board is encouraged to require that the standards development process address:

- The use of results–based standards (RBS);
- Cost effectiveness of standards and standards development;
- Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and
- The retirement of standards no longer needed to meet an adequate level of reliability.

**Recommendation 5: Standards Development Process and Resource Issues** — The NERC Board is encouraged to require the standards development process to be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:

- Formal and consistent project management; and
- Efficient formation and composition of Standard Drafting Teams (SDTs).

These recommendations were derived from a synthesis of stakeholder responses categorized into the following three concentrated areas:

*I. ANSI: Accreditation*

- Preserve ANSI accreditation in order to ensure openness, transparency, consensus building, balance of interests and due process
- Ensure checks and balances of the ANSI process
- Limit application of requirements that can hinder progress
- Limit negative ballots without comment
- Consider other options if ANSI prevents efficiency gains

*II. PRODUCT: Quality of Standards*

- Consider the cost effectiveness (limited value justification)
- Improve clarity in terms of the reliability objective and benefit
- Ensure auditability
- Improve supporting documentation or administrative records
- Improve registered entity and auditor understanding
- Involve industry, NERC and FERC in the quality review earlier in the standards development process
- Seek clarity and technical justification upfront
- Be sensitive not to gear towards compliance risk rather than reliability risk

*III. PROCESS: Efficiency, Timeliness and Effectiveness*

- Address the SDT composition (need expertise in legal, technical writing, compliance, etc.)
- Improve timeliness and effectiveness in terms of commenting/balloting (need to consider the manual effort and timing associated with posting, grouping and responding)
- Manage the number of standards coming through the process at the same time (to ensure the right number can be processed efficiently)
- Seek convergence on consensus (to avoid taking too long to achieve)
- Improve efficiencies (to avoid taking too long)
- Implement a project manager and facilitator (need within the SDT and the back office of NERC)
- Improve communications and coordination between industry, NERC and FERC staff; especially in terms of the compliance/enforcement process

# Recommendations from the SPIG

## Recommendation 1: American National Standards Institute

### Issue

Should NERC continue using the American National Standards Institute (ANSI) process for developing standards?

### Recommendation

***NERC should continue to meet the minimum requirements of the ANSI process to preserve ANSI accreditation.***

### Background

The SPIG's initial survey of the industry asked "How important are ANSI accreditation and ANSI principles (openness, transparency, consensus-building, fair balance of interests, and due process) to the NERC standards development process?" The majority of responses agreed that NERC standards development process should continue to at least meet the minimum ANSI requirements (Figure 1).

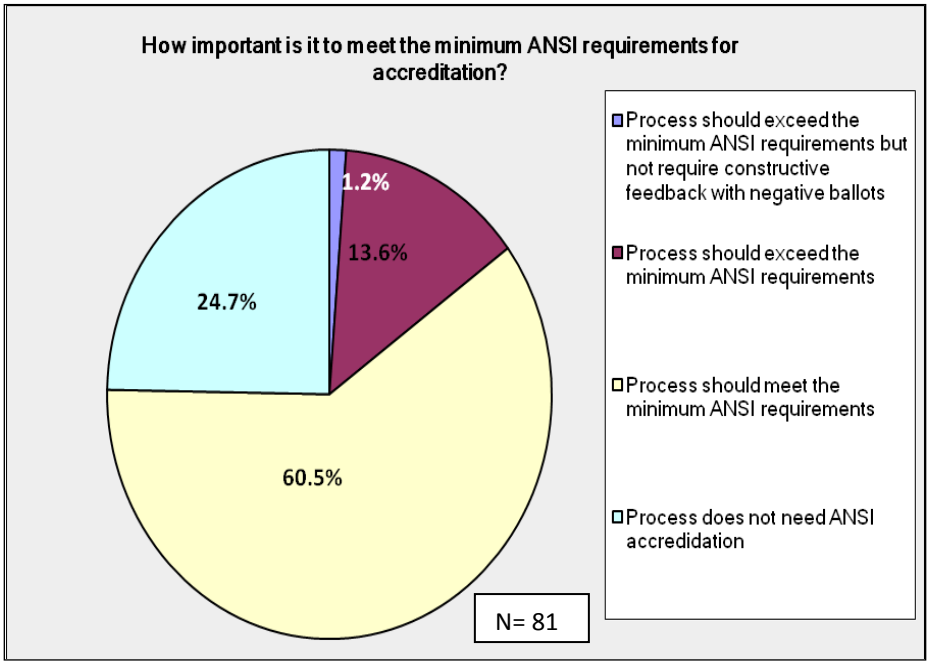



Figure 1: Results from SPIG survey of the Industry, April 2012

According to ANSI, accreditation signifies the standards developer is committed to an open, fair and time-tested consensus process that benefits stakeholders. Developers are accredited to the requirements contained in the *ANSI Essential Requirements: Due Process Requirements for American National Standards*. NERC staff confirms that the current standards process meets and in some cases exceeds the ANSI Essential Requirements.

## Recommendation 2: Reliability Issues Steering Committee (RISC)

### Issue

How should NERC determine:

- What actions are needed to address identified risks to reliability?
- Whether the development of a standard is necessary and its cost/benefit to reliability is justified?
- What should be the priority and timeline for standards development?

### Recommendation

***The Board is encouraged to form a Reliability Issues Steering Committee (RISC) to conduct front-end, high level review of nominated reliability issues and direct the initiation of standards projects or other solutions that will address the reliability issues.***

**Proposed Details**

The RISC would:

- Be comprised of stakeholders including, but not limited to:
  - Chairs and vice chairs of the technical committees;
  - Select MRC members and other stakeholders;
  - Chair, approved by the Board; and
  - NERC Senior Staff member.
- Utilize a broad range of industry and other expertise.
- Analyze performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
- Advise the Board on key initiatives and priorities; recommends standards projects or alternatives (Figure 2).
- Report directly to Board (and not the MRC).
- Require Board review and approval of any significant new ERO initiatives or reordering of ERO strategic priorities.
- Not supersede the role of Standards Committee.
- Set milestones and timelines for standards projects.
- Conform to NERC Bylaws and Rules of Procedure.

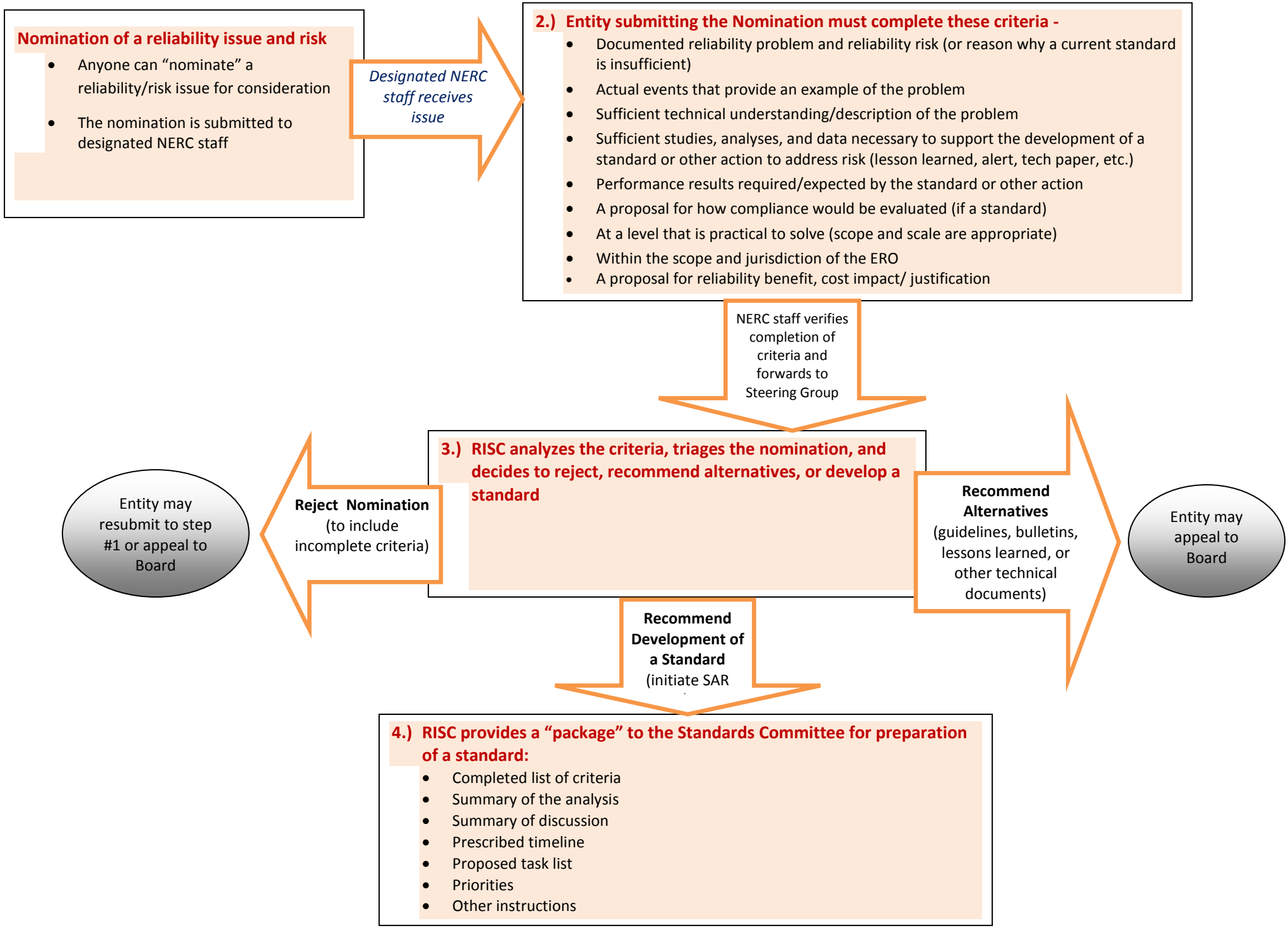
**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Role of the RISC in three-year reliability SDP.
- Modification to existing standards including elimination of duplicative or low value standards.
- Role of RISC with respect to FERC directives.
- Communication between the RISC, Standards Committee (SC), Standards Oversight and Technology Committee, MRC and Board and its technical committees.
- Relationship with governmental authorities.

