



**RCC Meeting
March 1, 2023
Agenda Item 8.11**

**Reliability Assessment Program
(NRAP)
HIGHLIGHT REPORT**
*Prepared for the
Reliability Coordinating Committee
March 1, 2023*

Distributed to:

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Members, Compliance Committee
Members, Regional Standards Committee
Members, Task Force on System Studies
Members, Task Force on System Protection
Members, Task Force on Coordination of Planning
Members, Task Force on Coordination of Operation
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and
NPCC Staff



Reliability Assessment Program

HIGHLIGHT REPORT

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RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program Regional Standards Committee

Item	Name	Assignment
RSC	Regional Standards Committee	<p>The NPCC Regional Standards Committee (RSC), a committee of the NPCC Board, is charged with management and maintenance of the NPCC Regional Standard Processes Manual (approved by FERC Dec. 23, 2014). The RSC considers requests for new or revised regional standards and be available for advisement to the NPCC Board of Directors on standards related matters. The RSC works in coordination with the Regional Standards Process Manager (RSPM) who is the administrator for the NPCC Regional Standard Processes Manual. In addition, the RSC reviews, comments on, and develops ballot recommendations for the NERC Reliability Standards under review or development. The RSC also provides oversight for the NPCC Regional Reliability Directories which contain NPCC’s more stringent regional Criteria and supporting procedures and guidelines. The RSC also conducts and coordinates the NPCC Cost Effectiveness Analysis Procedure (CEAP) for evaluation of the cost effectiveness of NPCC’s Regional Standards and Directories. The RSC provides input to the NERC “Periodic Review Projects” and the NERC version of the CEAP being referred to as cost effectiveness and is providing input into the “Standards Efficiency Review” (SER) project. The SER allows the industry the opportunity to identify potential standard requirements which could be candidates for retirement. The RSC also discusses potential avenues to address potential reliability related issues as well as opportunities to enhance reliability associated with the deployment of Distributed Energy Resources (DER). In addition, the RSC coordinates work with the RCC and CC to address any issues identified with standards to improve standards and reliability. The RSC also is sanctioned in the Compliance Guidance Policy process to vet potential approaches to compliance prior to submission to NERC and is engaged in revising the NPCC Regional Standard Processes Manual. The RSC will also serve as a liaison for the Northeast Region to the NERC RSTC for any Standards related recommendations.</p>

Status/ Comments:

The RSC is focused on the review of each of the NERC Reliability Standards (as they are developed, revised, or reviewed for reaffirmation or retirement). The RSC is currently reviewing all the FERC Orders and NOPRs that pertain to Reliability Standards. The RSC develops recommendations for membership on ballots when posted. The RSC also supports the NERC Standards Efficiency Review, Functional Model Working Group, NERC Standards Committee, and the NERC Standards Committee Process Subcommittee. The RSC is in the process of reviewing the NPCC Regional Reliability Standards Development Procedure, renamed the Regional Standard Processes Manual. The RSC continues to participate in the NERC Standard Processes Manual revisions and the Results Based Standards Initiative through its support of the Standards Committee Process Subcommittee and solicits members for the NERC drafting teams as necessary to ensure NPCC is adequately represented. The RSC has been overseeing the Strategic Review of NPCC Criteria.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards Committee

Item	Name	Assignment
RSC	Regional Standards Committee	<p>The RSC continues to consider enhancements to the NPCC Website to provide further uniformity and consistency with that of NERC and other Regions.</p> <p>Status/Comments: The RSC is currently engaged in reviewing a potential approach to the penetration of utility-scale Distributed Energy Resources (DERs) on the distribution system, and its adverse impact on the BES. The Distributed Energy Resource BES impact reporting form is posted on the NPCC website. The RSC hosted three DER/VER forums in 2022 and the goal is to host three more forums in 2023. The DER Forums are open to the public. The next DER/VER Forum is tentatively scheduled for May 25, 2023. The DER/VER Forums are hosted on the second day of RSC meetings. The NPCC Standards staff developed Version 1, 2, and 3 of the DER Guidance Document which was endorsed by the members of RSC in 2019, 2020, and 2021. NPCC DER Guidance Document Appendix J is developed based on the DER/VER Forums held by the RSC in 2022. It is also posted for industry comments from September 23, 2022, to November 7, 2022. All industry comments are addressed and posted by the NPCC Standards Staff. The document also received endorsement from the RSC members on November 23, 2022.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-1	Basic Criteria for the Design And Operation of the Bulk Power System	Appendix A – ERO Standards Appendix B – Guidelines and Procedures for NPCC Area Transmission Review Appendix C – Procedure for Testing and Analysis of Extreme Contingencies Appendix D – Guidelines for Area Review of Resource Adequacy Appendix E – Guidelines for Requesting Exclusions to Sections 5.4.1 (B) and 5.5.1 (B) of NPCC Directory No. 1 Design and Operation of the Bulk Power System Appendix F – Procedure for Operational Planning Coordination Appendix G – Procedure for Inter Reliability Coordinator Area Voltage Control	TFCP TFCP TFCP TFCP TFCO* TFCO*	September 30, 2015