### Explanation of Figure 2: Proposed Front-End Process Flow Chart

- Anyone can "nominate" a reliability/risk issue, via designated NERC staff, for consideration by the RISC. Upon verification and satisfactory completion of the nomination criteria, the RISC may decide to:
  1. Reject the nomination;
  2. Recommend alternative action other than standards; or,
  3. Develop a standard.
- If the nomination is rejected by the RISC, an appeals process will be available.
- Recommended alternatives to standards may include the development of guidelines, bulletins, alerts, lessons learned, best practices, technical documents, etc. If a standard is recommended, a project management "package" will be prepared by the RISC for the SC, including (as appropriate):
  - The completed list of criteria
  - Analysis of performance gaps, technical viability, reliability benefit, cost impact/ justification, clarity of standard's scope, etc.
  - Discussion
  - Timeline
  - Task list
  - Priorities
  - Other instructions
- The RISC may refer a "package" to the SC with instructions to prepare a standard. The RISC should also inform the MRC and Board of its actions.

## Figure 2: Proposed Front-End Process Flowchart (pathway for the Reliability Issues Steering Committee – RISC)



# Recommendation 3: Interface with Regulatory and Governmental Authorities

### Issue

How can NERC improve the communication and awareness of NERC's strategic initiatives on major risks to reliability to increase alignment of NERC with the concerns of state, federal, and provincial authorities?

### Recommendation

***The Board is encouraged to task NERC management, working with a broad array of ERO resources (e.g., MRC, technical committees, Regional Entities, trade associations, etc.) to develop a strategy for improving the communication and awareness of effective reliability risk controls which increases input and alignment with state, federal, and provincial authorities.***

**Proposed Details**

- Interface with governmental authorities to align priorities and timing of reliability initiatives. Establish and align priorities early on during the nomination of the reliability issue.
- Develop methods to effectively communicate progress and manage expectations.
- Promote effective rules of engagement of state, federal, and provincial regulatory staff in accordance with jurisdictional requirements.
- Following successful ballot of standard and approval by the Board, pre-filing meetings will be held with FERC staff and individual Commissioners to help ensure FERC approval without conditions; and similar efforts will apply with governmental authorities in Canada.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Responsibility for managing the details above, concerning progress and expectations.
- Encourage regulatory authorities to permit staff to submit written comments to the drafting team during informal and formal comment periods.

### Background

The SPIG provides as additional reference and guidance the *Roles and Responsibilities: Standards Drafting Team Activities*, approved by the SC in July 2011, includes the following policy guidance, approved by the NERC Board at its October 29, 2008 meeting, to guide standard drafting teams' responses to regulatory authority staff involvement in standard drafting activities:

a. The standard drafting team has sole responsibility for drafting and approving the language in the proposed standards that are presented to the SC for ballot.

b. NERC and the SC support the involvement of regulatory authority staff in all standards drafting team activities, where permitted by law.

c. NERC recognizes that regulatory authority staff does not speak for the regulatory authority itself and, as such, the input they provide is considered advice.

d. In the event regulatory authority staff does choose to participate in drafting team activities, they should be treated as any non-voting observer or participant.

e. Standard drafting team members should seek out the opinion of regulatory authority staff, consider the regulatory staff input on its technical merits, and respond to written comments offered during a public posting period as it would seek opinions from, consider the technical merits of, and respond to comments offered by other industry stakeholders.

f. To the extent that regulatory authority staff advice is offered to the drafting team (or members thereof) in a forum that is not public and open to all industry participants, the standard drafting team should consider the input as advice.

g. If the team chooses to act on regulatory authority staff advice offered in a non public forum, the standard drafting team chair should either:

   - Request the regulatory authority staff to provide the advice during an open meeting or conference call of the drafting team; or,
   - Document his/her understanding of the issues or advice presented, and include the information in an open industry comment period with the accompanying changes to the proposed standards.

# Recommendation 4: Standards Product

### Issue

How will standards be developed to effectively achieve reliability objectives through clear, high quality Results-Based Standards (RBS) requirements in a cost effective manner?

### Recommendation:

***The Board is encouraged to require that the standards development process address:***

- ***The use of RBS;***
- ***Cost effectiveness of standards and standards development;***
- ***Alignment of standards requirements/measures with Reliability Standards Audit Worksheets (RSAWs); and***
- ***The retirement of standards that are no longer needed to meet an adequate level of reliability.***

**Proposed Details**

- Utilize RBS model as the basis for all standards.
  i. Evaluate all existing standards and revise to meet format of RBS.
  ii. Retire any existing standards that are not chosen to be modified into a RBS format per Board approval.
  iii. Develop all new standards in RBS format.
- Ensure cost effectiveness of standards through documentation of alternatives analysis.
- Include cost impact/reliability benefit analysis in the final standards package posted for ballot.
- Ensure clarity on reliability objectives and compliance obligations.
  i. SDT is responsible for the development of the standard including requirements and measures.
  ii. Compliance staff will develop RSAWs (that will be used in the auditing of compliance) in conjunction and coincident with the development of the standard.
  iii. Post entire package for stakeholder comment, including standards and RSAWs (RSAWs are not balloted).
  iv. Changes to RSAWS after the ballot body develops measure/standard require Board approval.
- Revise Essential Elements of the Standards Template to eliminate redundancies such as Violation Severity Levels (VSLs).
- Consider “applicability” provisions and criteria for those most impacted by implementing a standard.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Establish process to consider elimination of standards and standards requirements that have minimal value.
    i. The recent FERC Find, Fix, Track and Report (FFTR) Order encourages the reduction of unnecessary requirements and a structured process needs to be developed to achieve this.
    ii. Additional options may include a task to the RISC, Operating Committee, or Planning Committee, as determined by the Board.

# Recommendation 5: Standards Development Process and Resources

### Issue

How can the existing standards development process be improved upon and streamlined and how can resources be better utilized to ensure effective, efficient, and expeditious standards development?

### Recommendation

***The Board is encouraged to require the standards development process be revised to improve timely, stakeholder consensus in support of new or revised reliability standards. The Board is also encouraged to require standard development resources to achieve and address:***

- ***Formal and consistent project management***
- ***Efficient formation and composition of SDTs***

#### Proposed Details

- The drafting team will post responses to each comment received during the *final,* formal comment period prior to the recirculation ballot. For other postings, there is no ANSI requirement to post responses to the comments.
- Modify the comment process to:
  i. Bundle responses to comments.
  ii. SDT will post draft standard for informal comment period of 30 days, but not be required to respond to comments.
  iii. Promote an automated system for managing comments.
  iv. Conduct industry webinars between successive ballots to enhance understanding of issues and facilitate consensus.
  v. Facilitate consensus by encouraging industry collaboration and submittal of coordinated comments through Regional Entities and trade groups.
- Ballot process shall:
  i. Use all votes cast by ballot pool member to establish quorum.
  ii. Provide options for voting "No" with guiding choices for the answer with a comment section on the ballot.
- Formalize the use of formal, rigorous project management (i.e., trained leaders, facilitators, scribes, etc.) within SDTs to ensure greater efficiency and effectiveness of the SDTs.
- Revise formation and composition of SDTs model.
  i. Incorporate the support of technical writers, legal, compliance and rigorous and highly trained facilitation support.

ii. Ensure adequate representation and competencies based on complexity of the issue.

- Promote efficiency and timeliness by setting milestones and progress reports.