Status/ Comments:

Currently the RCC is monitoring an Implementation Plan governing protection upgrades in New England. The TFCP has approved a Scope of Work, and a Joint Planning and Operations Working Group is currently reviewing Directory No. 1 in accordance with the TFCP Scope. The Working Group anticipates an initial posting of the document in mid-2023. The TFCP has proposed new footnotes to clarify how testing required by Tables 1, 2, and 3 of Directory No. 1 should be performed in locations where free standing or column-type current transformers (CT) are provided on only one side of a live tank circuit breaker protecting a transmission element. The footnotes were posted to the Open Process, comments were addressed and the RCC approved at its meeting on December 6, 2022.

A Roadmap to Implement Future Revisions to Directory No.1 has been developed to initiate a reliability discussion and provide a path forward to the appropriate NPCC technical groups and committees. The Roadmap document examines the current issues confronting the industry (Energy Adequacy (all hours), Resource Adequacy Metrics, Essential Reliability Services, Electrification Load Forecasting Issues) and highlights specific portions of Directory No. 1 that should be considered for revision in order to address these challenges. *The Roadmap to Implement Future Revisions to Directory No.1* was endorsed by the RSC and RCC at their respective December 2022 meetings.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-2	Emergency Operation	Appendix A – Definition of Terms Appendix B - Guideline and Procedure for Emergency Operation	TFCO TFCO TFCO	June 29, 2018
	Status/ Comments:	The Task Force on Coordination of Operation (TFCO) and its CO-8 Working Group continues its triennial review of Directory No. 2 as part of TFCO’s 2023-24 Work Plan.		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-3	Maintenance Criteria for Bulk Power System Protection	Appendix A – Definition of Terms Appendix B – Guidelines and Procedures for Maintenance of Bulk Power System Protection	TFSP TFSP TFSP	Retired April 1, 2015
	Status/ Comments:	<p>The Task Force on System Protection (TFSP) completed a technical comparison of the criteria in Directory No. 3 with PRC-005-2 <i>Protection System Maintenance</i> and recommended that the criteria in Directory No. 3 be retired.</p> <p>The RCC approved the TFSP recommendation and on October 15, 2014 the NPCC Full Membership voted to approve the retirement of Directory No. 3, effective April 1, 2015, upon the enforcement date of PRC -005-2 <i>Protection System Maintenance</i>.</p>		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-4	BPS Protection Criteria		TFSP	January 30, 2020
		Appendix A – Guideline for Bulk Power System Protection	TFSP	
		Appendix B - Procedure for Reporting to TFSP New and Modified Protection Systems	TFSP	
	Status/ Comments:	The NPCC Full Member Committee approved the current version of Directory No. 4 on January 30, 2020.		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-5	Reserve	Appendix A – Monitoring Procedure for Operating Reserve Criteria Frequency Response	TFCO	September 27, 2019
		Appendix B – Procedures during Abnormal Operating Conditions	TFCO	
		Appendix C – Participation Request Form – Simultaneous Activation of Reserve and ACE Diversity Interchange	TFCO	
		Appendix D – Guidelines for Determining the Time T+0	TFCO	

Status/ Comments:

The Task Force on Coordination of Operation (TFCO) completed a comprehensive review of Directory No. 5 in 2019 with the NPCC Full Membership approving the revised version of Directory No.5 on September 27, 2019. The review considered the impact of evolving ERO standards, NPCC Glossary updates and revisions, revised synchronized reserve criteria, and retired procedures detailed within the Appendices. A Criteria Clarification request, submitted by the NYISO, addressing sustainability requirements upon the activation of reserves was approved by the RCC in September 2022.

The TFCO approved at its January 2023 meeting a Scope of Work for the next triennial review of the Directory in 2023. In addition to other items, the triennial review will address the Simultaneous Activation of 10-Minute Reserve program in conjunction with recent events from Winter Storm Elliott and the 2022 Criteria Clarification request.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-6	Regional Reserve Sharing		TFCO	September 27, 2019

Status/Comments: The Task Force on Coordination of Operation (TFCO) and its CO-8 Working Group has initiated its triennial review of Directory No. 6. as part of TFCO's 2023-24 Work Plan.

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-7	Remedial Action Schemes	Attachment 1 – Definition of Terms	TFCP	Dec. 22, 2020
		Appendix A – Guidance for Consideration in SPS Design	TFSP	
		Criteria	TFSP	
		Appendix B – Procedure for Review of Special Protection Systems	TFCP	

Status/ Comments: The NPCC Full Member Committee approved the most recent version of Directory No.7 on December 22, 2020.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-8	System Restoration	<p>Appendix A - Table 1 “Standard Test Procedures for key facilities and associated critical components required for system restoration.</p> <p>Appendix B: NERC ERO Reliability Standards</p> <p>Appendix C - Table 2: Comparison of Test Procedures for Critical Components of Key Facilities of the System Restoration Plan</p>	TFCO	September 25, 2018
	Status/ Comments:	<p>The Directory No. 8 Review Team, which consists of the CO-11 Working Group members and additional NPCC Transmission Operator representatives, continues to conduct focused review sessions of Directory No. 8 every three weeks throughout 2021 and 2022. The last focused review session was conducted on November 30, 2022. The team considered the impact of the evolving ERO Standards on the Criteria, emerging industry technologies and the recommendations contained in the 2018 <i>Strategic Review of the NPCC</i> Criteria. The team members have addressed non-substantive and deferred NPCC member comments from the previous triennial review in 2018. The Directory 8 Review Team continues to review the Test Procedures for Critical Components in Directory No. 8 and has proposed some new language for certain Test Procedures to better align with available technology and computer systems that may be subject to the testing requirements. Through the TFCO, the Directory 8 Review Team requested additional support from the Task Force on System Protection to review Testing Procedures in Directory No. 8 to ensure the criteria remains more specific and stringent to any changes made to PRC-005. In accordance with the NPCC <i>Directory Development and Revision Manual</i>, the revised document was posted to the Open Process for a 45-day comment period on June 6, 2022 through July 19, 2022. The team responded to the comments received following the Open Process and developed additional non-substantive changes to be incorporated into the document. The team presented the responses and changes to the TFCO at its December meeting. The TFCO recommends RCC approval of the revised criteria in Directory No. 8.</p> <p>On January 11, 2023, the revised criteria in Directory No. 8 along with the supporting documents were posted to a Full Member ballot through February 2, 2023. In accordance with Section VIII of the NPCC Amended and Restated By-Laws, dated January 3, 2023 the NPCC Full Member Committee voted to approve the ballot proposal effective February 2, 2023.</p>		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

Item	Name	Appendices	Lead TF	Current Version
DIR-9	NPCC Verification of Generator Gross and Net Real Power Capability	Appendix A – Definition of Terms Appendix B – Basic Flow Chart for Verification of Generator Gross and Net Real Power Capability	TFCO TFCO/TFCP ¹ TFCO/TFCP ¹	Retired July 1, 2019

Status/ Comments:

The NPCC Full Membership voted to approve the retirement of NPCC Regional Reliability Directory No. 9 *Verification of Real Power Capability*, and seven existing NPCC Glossary terms contained solely within Directories No. 9 and No. 10, effective July 1, 2019. Directory No. 9 is posted on the NPCC website marked with a ‘retired’ watermark.

Item	Name	Appendices	Lead TF	Current Version
DIR-10	NPCC Verification of Generator Gross and Net Reactive Power Capability	Appendix A – Definition of Terms Appendix B1 – Basic Flow Chart for Verification of Generator Gross and Net Reactive Power Capability Appendix B2 – Generator Reactive Capability Form	TFCO TFCO/TFCP ¹ TFCO/TFCP ¹ TFCO/TFCP ¹	Retired July 1, 2019

Status/ Comments:

The Task Force on Coordination of Operation has completed a technical comparison of the Directory No. 10 criteria with the requirements of MOD-25-2 and concluded that Directory No. 10 can be retired without creating a reliability gap. On August 3, 2017, the NPCC Full Member Committee voted to approve the retirement of NPCC Regional Reliability Directory No. 10 *Verification of Reactive Power Capability*, and seven existing NPCC Glossary terms contained solely within Directories No. 9 and No.10, effective July 1, 2019. Directory No. 10 is posted on the NPCC website marked with a ‘retired’ watermark.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-11	Disturbance Monitoring Equipment Criteria	Appendix A – Guide to Time Synchronization of Substation Equipment Appendix B – Guide for Application of DME Appendix C – Guide for Generator Sequence of Events Monitoring	TFSP TFSP TFSP	February 11, 2022

Status/ Comments:

On October 24, 2016, the NPCC Full Member Committee voted to approve regional Reliability Directory No. 11 *Disturbance Monitoring Equipment Criteria*. Also approved was the concurrent retirement of the following NPCC documents:

- A-15 – “*Disturbance Monitoring Criteria*”
- B-25 – “*Guide to Time Synchronization of Substation Equipment*”
- B-26 – “*Guide for Application Disturbance Monitoring Equipment*”
- B-28 – “*Guide for Generator Sequence of Events Monitoring*”

Directory No. 11 augments PRC-002-2 *Disturbance Monitoring and Reporting Requirements* and guides effective application of equipment necessary to capture the data required by the NERC standard.