**Additional Issues to be Addressed (per the Board's Discretion) During the Implementation Phase**

- Reinforce mechanisms to add during the commenting process.

i. Locked list of answer options (e.g., "risk to reliability," "cost concerns," etc.).

ii. "Other" option for the No vote list with a comment section that requires explanation that this approach will balance input to empower the SC to conduct a more thorough balloting process.

iii. Consider bolding of text instructions on all ballots that emphasize the importance of clarity.

iv. Consider the advantage/disadvantage to establishing voting record for each participant/entity.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Reliability Standards

## Standards Oversight and Technology Committee Status Report

May 8, 2012

RELIABILITY | ACCOUNTABILITY






3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

# Table of Contents

Table of Contents ..... ii

Standards Development Forecast (Continent-wide) ..... 4

Standards ..... 4

Interpretations ..... 4

Outstanding Regulatory Directives-Update ..... 5

Regulatory Directives Update ..... 5

Regional Standards Group April 2012 Report ..... 6

Regional Standards–2012 ..... 6

Regional Standards and Variances Adopted by the Board of Trustees and Filed by NERC with FERC: ..... 6

Regional Standard Adopted by the NERC Board of Trustees with Filings Under Development for FERC and the Applicable Governmental Authorities in Canada: ..... 6

Regional Standards and Variances Approved by Regional Entity Board (not included above): ..... 6

Regional Standards Activities and Accomplishments-2012 ..... 6

Accomplishments ..... 6

Other Activities ..... 7

Status of Regional UFLS Standards ..... 7

Status of Efforts to Address Version 0 (Fill-In-The-Blank) Standards ..... 7

Future Regional Standards 2012 ..... 8

# Standards Development Forecast (Continent-wide)

## Standards

**Projects Forecast for Action at the August 2012 Board of Trustees (BOT) Meeting**

- 2007-17 Protection System Maintenance and Testing
- 2008-06 Cyber Security Order 706
- 2009-01 Disturbance and Sabotage Reporting[1]

**Projects forecast for action at the November 2012 BOT meeting**

- 2007-02 Operating Personnel Communications Protocols
- 2007-09 Generator Verification (partial; remainder February 2013) 1
- 2010-14.1 Phase 1 of Balancing Authority Reliability-Based Controls: Reserves (partial; remainder February 2013)2
- 2010-05.1 Phase 1 of Protection Systems: Misoperations

**Projects forecast for action at the February 2013 BOT meeting**

- 2006-06 Reliability Coordination (remainder)1
- 2010-14.1 Phase 1 of Balancing Authority Reliability-Based Controls: Reserves (remainder)
- 2010-07 Generator Verification (remainder)

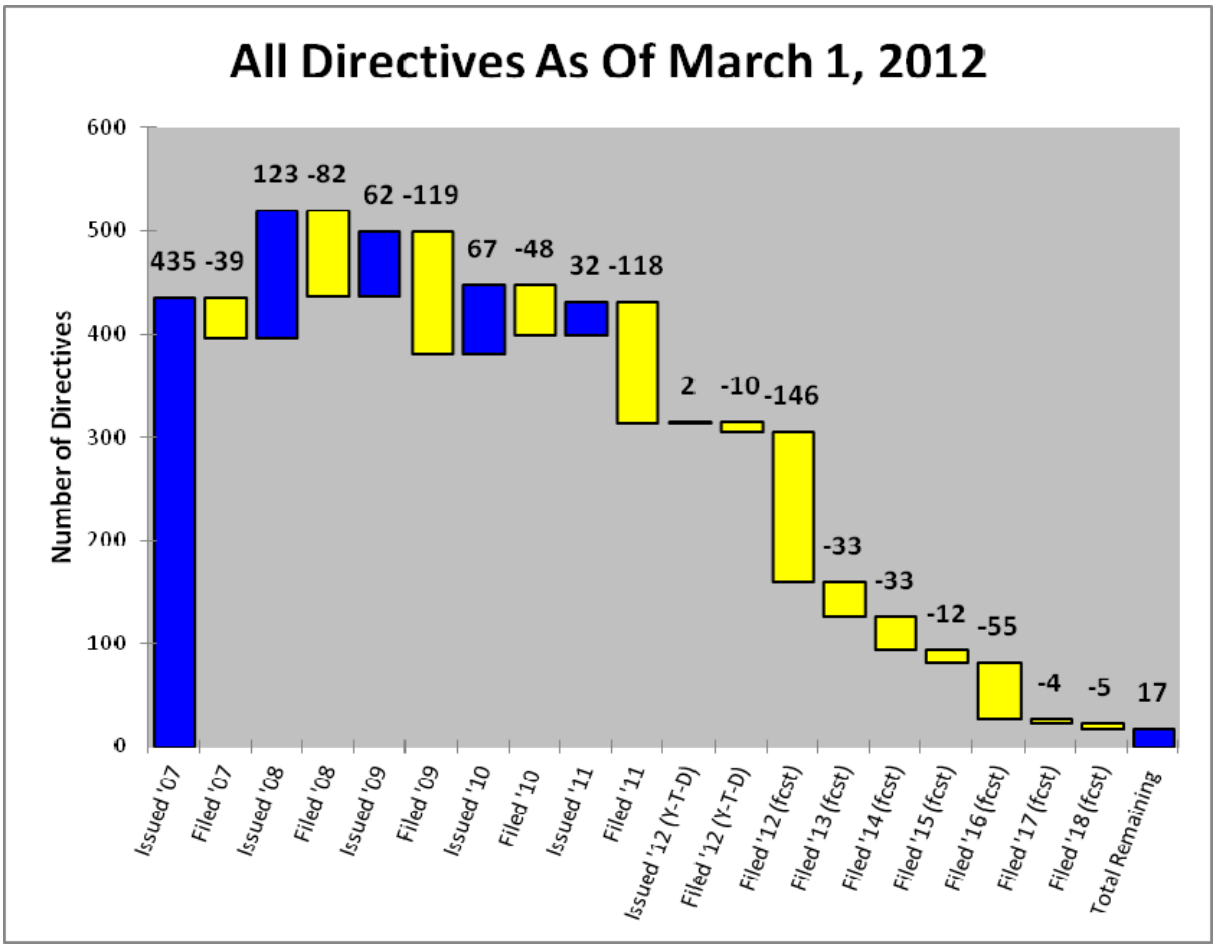
## Interpretations

Four interpretations, including two CIP interpretations and two non-CIP interpretations, being addressed through a rapid revision of the standard, are expected to require action at the August 2012 Board of Trustees meeting. One additional CIP interpretation is expected to require action at the November 2012 Board of Trustees meeting.

[1] This project has been intentionally delayed due to a need to hold a Successive Ballot following an unsuccessful Initial Ballot.
[2] Part of this project has been delayed based on a Standards Committee request to schedule a Successive Ballot to mitigate the risk of an unsuccessful Initial Ballot

# Outstanding Regulatory Directives-Update

## Regulatory Directives Update




**Graph 1**-Waterfall Chart for all directives issued and filed since January 1, 2007

As Graph 1 illustrates, the Federal Energy Regulatory Commission (FERC or Commission) has issued 50 Orders containing approximately 721[3] directives related to NERC Reliability Standards. Of the approximately 721 directives issued since 2007, NERC has initiated and completed projects associated with 58 percent of these directives. We also continue to make substantial progress in addressing the remaining directives focusing first on those that have the greatest impact on reliability. NERC addressed, and filed with the Commission, 118 directives in 2011 and plans to address an additional 156 directives in 2012.

[3] The number of total directives (721) is up from 655 as reported previously primarily due to the identification of 44 additional directives identified in FERC Order 706 and 9 additional directives from the FERC Order on VRFs and VLS for CIP Standards issued January 20, 2011 which was inadvertently left out of previous reports.

# Regional Standards Group April 2012 Report

This report highlights the key activities of NERC and the Regional Entities in support of the Regional Standards Group (RSG) charter obligations in the year 2012.

The RSG meets on a monthly basis and has held four meetings this year, either in-person or by phone. The Regional Entities have worked with NERC staff to perform quality reviews, post Regional Standards to the NERC website, and file Regional Standards and variances with FERC. In addition, the RSG has developed a whitepaper that helps define the differences between Regional Standards and Regional Variances. The RSG also contributed input to the standards section of the Business Plan and Budget Common Assumptions for 2013. As a result of these efforts we report the following:

## Regional Standards–2012

**Regional Standards and Variances Adopted by the Board of Trustees and Filed by NERC with FERC:**

- IRO-006-TRE-01
- PRC-006-SERC-01

**Regional Standard Adopted by the NERC Board of Trustees with Filings Under Development for FERC and the Applicable Governmental Authorities in Canada:**

- PRC-006-NPCC-01

**Regional Standards and Variances Approved by Regional Entity Board (not included above):**

- MOD-25-RFC-01 (Reliability*First* (RFC) has requested NERC staff to delay filing this standard with FERC until a RFC Board directed evaluation of the need for Regional Standards is completed)
- VAR-001-3–Voltage and Reactive Control (WECC Variance)

## Regional Standards Activities and Accomplishments-2012

### Accomplishments

- NERC Regional Standards staff working in conjunction with the RSG members have:
  - Prepared a unified schedule for all regional projects in development (see attached);
  - Processed three regional postings for comment on behalf of the regions;
  - Performed four Quality Reviews on Regional Standards and variances; and
  - Updated the NERC Regional Reliability Standards Under Development webpage.

## Other Activities

- RFC proposed a revised Standard Development Procedure which was approved for filing with FERC by the NERC Board of Trustees in 2011. Subsequent to Board of Trustees approval, RFC requested the filing with FERC be held pending additional changes requested by RFC stakeholders. Those changes have been approved by RFC stakeholders and will be presented to the Board of Trustees in May.
- SERC proposed a revised Standard Development Procedure which was approved for filing with FERC by the Board of Trustees at their February 9, 2012 meeting. The revised procedure was filed with FERC on March 15, 2012.

### Status of Regional UFLS Standards

On November 4, 2010, the NERC Board of Trustees adopted PRC-006-1 Automatic Underfrequency Load Shedding and directed NERC staff to file the standard with FERC. Included in PRC-006-1 are Interconnection-wide variances for Quebec and Western Electric Coordinating Council. Concurrent with the development of PRC-006-1, several Regions were developing regional underfrequency load shedding standards based on historical documents and practices. Two of those regions, SERC and Northeast Power Coordinating Council, subsequently submitted those Regional Standards for adoption by the NERC Board of Trustees. Southwest Power Pool RE has developed its Regional Standard with stakeholder consensus and is expecting to present the standard at an upcoming Regional Entity Trustees meeting for action. Both the Midwest Reliability Organization and Texas Reliability Entity have evaluated the continent-wide standard and determined that it provides sufficient reliability coverage in their respective regions. Florida Reliability Coordinating Council (FRCC) is currently performing a comparison between the NERC Board of Trustees-approved continent-wide standard and the FRCC Underfrequency Program to determine if there are any reliability gaps that would require further action in the form of a Regional Reliability Standard or a regional variance to the continent-wide standard. Finally, Reliability*First* Corporation (RFC) has suspended the current RFC UFLS standard drafting efforts indefinitely until such time the associated NERC standard (PRC-006-1) is enforced and effective.

### Status of Efforts to Address Version 0 (Fill-In-The-Blank) Standards

The Regional Reliability Standards Working Group (RRSWG) issued a report in October 2006 establishing a systematic methodology for resolving the potential issues surrounding the existing NERC Reliability Standards that contain "fill-in-the-blank" characteristics. The report identified 31 continent-wide standards that needed to be addressed and established a workplan to meet the needs identified. Of the 31 fill-in-the-blank standards identified in that 2006 report, revisions to 10 standards have been completed, seven are scheduled to be completed in 2012, two in 2014, one in 2015, nine in 2016, and the last two in 2017.

# Future Regional Standards 2012

**Regional Standards Forecast for Action at the August 2012 Board of Trustees Meeting**

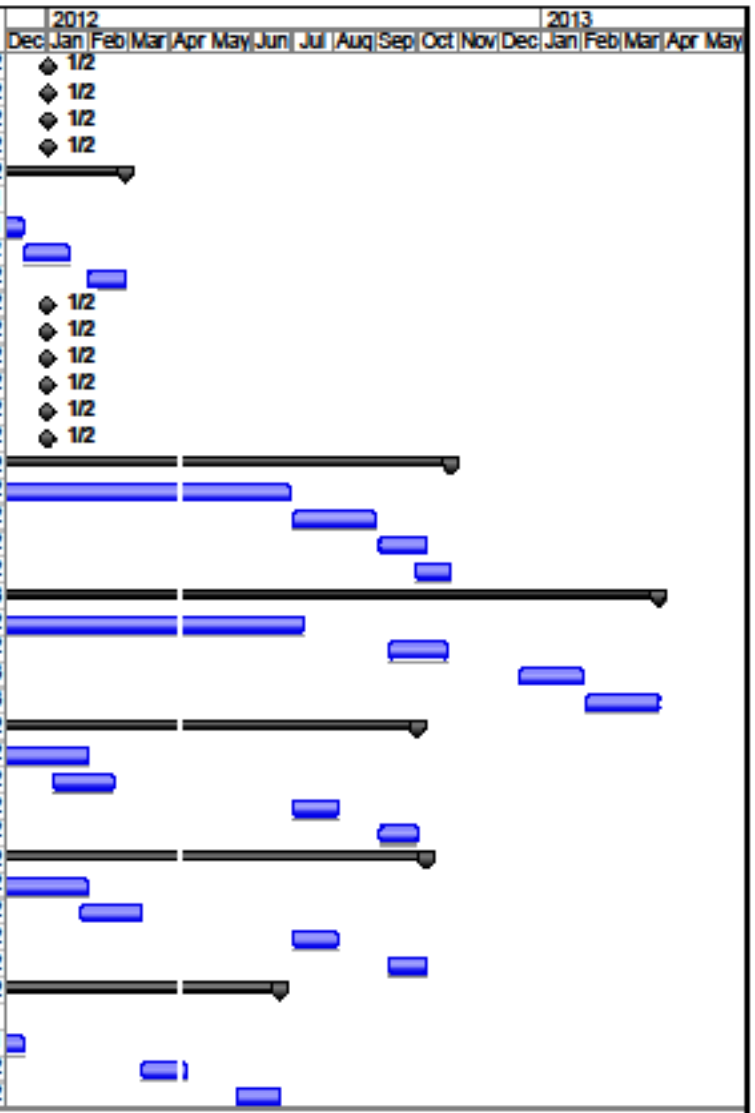
- BAL-002-WECC-01 Contingency Reserves
- BAL-004-WECC-01 Automatic Time Error Correction

**Regional Standards Forecast for Action at the November 2012 Board of Trustees Meeting**

- PRC-006-SPP-01 Automatic Underfrequency Load Shedding

**(see table on next page)**

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **PRC-002-FRCC-1 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 2 | **PRC-003-FRCC-1 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 3 | **PRC-006-FRCC-1 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 4 | **PRC-024-FRCC-1 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 5 | **PRC-006-NPCC-1** | **917 days** | **Mon 8/25/08** | **Tue 2/28/12** |
| 6 | Regional standard development | 805 days | Mon 8/25/08 | Fri 9/23/11 |
| 7 | Posting of Documents for process evaluation at NERC | 45 edays | Mon 10/31/11 | Thu 12/15/11 |
| 8 | Prepare BOT Material | 25 days | Thu 12/15/11 | Wed 1/18/12 |
| 9 | Develop Initial Draft of Regulatory Filings | 20 days | Wed 2/1/12 | Tue 2/28/12 |
| 10 | **PRC-012-NPCC-1 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 11 | **MOD-024-RFC-01 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 12 | **MOD-025-RFC-01 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 13 | **PRC-002-RFC-01 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 14 | **PRC-006-RFC-1 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 15 | **PRC-012-RFC-1 (on hold)** | 0 days | Mon 1/2/12 | Mon 1/2/12 |
| 16 | **PRC-006-SPP-01** | **1302 days** | **Thu 11/1/07** | **Fri 10/26/12** |
| 17 | Regional standard development | 1217 days | Thu 11/1/07 | Fri 6/29/12 |
| 18 | Posting of Documents for process evaluation at NERC | 45 days | Mon 7/2/12 | Fri 8/31/12 |
| 19 | Prepare BOT Material | 25 days | Tue 9/4/12 | Mon 10/8/12 |
| 20 | Develop Initial Draft of Regulatory Filings | 20 days | Mon 10/1/12 | Fri 10/26/12 |
| 21 | **BAL-001-TRE-1** | **666 days** | **Fri 9/10/10** | **Fri 3/29/13** |
| 22 | Regional standard development | 68.38 edays | Fri 9/10/10 | Mon 7/9/12 |
| 23 | Posting of Documents for process evaluation at NERC | 45 edays | Mon 9/10/12 | Thu 10/25/12 |
| 24 | Prepare BOT Material | 35 days | Mon 12/17/12 | Fri 2/1/13 |
| 25 | Develop Initial Draft of Regulatory Filings | 40 days | Mon 2/4/13 | Fri 3/29/13 |
| 26 | **BAL-002-WECC-1** | **472 days** | **Fri 12/10/10** | **Mon 10/1/12** |
| 27 | Regional standard development | 298 days | Fri 12/10/10 | Tue 1/31/12 |
| 28 | Posting of Documents for process evaluation at NERC | 45 edays | Fri 1/6/12 | Mon 2/20/12 |
| 29 | Prepare BOT Material | 25 days | Mon 7/2/12 | Fri 8/3/12 |
| 30 | Develop Initial Draft of Regulatory Filings | 20 days | Tue 9/4/12 | Mon 10/1/12 |
| 31 | **BAL-004-WECC-1** | **477 days** | **Fri 12/10/10** | **Mon 10/8/12** |
| 32 | Regional standard development | 298 days | Fri 12/10/10 | Tue 1/31/12 |
| 33 | Posting of Documents for process evaluation at NERC | 45 edays | Fri 1/27/12 | Mon 3/12/12 |
| 34 | Prepare BOT Material | 25 days | Mon 7/2/12 | Fri 8/3/12 |
| 35 | Develop Initial Draft of Regulatory Filings | 20 days | Tue 9/11/12 | Mon 10/8/12 |
| 36 | **VAR-001-WECC-1** | **442 days** | **Thu 10/14/10** | **Fri 6/22/12** |
| 37 | Regional standard development | 180 days | Thu 10/14/10 | Wed 6/22/11 |
| 38 | Posting of Documents for process evaluation at NERC | 45 edays | Tue 11/1/11 | Fri 12/16/11 |
| 39 | Prepare BOT Material | 25 days | Mon 3/12/12 | Fri 4/13/12 |
| 40 | Develop Initial Draft of Regulatory Filings | 25 days | Mon 5/21/12 | Fri 6/22/12 |