The NPCC Full Member Committee approved the most recent version of Directory No. 11 on February 11, 2022.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
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DIR-12	UFLS Load Shedding Program Requirements	Appendix A – Definition of Terms	TFSS TFSS	July 9, 2013
	Status/ Comments:	The Task Force on System Studies (TFSS) posted a retirement recommendation for Directory No. 12 on April 28, 2021 for a 45- day comment period. The TFSS has recommended that Directory No. 12 can be retired effective October 1, 2021 to coincide with the enforcement date of PRC –006-NPCC –02 in all jurisdictions. On October 19, 2021, the NPCC Full Member Committee voted to approve the retirement of Directory No. 12 effective October 1, 2021.		

<u>Item</u>	<u>Name</u>	<u>Criteria</u>	<u>Lead TF</u>	<u>Current Version</u>
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A-01	Criteria for Review and Approval of Documents		TFCP	Retired Sept. 25, 2018
	Status/ Comments:	The Regional Standards Committee (RSC) updated the NPCC <i>Directory Development and Revision Manual</i> , and relevant sections of the A-01 <i>Criteria for Review and Approval of Documents</i> have been incorporated into the Directory Manual for the purposes of retiring the A-01. The revised and updated NPCC Directory Manual, including sections of the A-01 document, was approved by the RSC in August 2018. Concurrent with the RSC review of the revised Directory Manual, the RCC approved the retirement of the A-01 document and on September 25, 2018 the NPCC Full Membership approved the retirement of the A-01 Document.		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Criteria</u>	<u>Lead TF</u>	<u>Current Version</u>
A-10	Classification of Bulk Power System Elements		TFCP	March 27, 2020

Status/ Comments:

The Task Force on Coordination of Planning (TFCP) and its CP-11 Working Group conducted a review of the A-10 methodology. The CP-11 Working Group effort focused on three objectives as highlighted by the TFCP in the project scope: 1) Identify critical facilities for the applicability of NPCC Directories; 2) improve consistency of application and outcome across the region; and 3) simplify the methodology to make it less resource intensive.

The RCC approved testing of three proposed methodologies developed by the CP-11 Working Group during Phase I of the review in 2017. These proposals included revisions to the existing methodology and two new methodologies. The CP-11 Working Group Final Report concluded that a revised and improved existing methodology is the most effective of the proposals in identifying those facilities critical to the design and operation of the BPS. The recommended improvements include revisions to the overall testing strategy (i.e., where to begin and conclude testing), base case set-up (i.e., load levels, interface stress and generation patterns) and the use of performance requirements to assess testing outcomes. The RCC approved the CP-11 Working Group's recommendations in December of 2018 and these recommendations have been incorporated into a revised version of the A-10 Document.

The TFCP posted a revised version of the A-10 to the Open Process for two Open Process comment periods and the TFCP has responded to all comments. The RCC approved the revised A-10 Document and an associated implementation plan at its February 27, 2020 meeting. The NPCC Full Member Committee voted to approve the revised A-10 Document on March 27, 2020.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directory Development and Revision Manual

Item	Name	Assignment	Current Version
Directory	Directory Development and Revision Manual	<p>The NPCC Directory Development and Revision Manual is intended to provide guidance regarding the process of establishing a new or revised Directory and will clarify the roles and responsibilities of the NPCC Task Force responsible for Directory content.</p> <p>Status/ Comments:</p> <p>The Directory Development and Revision Manual was revised in 2013 to incorporate changes in the approval process for a Criteria Interpretation (clarification) and to consider revisions to the Manual that incorporate cost considerations for new or revised criteria.</p> <p>A revised version of the Directory Manual which incorporated relevant sections of the A-01 document to facilitate retirement of the A-01 was approved by the RSC in August 2018. A repeatable cost- effective evaluation has also been incorporated into the Directory Manual to ensure a cost- effective evaluation of the criteria during periodic Task Force reviews of each Directory. The RSC approved minor updates to the Manual in October 2020.</p>	October 2020