Project: Unified Regional Project Sche
Date: Mon 4/9/12

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

Agenda Item 4a
SOTC Meeting
May 8, 2012

# March 2010 Orders: Review Status of NERC Responses

## Action
Discussion

## Background
On March 18, 2010, the Federal Energy Regulatory Commission (FERC) issued several orders (March 18 Orders) requiring NERC action. The attached table provides an update on NERC's response to the March 18 Orders and next steps in each proceeding.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

| STATUS OF MARCH 18, 2010 ORDERS | | |
|---|---|---|
| **FERC Issuance** | **Action Taken** | **Next Steps** |
| **Order Directing NERC to Propose Modifications to the Electric Reliability Organization Rules of Procedure that Pertain to the Development of Reliability Standards (Docket No. RR09-6-000); FERC's Order also directed that NERC address the Order No. 693 FAC-008 directives within 90 days from the date FERC issues an Order on NERC's proposed Rules of Procedure changes.** | <u>Rules of Procedure:</u><br>• April 19, 2010: NERC filed a Request for Rehearing and Reconsideration, Motion for Stay and Request for Public Conference in response to the Order.<br>• September 16, 2010: FERC issued an Order Denying Rehearing, Denying Clarification, Denying Reconsideration and Denying Request for Stay.<br>• December 23, 2010: NERC made a compliance filing in response to the original Order containing revisions to the NERC *Standard Processes Manual,* which included a new Section 321 to the NERC Rules of Procedure.<br>• March 17, 2011: FERC issued an Order approving NERC's revised Section 300 of the NERC ROP.<br>• July 26, 2011: NERC filed its first Standards Report, Status and Timetable for Addressing Regulatory Directives.<br><br><u>FAC-008:</u><br>• March 17, 2011: FERC issued an Order approving NERC's revised Section 300 of the NERC ROP.<br>• June 15, 2011: NERC filed a revised FAC-008-3 standard with FERC, responding to the Order No. 693 FAC-008 directives.<br>• November 17, 2011: FERC issued an Order Approving Reliability Standard FAC-008-3. | Pursuant to Section 321.6 of the NERC Rules of Procedure, NERC is committed to filing a Standards Report, Status and Timetable for Addressing Regulatory Directives each year on or before March 31. NERC filed a report on March 31, 2012 and will file every year hereafter. |
| **NOPR Regarding a Revision to the Electric Reliability Organization's Definition of BES to include all electric transmission facilities with a rating of 100 kV or above. (Docket No. RM09-18-000)** | • May 10, 2010: NERC filed comments in response to the March 18 NOPR.<br>• November 18, 2010: Order No. 743 issued by FERC which directed NERC to revise its definition of Bulk Electric System.<br>• January 18, 2011: FERC issued an Order Granting Rehearing for Further Consideration Regarding Revision to the ERO Definition of Bulk Electric System.<br>• March 17, 2011: FERC issued Order No 743-A which denied rehearing of Order No. 743, and affirmed and clarified that the ERO revision to the BES definition should occur within the Reliability Standard Development Process to address policy and technical concerns.<br>• January 25, 2011: NERC submitted two separate petitions responsive to Order No. 743 and Order No. 743-A. NERC's Petition for Approval of a Revised Definition of "Bulk | Filings submitted by NERC on January 25, 2012 are pending at FERC.<br><br>Phase 2 of the BES project is underway. |

| STATUS OF MARCH 18, 2010 ORDERS | | |
|---|---|---|
| **FERC Issuance** | **Action Taken** | **Next Steps** |
| | Electric System" alters the previous definition contained in the NERC Glossary of Terms Used in Reliability Standards. The Petition of NERC for Approval of Revision to its Rules of Procedure to Adopt a Bulk Electric System Exception Procedure allows for a process for requesting and receiving exceptions from the NERC definition of Bulk Electric System. | |
| **Order Approving the Transmission Relay Loadability Reliability Standard PRC-023-1 (Order No. 733) (Docket No. RM08-13-000)** | • April 19, 2010: NERC filed a Request for Clarification or Rehearing of Order No. 733, requesting an extension of time past the one year deadline set in Order No. 733.<br>• July 16, 2010: NERC filed action plan and timetable and proposal to split the project into three phases (Transmission Relay Loadability; Generator Relay Loadability; and Stable Power Swings).<br>• February 17, 2011: FERC issued Order No. 733-A, which granted NERC 24 months from the date of the order to comply with the directives to respond to Phase 1 (Transmission Relay Loadability).<br>• March 18, 2011: NERC filed a petition requesting approval of PRC-023-2 and the addition of Section 1700 to the NERC ROP, satisfying Phase I (Transmission Relay Loadability).<br>• July 21, 2011: NERC made an informational filing addressing certain aspects of the August 14, 2003 blackout investigation relative to operation of protective relays in response to stable power swings.<br>• November 22, 2011: NERC filed a Motion for Extension of Time until third quarter 2014 to file a new Generator Relay Loadability Standard (Phase II) in accordance with NERC's prioritization efforts. On February 15, 2012, FERC granted NERC a one-year extension, until September 30, 2013, to complete the new Generator Relay Loadability standard.<br>• March 15, 2012: FERC approved the PRC-023-1 standard and Section 1700 to the NERC Rules of Procedure in Order No. 759. | NERC to file Generator Relay Loadability Standard at FERC by September 30, 2013.<br><br>NERC to address Stable Power Swings at FERC by end of 2014. |
| **Order Setting Deadline for Compliance for NERC to comply with Order No. 693 Directives on TPL-002-0 Reliability Standard (Table 1, footnote b) (Docket No. RM06-16-009)** | • April 19, 2010: NERC filed a Request for Rehearing and Motion for Stay of the Order Setting Deadline for Compliance.<br>• June 11, 2010: FERC issued an Order Denying Rehearing and Granting Partial Clarification, Denying Request for Stay, and Granting Extension of Time.<br>• March 31, 2011: NERC filed a Petition for Approval of Four Transmission Planning System Performance Reliability Standards, including TPL-002-1b.<br>• | Rehearing/Clarification requests are due on FERC's April 19 remand order by May 21, 2012.<br><br>NERC was directed in the April 19 Order to revise footnote b in a manner responsive to the Commission's directives using NERC's Expedited Standards Development |

| STATUS OF MARCH 18, 2010 ORDERS | | |
|---|---|---|
| **FERC Issuance** | **Action Taken** | **Next Steps** |
| | • May 17, 2011: FERC issued a letter of deficiency to NERC identifying eleven areas where FERC required additional information on NERC's March 31, 2011 Petition for Approval of TPL Reliability Standards.<br>• June 7, 2011: NERC responded to FERC's May 17, 2011 letter and included additional information on each of the eleven areas that FERC identified.<br>• October 20, 2011: FERC issued a Notice of Proposed Rulemaking proposing to remand NERC's proposed revision to the Table 1, footnote b in the TPL standards.<br>• December 21, 2011: NERC filed comments in response to the NOPR explaining why the proposed revisions to the TPL standards satisfied Order No. 693 directives.<br>• April 19, 2012: FERC issued an Order remanding the proposed TPL-002-2b standard, finding that the footnote is vague, unenforceable, and not responsive to the Commission's directives. | Process to quickly respond to the remand.<br><br>NERC was also directed in the April 19 Order to issue a data request, pursuant to Section 1600 of the NERC Rules of Procedure, to obtain information from users, owners, and operators of the bulk-power system to provide data on how frequently specific instances of planned interruptions of Firm Demand under footnote b have been used. |
| **NOPR Proposing to Reject Interpretation of Reliability Standard TPL-002-0 Requirement R1.3.10 (Docket No. RM10-6-000)** | • May 10, 2010: NERC filed comments in response to the NOPR.<br>• September 15, 2011: FERC issued a Final Ruling in which FERC declined to adopt its NOPR proposal to reject the proposed interpretation, and instead approved the interpretation to Requirement R1.3.10 of TPL-002-0. The Order directed NERC to make an informational filing within six months from the date of the order explaining whether there is a further system protection issue that needs to be addressed and, if so, what forum and process should be used to address that issue and what priority it should be accorded relative to other reliability initiatives planned by NERC.<br>• March 15, 2012: NERC filed the six-month informational filing as directed. | NERC examining the system protection issue. A Section 1600 data request is being developed to gather information from the industry to conduct further analysis. |
| **Order Setting Deadline for Compliance for NERC to comply with the Order No. 693 Directives on the BAL-003-0 Reliability Standard Frequency Response (Docket No. RM06-16-010)** | • April 19, 2010: NERC filed a Request for Clarification and Rehearing of the Order.<br>• May 13, 2010: FERC issued an order granting rehearing and scheduling a technical conference, and directing NERC to submit a proposed schedule with firm deadlines for meeting compliance with the Order No. 693 directive on BAL-003-0.<br>• September 23, 2010: FERC Technical Conference on Frequency Response.<br>• October 14, 2010: NERC filed comments in response to the technical conference; October 25, 2010: NERC made compliance filing with proposed Frequency Response Action Plan and Timeline.<br>• December 16, 2010, FERC accepted NERC's October 25 Compliance filing and timeline for developing a revised BAL-003 standard by May 2012. | NERC's motion for extension of time to file BAL-003 standard is pending at FERC. The BAL-003 standard drafting team is continuing its work to develop a revised BAL-003 standard. |