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

NPCC Glossary of Terms

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>
Glossary	NPCC Glossary of Terms	<p>The NPCC Glossary of Terms has replaced the A7 document and was approved by the RSC on October 26, 2011. The Glossary contains the definitions of all terms found within NPCC Directories, Guidelines, and Procedures.</p> <p>The Glossary is organized in sections containing those terms found in Directories (including Appendices) which support the NPCC criteria and another Section for definitions found within remaining NPCC B and C documents.</p> <p>The Glossary is in the Directory section of the NPCC website.</p>	August 10, 2021



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>	
PRC-002-NPCC-01	Disturbance Monitoring	This Standard establishes the technical and reporting requirements for disturbance monitoring equipment. This will lead to improved system reliability by providing the resources to do post event analyses.	Latest Version:	Retired
			Date:	August 16, 2016

Status/ Comments:

The proposal to retire PRC-002-NPCC-01 *Disturbance Monitoring* regional standard was approved by the NPCC Board on March 23, 2016 and by the NERC Board of Trustees on May 5, 2016. After NERC Board approval, a petition to retire the regional standard was filed with FERC on June 9, 2016 and it was filed with all Canadian Provinces on June 14, 2016.

FERC issued an approval letter for the retirement of Regional Reliability Standard PRC-002-NPCC-01 *Disturbance Monitoring* on August 16, 2016.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>	
PRC-006 NPCC-2	Under Frequency Load Shedding (UFLS)	This Standard will provide the requirements for implementing an automatic under frequency load shedding program to effectively respond to system under frequency events.	Latest Version:	Feb. 2020
			Frequency of Reviews:	3 years
			Next Review Date:	Feb. 2023

Status/ Comments:

FERC approved PRC-006-NPCC-1 and its Implementation Plan on February 21, 2013. Based on the FERC approved Implementation Plan the enforcement date for requirements R1 – R7 is January 1, 2016. Requirements R8 – R23 became on enforceable on July 1, 2015.

As a result of developments regarding NERC PRC-006-1/PRC-006-2 *Automatic Underfrequency Load Shedding*, PRC-024-1/PRC-024-2 *Generator Frequency and Voltage Protective Relay Settings*, Project 2014-01 *Standards Applicability for Dispersed Generation Resources*, NPCC Directory No. 12 *Underfrequency Load Shedding Program Requirements*, and the 2013 *NPCC UFLS Adequacy Assessment*, a Regional Standard Authorization Request (RSAR) for revision of Automatic Underfrequency Load Shedding PRC-006-NPCC-1 was approved by the Regional Standards Committee at its June 23, 2015 meeting. The RCC approved the Regional Standards Committee’s request to assign the TFSS to the project scope outlined in the RSAR and to populate the Drafting Team. On October 7, 2015, the RSC approved the drafting team roster as per the recommendation of the TFSS leadership. The PRC-006-NPCC-02 Automatic UFLS drafting team met eleven times and three conference calls. All requirements have been reviewed by the SDT and the draft standard was posted for three open process comment periods and for a 90-day pre-ballot review. A ballot was then conducted which closed on February 10, 2019. The ballot achieved 80.95% quorum and approval of 76%. Due to an ERRATA, the standard was re-approved by the NPCC Board at their September 5, 2019 meeting. It was approved at the November 5, 2019 BOT meeting. The petition for approval is sent to FERC on December 23, 2019 and FERC has assigned Docket RD20-1-000 open for comment period which closed on January 22, 2020. The PRC-006-NPCC-02 was endorsed by FERC on February 18, 2020.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

Item	Name	Assignment	Current Version	
BAL-002- NPCC-01	Regional Reserve Sharing Groups	The Standard provides the measures for implementing Reserve Sharing Groups within NPCC to meet their reserve obligations.	Latest Version:	New
			Frequency of Reviews:	3 years
			Next Review Date:	
	Status/ Comments:	A Regional Standard Authorization Request (RSAR) has been developed and approved by the RSC. The RCC has assigned the Task Force on Coordination of Operation (TFCO) to act as the drafting team and a request for drafting team members was sent to the NPCC membership. At its meeting of April 14 and 15, 2011, the TFCO established a sub-group of TFCO members and NPCC staff that will work on the Reserve Sharing Groups Standard's development. The development of Regional Standards has been held in abeyance pending further direction from NERC.		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards Development Procedure