| STATUS OF MARCH 18, 2010 ORDERS | | |
|---|---|---|
| **FERC Issuance** | **Action Taken** | **Next Steps** |
| | • March 30, 2012: NERC filed a motion for extension to file a revised BAL-003 standard until more technical analysis can be completed. | |
| **Notice of Proposed Rulemaking on Time Error Correction Reliability Standard BAL-004-1 (Docket No. RM09-13-000)** | • April 28, 2010: FERC filed comments in response to the March 18, 2010 NOPR.<br>• August 20, 2011: NERC filed a Motion to Defer Action on the Time Error Correction Reliability Standard citing its status as currently under review by NERC stakeholders to assess its impact to reliability.<br>• February 22, 2011: NERC filed a status report on BAL-004 activities.<br>• August 11, 2011: NERC filed a Motion to Further Defer Action on the Time Error Correction Reliability Standard, citing the need for further research and analysis filed. | Discussion took place at NERC's September 2011 meeting of the Operating Committee (OC). Field work is still being done to determine the next steps for this project. Waiting for a recommendation from the OC. NERC will review that recommendation when it is received to determine next steps. |
| **Policy Statement on Penalty Guidelines (Docket No. PL10-4-000)** | • June 14, 2010: NERC submitted comments on the Policy Statement urging FERC not to apply the Penalty Guidelines to violations of Reliability Standards.<br>• April 15, 2010: FERC issued an order suspending policy on Penalty Guidelines.<br>• September 17, 2010: FERC issued a Revised Statement and modified Penalty Guidelines which clarified that the guidelines will apply to violations of Reliability Standards, but not to the Commission's review of notices of penalty. Modified Penalty Guidelines will base penalties on the same factors as those in existing enforcement policy statements, but will be applied with more focus by assigning specific and transparent weight to each factor. | None. |
| **NOPR Proposing to Remand Regional Reliability Standard for Resource and Demand Balancing BAL-002-WECC-1 (Docket No. RM09-15-000)** | • May 24, 2010: NERC filed comments in response to the NOPR urging FERC to approve the proposed regional standard.<br>• October 21, 2010: FERC issued Order No. 740 which remanded the revised BAL-002-WECC-1 standard. | Remanded to WECC. |

Agenda Item 4b
SOTC Meeting
May 8, 2012

# Lower Level Facilitating Requirements–FFT Order Paragraph 81

## Action
Discussion

## Background
In the *Order Accepting with Conditions the Electric Reliability Organization's Petition Requesting Approval of New Enforcement Mechanisms and Requiring Compliance Filing* (FFT Order),[1] the Federal Energy Regulatory Commission (FERC or Commission) invited NERC to examine its standards and identify administrative requirements which may be considered for elimination. This briefing will report on the initial activities to date.

## Discussion
From the FFT Order:

> 81. The Commission notes that NERC's FFT initiative is predicated on the view that many violations of requirements currently included in reliability standards pose lesser risk to the Bulk-Power System. If so, some current requirements likely provide little protection for Bulk-Power System reliability, or may be redundant. The Commission is interested in obtaining views on whether such requirements could be removed from the reliability standards with little effect on reliability and an increase in efficiency of the ERO compliance program. If NERC believes that specific reliability standards or specific requirements within certain standards should be revised or removed, we invite NERC to make specific proposals to the Commission identifying the Standards or requirements and setting forth in detail the technical basis for its belief. In addition, or in the alternative, we invite NERC, the Regional Entities and other interested entities to propose appropriate mechanisms to identify and remove from the commission-approved reliability standards unnecessary or redundant requirements. We will not impose a deadline on when these comments should be submitted, but ask that, to the extent such comments are submitted, NERC, the Regional Entities and interested entities coordinate to submit their respective comments concurrently.

NERC staff has formed a cross-functional team to fulfill the intent of this paragraph. The work plan involves, at a high level, the following steps:

- Developing criteria to identify candidate standards and requirements for removal;
- Applying the proposed criteria to the existing body of continent–wide standards;
- Gathering and correlating supporting or complementary analysis, enforcement trends, Annual Plan and Actively-Monitored List analysis, events analyses, trends and previous work of the results-based standards prioritization project, among others;
- Vetting outcomes with stakeholders;

[1] 138 FERC ¶ 61,193 (March 15, 2012).

- Reporting to the Commission;
- Implementing the standard modifications in the normal course of the prioritized standards development work plan; and
- Suspending compliance monitoring and enforcement of the requirements presented to FERC in the filing for eventual retirement, using authorized discretion.

If trustees have questions or need additional information, they may contact Herb Schrayshuen, vice president and director of standards and training, at: herb.schrayshuen@nerc.net or Mike Moon, director compliance operations at: michael.moon@nerc.net.

Agenda Item 5
SOTC Meeting
May 8, 2012

# Standards Committee Report

Since the last Board of Trustees meeting, the Standards Committee (SC) met by conference call on February 16 and March 8, and in person on April 11-12, 2012. SC meeting agendas and minutes are posted at: http://www.nerc.com/filez/scmin.html.

This report outlines major ongoing activities and policy issues under consideration by the SC and its subcommittees that may be of interest to the Standards Oversight and Technology Committee.

## Improve Technical Details in Reliability Standard Audit Worksheets (RSAWs)

The SC is working with volunteers from drafting teams and Standards and Compliance Operations staff to draft a revised process for developing RSAWs using the technical input from drafting teams, and posting the RSAWs for stakeholder comment (and possible inclusion in the Violation Risk Factor (VRF)/Violation Severity Level (VSL) non-binding poll) as the standard is developed. The SC and Compliance and Certification Committee (CCC) reviewed and endorsed the draft process, and the SC and Compliance Operations are ready to support a field test. The SC expects to initiate the field test, using one or two drafting teams, beginning in the second quarter of 2012.

## Formalize Rapid Revision Process

The SC used the draft "Rapid Revision" process in 2011 to successfully develop a permanent modification to a standard as an alternative to processing a request for interpretation. During the first quarter of 2012, the SC identified three additional requests for interpretation as candidates for Rapid Revision. The SC expects to use these additional projects to complete field testing of the draft procedure, and will then formalize the Rapid Revision process in the reliability standards development process.

## Cost-Effectiveness Analysis

The SC Process Subcommittee has formed a small team to review the work of NPCC to consider cost effectiveness during the development of proposed regional standards. The small team is developing a procedure that will allow consideration of cost impacts associated with reliability standards during the standard development process.

## Realign Quality Review to Occur Earlier in Standard Development

While the results of the Quality Review step added to the standard process have improved the overall quality of standards posted for comment, drafting teams and quality review volunteers have recommended moving the support provided by reviewers earlier in the process, before the team finalizes its initial draft of a proposed standard. The SC plans to assign additional personnel to newly-formed drafting teams to provide legal and compliance support as the initial draft of the standard is developed. This should improve efficiency in the reliability standards development process.

## VRF/VSL Proposals

A team of industry stakeholders, NERC staff and Regional Entity staff have been working for some time to revise the definitions for VRFs (to ensure greater granularity by introducing "administrative" and "severe" risk categories) and to develop a set of pro forma VSLs (to ensure consistency and simplify the labor-intensive process of developing VSLs during the standards process). While there is support for the VRF proposal, project participants could not reach agreement on a VSL proposal. The SC will consider next steps at its April meeting.

## Compliance Application Notice (CAN) Prioritization

The SC developed a set of criteria with associated weights for use in prioritizing the list of outstanding CANs. The SC provided the criteria and proposed weights to the compliance operations staff for use by other committees.

## Project Schedule Management

The SC is working with the standards staff to ensure that the number and complexity of standards posted for comment and ballot at the same time does not exceed the ability of stakeholders to provide constructive, timely comments needed to reach technical consensus. The standards program now has 14 standards projects, plus numerous interpretation requests, under active development. During the first quarter 2012, it became apparent that a large number of projects, including CSO706, would be ready for posting for 30- and 45-day formal comment and ballot at the same time, during the March-April 2012 period. To manage this workload for stakeholders and make efficient use of drafting team and NERC staff resources, postings for some projects have been delayed by several weeks. Consequently, some projects that would otherwise be reported as "on schedule" will now be reported as "behind schedule" simply because there are too many standards ready for posting at one time.