Item	Name	Assignment	Current Version	
RSPM	Regional Standard Processes Manual	The NPCC Regional Standard Processes Manual describes the procedures, policies, and practices implemented to ensure an “open, fair, and inclusive” process for the transparent initiation, development, implementation and revision of the NPCC Regional Standards necessary for the reliable operation of the Interconnected Bulk Power System in northeastern North America.	Latest Version:	Nov. 2020
			Frequency of Reviews:	3 years
			Next Review Date:	Nov. 2023
	Status/ Comments:	<p>The Regional Standard Processes Manual (RSPM) is posted on the NPCC Website. The RSC actively reviewed the activities at the NERC level to ensure the regional procedure is consistent with the NERC Standard Processes Manual and achieves a consistency with the NERC common attributes adhered to by the other Regions. During the June 20, 2018 RSC meeting, a small team was formed to review the current RSPM for any potential updates. The RSC reviewed and updated the existing RSPM. The revised RSPM was approved by the RSC for comment posting on August 7, 2019. The RSPM was posted for a 45-day comment period from September 11, 2019 to October 26, 2019. The RSPM was posted for a ballot period from January 17, 2020 to February 25, 2020. The results of the ballot were as follows: 81.65% quorum and 100% approval. The RSPM was approved by the NPCC Board at their meeting on May 6, 2020.</p> <p>The NPCC RSPM was posted by NERC for a 45-day industry wide comment period that concluded on July 29, 2020. The proposal to approve Regional Standard Processes Manual was submitted to the NERC Board of Trustees and approved at their August 19-20, 2020 meeting. NERC and NPCC filed the joint petition to FERC on September 10, 2020. On November 23, 2020, FERC issued a letter order endorsing the revised NPCC Regional Standard Processes Manual. Docket Number: RR20-7-000.</p>		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program

Compliance Committee

Item	Name	Assignment
CC	NPCC Compliance Committee	<p>The NPCC Compliance Committee provides a forum for objective stakeholder input for NPCC Staff consideration in the implementation of the NPCC Compliance Monitoring and Enforcement Program (CMEP). The NPCC CMEP covers compliance assessment and enforcement of NERC Reliability Standards and NPCC Regional Reliability Standards. In addition, the CC is responsible for annually reviewing Directory certification forms and developing an annual report for e RCC acceptance for incidents of non-compliance with monitored Reliability Criteria.</p> <p>Status/ Comments: At the December 2022 CC meeting, the 2023 CC Scope and CC Work Plan were discussed and approved. Both documents were approved by the NPCC Board on January 18, 2023. Throughout 2022, NPCC Staff provided the CC with updates and explanations on the transition to the new Align/SEL compliance tool and provided updates on the NPCC generator winter preparation outreach efforts.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program

NPCC Compliance Committee

Documents

Item	Name	Assignment
CCEP	Criteria Compliance and Enforcement Program	<p>The CC maintains the <i>NPCC Criteria Compliance and Enforcement Program Process Document (CCEP-1)</i> which documents the process for actively monitoring and enforcing compliance on a subset of the Reliability Criteria.</p> <p>The Compliance Committee provides to the RCC for approval an annual CCEP Implementation Plan which identifies the Reliability Criteria that will be monitored in the upcoming CCEP compliance year and identifies the due dates for the Reliability Criteria Certification forms.</p> <p>The Compliance Committee annually provides to the RCC a written assessment of the submitted Reliability Criteria Certification forms which will include recommendations as necessary of non-monetary sanctions for incidents of non-compliance.</p> <p>Status/ Comments: On April 14, 2022, the CC approved the update to the CCEP-1 process document to Revision 9. Over the Summer/Fall 2022 timeframe, the CC took efforts to develop the 2021 CCEP Assessment Report and the 2023 CCEP Implementation Plan. On September 14, 2022, the CC endorsed the 2021 CCEP Assessment Report which was then presented for acceptance at the September 2022 RCC meeting. On October 19, 2022, the 2023 CCEP Implementation Plan and the blank forms for the 2023 Implementation Plan (IP) were approved. The 2023 CCEP IP was approved via the consent agenda at the December 6, 2022 RCC meeting.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Training, Education, and Operator Certification Program

TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
CO-2	System Operator Training Working Group	<p>This Working Group establishes a program for system operator training relating to NPCC Inc. inter-Area matters, Working Group criteria, terminology, policies, and operating instructions. It prepares and presents material at system operator training sessions, exchanges information on internal system operator training methods. The CO-2 Working Group also evaluates and proposes new techniques and training aids as they become available.</p> <p>Status/ Comments:</p> <p>The 2023 Spring 90th NPCC System Operator Seminar will be conducted on May 16 - 18, 2023 in Portland, ME. The agenda and specific topics for the Spring Seminar will be prepared by the CO-2 Working Group at their March 2023 meeting and will include input from the CO-8 Working Group. System operator feedback and evaluations from previous seminars will be considered for the upcoming seminar.</p> <p>The 2023 Fall 91st NPCC System Operator seminar will be conducted on November 7 – 9, 2023 in Fredericton, NB. A planning meeting will be held by the CO-2 WG on September 20-21, 2023.</p> <p>The 2022 Fall 89th NPCC System Operator Seminar was held in Saratoga Springs, NY on November 1-3, 2022. In similar fashion to the 2022 Spring Seminar, the agenda and specific topics were developed with input from the CO-8 Working Group. It included presentations on Power System History – Southern Ontario Derecho – May 2022 (IESO), 2017 – 2018 Operating Period New England Review (ISO-NE), Hurricane Fiona – Atlantic Canada Impacts (NBP-S), Gas/Electric coordination and discussion (NYISO), NYISO Control Room Tour (NYISO), Seminar Tabletop (NPCC CO-2), and Psychological Impacts during Sustained Stress (ISO-NE). The seminar was attended by 35 participants and included operators from all five NPCC Reliability Coordinators.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
CO-1	Control Performance Working Group	<p>The Working Group ensures coordination between adjacent control areas in establishing interchange schedules, reviews time error correction procedures, and monitors the conformance of the Areas with NPCC Control Performance Criteria and Operating Reserve Criteria. At the request of the Task Force on Coordination of Operation (TFCO), it conducts investigations of control performance problems.</p>
	Status/ Comments:	<p>The CO-1 Working Group most recently met on February 8-9, 2023; the next meeting is scheduled for April 19-20, 2023. The CO-1 Working Group has closely tracked the developments of the BAL-003-2 SDT and updates by SDT members continue to occur at quarterly CO-1 Working Group meetings. The CO-1 Working Group developed guidance for the TFCO on the redline draft version of BAL-003-2. The CO-1 Working Group held a focused session on August 17, 2022 to review and provide comments to the latest version of the BAL-003-2 which had been released for a comment period and balloting on July 27, 2022 through September 7, 2022. The CO-1 Working Group solicited the CO-8 Working Group and the TFCO for additional feedback.</p> <p>The CO-1 group presented a draft scope of work for the next triennial review of Directory No. 5. The scope includes the recently approved criteria clarification request from the New York ISO along with additional considerations developed by the CO-1 WG. TFCO members reviewed the scope document and provided some additional suggestions for consideration. The members approved the scope of work and the CO-1 WG will begin the triennial review of Directory No. 5 at its next meeting.</p> <p>The CO-1 Working Group continues to conduct periodic monitoring as required by NERC and NPCC Control Performance and Operating Reserve Criteria, and in coordination with the CO-8 Working Group and the TFCO. No discernable operational trends have been identified. The Working Group continues to closely follow industry related storage integration discussions and monitor developments to their relevant BAL and FAC standards.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program TASK FORCE ON COORDINATION OF OPERATION

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CO-7	Operational Planning Working Group	The Working Group CO-07 was restructured to serve the Task Force on Coordination of Operation (TFCO) as an Ad Hoc Working Group, populated and charged to address specific issues as required to assist the TFCO. It has been renamed the “Operational Planning Working Group.”
	Status/ Comments:	The CO-7 Working Group roster was approved at the May 26, 2021, RCC meeting. The CO-7 Working Group, jointly with the CP-11 Working Group is performing a comprehensive review of the Directory No. 1.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CO-8	System Operations Managers Working Group	Provide a forum for the Managers of the NPCC control centers to identify and discuss security concerns in the operation of the interconnected bulk power supply system, and specific concerns related to the integration of operation between and among the evolving ISOs. The System Operations Managers Working Group will also assist the Task Force on Coordination of Operation (TFCO) in their work on issues related to system security and the operation of the ISOs, and provide advice to the TFCO, as requested.
	Status/ Comments:	At the February 22-23, 2023, meeting, the CO-8 WG, as well as a representative from the PJM, discussed winter operating conditions, to date. The CO-8 WG specifically, discussed the two cold weather events of the season: December 2022 Winter Storm Elliott and the February 3-5, 2023, cold snap. The discussion covered specific challenges each Area faced, the coordination activities and communications during the events. At the same meeting, the CO-8 WG reviewed and discussed work plans for the triennial review of the four documents that are assigned to the CO-8 WG as part of the 2023-24 TFCO Work Plan, including Directories No. 2, 5 and 6, as well as the C-01 Procedure document. The group also discussed coordination among the CO-8, CO-2 and the CO-11 WGs to look for CEH opportunities from the RC SOs’ participation in various NPCC training activities, such as the semi-annual SO seminars, the annual RC to RC restoration exercise and the biannual GridEx exercise. Applicable 2023 NPCC Goals were discussed as well.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
CO-11	Restoration Working Group	<p>The CO-11 Restoration Working Group facilitates effective and coordinated power system restoration among the NPCC Reliability Coordinator areas, and with adjacent Regions. It annually reviews the restoration plans of the NPCC Reliability Coordinator areas to identify in each individual plan the physical points requiring coordination, the general elements of the restoration plan, the Key Facilities associated with the restoration plan, the communication protocols employed, and the roles and responsibilities of the restoration participants. It identifies opportunities for mutual assistance during restoration and the extent to which each system can rely on its neighbors for assistance, and coordinates Reliability Coordinator restoration exercises, develops, and supervises annual wide area restoration drills. The CO-11 working Group monitors the NERC Reliability Standards EOP-005, <i>System Restoration from Blackstart Resources</i>, and EOP-006, <i>System Restoration Coordination</i>. The CO-11 Working Group provides comments to the NPCC Task Force on Coordination of Operation and the NPCC Regional Standards Committee as revisions to these Standards are posted for consideration and weighed for implementation.</p>