## Upcoming Activities

### Reliability Standard Development Plan (RSDP) 2013-2015

Work has already begun in seeking support from the technical committees in developing the studies needed to support future standards projects. The formal process to update the RSDP for 2013-2015 will be initiated in April.

### Standards and Compliance Workshop

The SC worked with the standards and compliance staffs planning the biannual standards and compliance workshop which took place April 16-18, 2012 in San Diego, CA.

## Policy Input

The SC is seeking SOTC guidance on the SC's role in responding to NERC strategic and emerging technical issues, such as responses to major events (cold snap), risks (GMD) and studies by NERC technical committees (any outcomes from OC, PC, CIPC reports).

If trustees have questions or need additional information, they may contact Allen Mosher, chair of the standards committee, at amosher@publicpower.org or Herb Schrayshuen, vice president and director of standards and training, at herb.schrayshuen@nerc.net.

Agenda Item 6
SOTC Meeting
May 8, 2012

# NERC Technology Update

## Action
Information

## Background
The information discussed in the document below is designed to give an update on NERC Technology. The information will provide a status on items discussed during the Standards Oversight and Technology (SOTC) meeting held in Phoenix on February 8, 2012.

If trustees have questions or need additional information, they may contact Marvin Santerfeit, director of information technology and services, at marvin.santerfeit@nerc.net.

# NERC Technology Update

## Technology Update

The following information is designed to give an update on the technology status at NERC. The items presented are in line with the overview given at the SOTC meeting held in Phoenix on February 8, 2012.

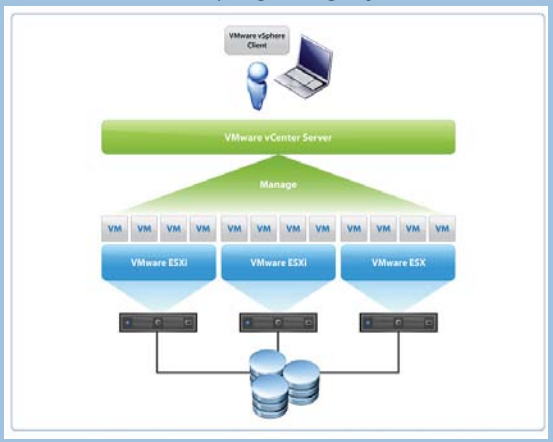
## Princeton Office Data Center Close-Down

All but the bare minimum data center equipment, including Servers, Storage Area Network, associated routers, switches and firewall equipment has been removed from the Princeton office. Remaining essential equipment has been left in place to accommodate three to four headcount who will continue to work in the office until it is subleased, and all other equipment that could be re-used has been relocated to the Atlanta Data Center. One low cost Internet circuit was left in place for connectivity to resources located in the Atlanta Data Center, but more expensive point-to-point lines have been disconnected.

## Development Environment

By leveraging the capability of VMware (Virtualization) discussed during the SOTC NERC technology update on February 8, 2012, Information Technology (IT) has built a development environment complete with Development, Quality Assurance (QA) and Production. The development environment will allow the IT development team to develop applications in an environment segmented from other production applications. Applications that have been developed based upon customer requirements will be moved into the QA space for rigorous testing and validation prior to being moved into the Production (customer accessible) virtual farm.

Illustration – Vmware Environment




By using the capabilities of VMware it will provide the ability to install multiple versions of the Microsoft Operating System (OS) to test backward compatibility and to run multiple instances of development and QA without having to purchase multiple pieces of hardware. Further, external vendors can be provided access to the development space in order to code pieces of an application without compromising security, or interfering with development in other parts of the development space.

## SharePoint 2010

NERC purchased SharePoint 2010 licenses in January 2012 with plans to deploy the product to NERC internal users by end of Q3 2012. IT will use the capabilities of SharePoint 2010 to create applications and workflow processes in the development, QA and production environment, but the overall product will not be rolled out until Q3. The rationale to hold deployment until Q3 is driven by a desire to use the same style guide, design scheme, etc., being developed by Dell for the NERC public website. Upon completion of the public website redesign and deployment, pieces of the redesign will be used to implement SharePoint 2010 for the internal NERC Intranet site and individual department SharePoint 2010 sites for a consistent look and feel across the organization.

## NERC Public Facing Website

Dell conducted an assessment of the NERC public facing website in January 2012 and a brief overview of their findings was presented during the Phoenix SOTC meeting. Since the Phoenix SOTC meeting subsequent sessions have been held with Dell to better understand the scope of the proposed redesign effort. As a brief recap, the planned redesign of the public website would occur over the course of an 18-week timeframe with the majority of the effort focused on creation of metadata (search criteria) for NERC documentation. The website redesign effort would not be inclusive of any application redesign in Phase I.

As a result of further discussion with Dell effort has started on redesign of the NERC public facing website for a planned deployment at the end of Q3 2012. The redesign of the website has substantial scope and will leverage the resources of both Dell and internal NERC resources to create a governance framework for document publishing to the external website, and for ongoing archival and review processes. A further update will be presented at the next SOTC meeting.

Agenda Item 6a
SOTC Meeting
May 8, 2012

# Major 2013 Information Technology Initiatives

## Action
Information

## Background
The information discussed in the document below is designed to give an update on the NERC 2013 Information Technology initiatives. It is informational only and will provide an overview of multi-year strategic initiatives that will require investment in software, hardware and consulting resources to design and deploy a centralized ERO data repository.

If trustees have questions or need additional information, they may contact Marvin Santerfeit, director of information technology and services, at marvin.santerfeit@nerc.net.

# Major 2013 Information Technology Initiatives

## Introduction

The mission of Information Technology (IT) and Services is to plan, design, implement and operate technology that will support NERC's charter to ensure reliability of the bulk power system (BPS). An important component of this mission involves the implementation of a centralized data repository with the necessary infrastructure to accept inbound data and catalog in one location for access across the Electric Reliability Organization (ERO). The resulting data repository would provide the necessary visibility to information required by NERC and the Regional Entities in order to gain better data intelligence and collaboration across the ERO.

The ERO has many methods by which to obtain data required to ensure the reliability of the BPS. However, there is no one single location in which to capture and mine data across the ERO to give broad spectrum visibility across multiple disciplines: Compliance Operations, Critical Infrastructure, Standards and Reliability Risk Management. Implementation of a single data repository designed to capture information across disciplines within the ERO sets the stage for improved reporting, consistent data, improved efficiency and adherence to regulatory requirements.

The NERC's proposed 2013 IT budget sets the framework to begin implementation of a single data repository. Proposed contract, consulting, and operations and maintenance (O&M) budget amounts are tailored to ensure the building blocks are in place to continue strategic ERO initiatives started in 2012. Set forth below are the specific goals that will be supported by the proposed expenditures for data storage hardware, network equipment and consulting resources needed for design and implementation of phase I of a multi-year effort to centralize data into a single ERO data repository.

## Goals

NERC IT has two main strategic goals for 2013 that are part of a multi-year strategy to consolidate applications and databases to provide visibility and collaboration across the ERO.

1) With the Regional Entities and the continued assistance of external consulting support, deploy a common, enterprise-wide technology platform that embraces the requirements of the Regions and stakeholders for reliable, secure, efficient and cost-effective systems and services.
2) Design a Data Warehouse capability with a single repository of data designed to provide a reliable, stable, and secure environment for reporting across multiple-program areas.

In order to achieve the two strategic IT initiatives outlined in 2013, IT has proposed a number of items in the 2013 budget tailored to achieve the aforementioned initiatives. Specific items targeted in 2013 as part of the multi-year strategy to align ERO applications include:

- Compliance Reporting and Tracking System (CRATS)
- Reliability Assessment Database
- Event Analysis
- Bulk Electric System Definition
- ES-ISAC
- TADS, GADS, DADS

## Implementation

To deliver on these strategic initiatives outlined in the 2013 draft budget, IT will augment existing technology staff to include Project Management Office (PMO) with contract resources that will increase the IT component of NERC's Contract and Consulting budget in 2013 compared to 2012. The ERO PMO, following established procedures, will competitively procure vendor resources to support database design and implementation. These design and implementation services will be targeted toward development of a single data repository in order to capture the multiple streams of data required to support ERO applications noted above.

The next phase of implementation will leverage tools such as Microsoft SharePoint 2010 in addition to other business intelligence tools to create applications for both NERC and the Regions for a single, holistic look at data across the ERO. The resulting single repository of data will be much more efficient across NERC and the Regions, coupled with lower resource utilization required for supporting the current multi-database, multi-application infrastructure.

The implementation is targeted as a multi-year strategy designed to provide a much more seamless access to data across the ERO.

## Summary

NERC, in partnership with the Regional Entities, has developed this multi-year strategy to substantially improve visibility to data across the ERO. The strategy will require an increase in contract and consultants, along with infrastructure to create a single data repository, along with applications to mine data, improve access and collaboration and ultimately achieve better visibility to potential impacts to the BPS.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Standards Oversight and Technology Committee Mandate

## Approved by Board of Trustees: November 4, 2010

1. The Standards Oversight and Technology Committee (SOTC) shall be composed of not less than three and not more than six Trustees.

2. The members of the SOTC shall be appointed or reappointed by the Board at the regular Meeting of the Board immediately following each Annual Meeting of the Member Representatives Committee. Each member of the SOTC shall continue to be a member thereof until his/her successor is appointed, unless he/she shall resign or be removed or shall cease to be a Trustee of the Corporation. Where a vacancy occurs at any time in the membership of the SOTC, it may be filled by the Board of Trustees.

3. The Board of Trustees or, in the event of their failure to do so, the members of the SOTC, shall appoint a Chair from among their members. The SOTC shall also appoint a Secretary who need not be a Trustee.

4. The place of meeting of the SOTC and the procedures at such meeting shall be the same as for regular Board meetings of the Corporation, or as determined by the members of the SOTC, provided that:

   (a) A quorum for meetings shall be a majority of the number of members of the SOTC.

   (b) The SOTC shall meet as required and at least twice a year.

5. The objectives of the SOTC are as follows:

   (a) To provide the board with a thorough evaluation of and recommendations for action on proposed NERC projects that employ new technology. Such projects could include, but not be limited to: real-time system monitoring and visualization tools, reliability performance analysis tools, information and data exchange networks, reliability performance data bases, etc.

   (b) To provide the board and the NERC Standards Committee with a thorough evaluation of and recommendations for action regarding the strategic direction of NERC's standards development program.

116-390 Village Blvd.
Princeton, NJ 08540
609.452.8060 | www.nerc.com

(c) To provide advice and recommendations to the board on any technical or standards issue referred to it by the board.

7. To achieve its objectives, the SOTC shall:

(a) Review all projects that employ new technology that may be proposed from time to time by the Corporation's staff or one of the Corporation's committees;

(b) Thoroughly evaluate all such proposals from both technical and financial standpoints;

(c) Make recommendations, as appropriate, to the board, including recommendations to include such projects in the NERC business plan and budget;

(d) Respond to the board's requests for advice and recommendations on any technical issues referred to it by the board;

(e) Review with management the corporation's computer systems, including procedures to keep the systems secure and contingency plans developed to deal with possible computer failures;

(f) Provide oversight of NERC's implementation of the North American SynchroPhasor Project;

(g) Identify strategic priorities for reliability standards development and provide feedback to NERC Standards Committee and board on annual work plan;

(h) Monitor overall results, including quality and timeliness of standards development work, and make recommendations to NERC Standards Committee and board regarding needed improvements;

(i) Assess emerging reliability risks affecting standards and make recommendations as appropriate;

(j) Monitor progress in addressing regulatory mandates and directives related to standards;

(k) Serve as the Level 2 Appeals Panel as set forth in the NERC Standards Process Manual, Appendix 3A to the NERC Rules of Procedure;

(l) Periodically review NERC's status with the American National Standards Institute;

(m) Respond to the board's requests for advice and recommendations on any technical issues referred to it by the board;

(n) Review this mandate on an annual basis and recommend to the board Corporate Governance and Human Resources Committee any changes to it that the SOTC considers advisable;

(o) Complete a self-assessment annually to determine how effectively the SOTC is meeting its responsibilities; and

(p) Perform such other functions as may be delegated from time to time by the board.

**NERC System Protection and Control Subcommittee**

April 24-26, 2012 Meeting Notes

APS Offices, Phoenix, AZ

SPCS unanimously supported Mr. Bill Miller of ComEd, the current Vice Chairman, to succeed Mr. Jonathan Sykes who is completing his term as Chairman this year. SPCS elected Mr. Phil Winston of Southern Company as the new Vice-Chairman. The names of the new Chair and Vice-Chair will be submitted for the Planning Committee approval.

Mr. Tatro reviewed with the SPCS the status of the Data Request developed jointly by SPCS and SAMS in response to FERC Order 754. The proposed Data Request has been submitted to FERC for review in accordance with procedure. To expedite the work, NERC requested FERC to reduce their review time to seven days from the normal 21 days. If FERC has no issues with the Data Request, it will then be posted for a second round of 45 days open process during which two webinars will be held. If all goes as expected, comments received in open process should be available by June 25, 2012. A conference call of SPCS and SAMS will then be scheduled during the second week of July to develop responses to the comments. Once the NERC BOT approved the proposed Data Request, it will be issued to applicable registered entities for implementation. NPCC members may use existing A-10 assessments to meet the Data Request but may have to perform a review against the performance criteria specified within the Data Request to ensure consistent reporting.

Mr. Tatro reviewed with the SPCS the status of the SPCS's request for an interpretation of the TPL-003 and TPL-004 standard to address Commission concerns related to the terms "Single Point of Failure" and how it relates to system performance and contingency planning involving study of system performance and evaluation of shared or non-redundant protection system components. The drafting team working on the interpretation has developed a draft response and will be reaching out to the regional protection and planning/studies groups to obtain feedback before it will be posted in the Open Process for comments. This will be followed by a ballot by the industry and approved by the NERC BOT. If approved it will be attached as part of the standards and sent to FERC who will issue it as a NOPR.

SPCS worked on two issues to address FERC Order 758: 1) a list of failure modes for reclosing relays to be given to SAMS so that they can determine if there can be a system reliability concern due to one or more of these failure modes. SAMS will also address FERC's concern that reclosing may be required to address reliability issue and therefore reclosing relays should be included in the protection maintenance standard PRC-005 and 2) a list of devices which do not sense electrical quantities (non-electrical devices) that, if not maintained, can impact reliability.

With respect to reclosing issue, SPCS members agreed that all elements are subjected to permanent faults. Therefore, reclosing schemes are provided for convenience and not for reliability purposes such as to meet system performance criteria or to maintain system stability. This aspect of FERC's concern, however, is for SAMS to decide.

With respect to non-electrical devices, SPCS developed a list of non-electrical devices and members agreed that the only non-electrical device that could potentially be included in PRC-005 is the sudden pressure relay (Device 63) because of the operational speed of this device and of its potential failure resulting in catastrophic transformer failure affecting other elements in the substation. SPCS will write a letter to the IEEE transformer committee to seek their input on the maintenance activities and intervals for this device. SPCS will also conduct a survey and review the manufacturer literatures on maintenance associated with this device. SPCS formed a sub-team to draft a paper. If SPCS concludes that sudden pressure relay should be included in the standard, a SAR will be developed. SPCS also reviewed the general approach in which this device can be included in the PRC-005 standard. NERC plans to push the current draft PRC-005-2 standard through for approval while the drafting team will continue to work on drafting PRC-005-3 standard to incorporate reclosing relays and sudden pressure relays if SAMS and SPCS, respectively, deem appropriate to do so.

SPCS reviewed the proposed changes developed by a sub-team led by Mr. Winston to add the following clarifying language to the misoperation reporting template:

1. Event description – should include root cause (currently provided in the corrective action field that does not get to NERC). NPCC suggested the event description includes the initiating actions and the field length be increased from 1000 to 2000 characters so that more information can be provided by reporting entities.
2. Relay technology – should only be reported if the cause is relay failure or malfunction
3. "Corrective action plan target completion date" be changed to "Corrective action plan or analysis in progress target completion date"
4. Equipment Removed from Service – add clarifying language such as "note: breaker should be used only if a single breaker tripped and didn't interrupt an element, one breaker in a multiple breaker protected line, bus tie breakers, etc.
5. Cause of misoperation – add field value for "other-explainable"
6. Misop Category – add note regarding slow trip in the Definition tab.

Mr. Winston will send out the proposed changes for additional comments by SPCS members. The sub-team was also asked to develop instructions for consistent reporting of the total number of operations as part of the quarterly misoperation reporting for calculating the metric. The method developed by the IEEE in 1999 was suggested as a basis. These changes and the method for collecting the number of operations will be reviewed with ERO-RAPA group and NERC Staff before they will be issued to the Regions in June for incorporation into the third Quarter reporting.

SPCS reviewed the status of PRC-004-3 standard. Drafting team and NERC are working to get all the documentations ready for open process posting. NERC also made commitment to the Board to have this standard completed by August for approval. Initially, misoperation reporting was not going to be part of the standard. However, upon review of ROP 1600, data collected through this procedure can't really be associated with a standard. Hence, misoperation reporting is being re-incorporated into the standard.

SPS reviewed the draft SPS white paper and made revisions to the draft. NPCC provided input based on its current criteria and practices on SPS design, especially for SPSs that are installed to mitigate extreme contingencies. NPCC representative also suggested that SPS requirements include disturbance monitoring for the analysis of the SPS performance. NPCC stated that its members are interested in NERC developing standards that are as much or more stringent than NPCC. To the extent that this can be accomplished, NPCC will consider retire its criteria so that its members don't have to follow two sets of reliability rules.

Future Meetings:

June 26-28, 2012 – PG&E Offices - San Francisco, CA 2 ½ days
August 28-30, 2012 – MRO Offices - St, Paul, MN 2 ½ days
Nov 7-9, 2012 – Com Ed Offices - Chicago, IL 2 ½ day
Feb 5-7, 2012 – FPL Offices - Juno Beach, IL 2 ½ day