Status/ Comments:

The CO-11 Working Group will meet next on February 28 – March 1. The CO-11 Working Group members and TOP representatives have been meeting regularly throughout 2022 via WebEx to complete the triennial review of Directory No. 8. The CO-11 Working Group completed its comprehensive review of Directory No. 8 at the end of Q2 2022. NPCC Directory No. 8 and associated documents, including NPCC Glossary of Terms and a Cost Effectiveness Analysis, were posted to the NPCC Open Process on June 6, 2022 for a 45-day comment period. The comment period concluded on July 19, 2022. The CO-11 Working Group has continued to meet on a regular basis to address the comments received and develop additional redlines regarding these comments. The RCC approved the revised version of Directory No. 8 on December 6, 2022. On January 11, 2023, the revised criteria in Directory No. 8 along with the supporting documents were posted to a Full Member ballot through February 2, 2023. In accordance with Section VIII of the NPCC Amended and Restated By-Laws, dated January 3, 2023 the NPCC Full Member Committee voted to approve the ballot proposal effective February 2, 2023.

The 2022 NPCC RC-to-RC Wide Area Restoration Exercise was held at the New York ISO on October 25-26, 2022; 22 attendees across all five of the NPCC RCs participated in the exercise. The exercise was conducted via a tabletop format with the support of PSS/e software to represent and model the restoration steps of pre-selected scenarios. All five NPCC RC Restoration Plans were reviewed and discussed by the group. A recap of the October exercise will be provided to the TFCO and the CO-8 Working Group in Q1-2023.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CO-12	Operations Planning Working Group	Review the overall reliability of the generation and transmission system in the NPCC Region for the Summer and Winter Operating Periods.
	Status/ Comments:	<p>The CO-12 WG kicked off the 2023 NPCC Summer Reliability Assessment effort on January 23, 2023 with subsequent meetings in February 2023. Preliminary results will be presented at the March 2023 RCC, TFCO and TFCP meetings. In-person coordination meetings are scheduled with the CP-8 WG on March 23 and March 24, 2023. A final report for TFCO/TFCP approval and RCC comment will be issued on April 3, 2023. Task Force approval will be requested by April 21, 2023. A presentation for the NPCC Board of Directors is planned for May 3, 2023 prior to a May 4, 2023 Media Release.</p> <p>The CO-12 Working Group is also coordinating NPCC-regional input for the 2023 NERC Summer Reliability Assessment (SRA) with the NPCC CP-8 Working Group. A draft of the NERC SRA will be reviewed at the April 11-12, 2023 NERC Reliability Assessment Subcommittee meeting in Austin, TX. Consistent with past practice, efforts are being made to ensure alignment of the 2023 NERC SRA with the 2023 NPCC Summer Reliability Assessment. The 2023 NERC SRA will be released on May 17, 2023.</p> <p>The WG is currently performing a periodic review of its Scope that will be presented to the TFCO at its March 2023 meeting.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
CO-14	Operations Load Forecast WG	<p>The CO-14 Working Group promotes information sharing among NPCC Reliability Coordinators, Balancing Authorities and Transmission Operators in producing accurate and timely load forecast products.</p>
	Status/ Comments:	<p>The CO-14 Working Group initial draft Scope and Terms of Reference were approved by the TFCO in March 2021 and the working group members conducted their first formal meeting on October 27, 2021 via WebEx.</p> <p>The group most recently met in-person at the New York ISO on October 19-20, 2022. The group is scheduled to meet next on April 4-5, 2023 at the ISO-NE Backup Control Center.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF PLANNING

Item	Name	Assignment
CP- 8	Working Group on Review of Resource and Transmission Adequacy Status/ Comments:	Review the overall reliability of the NPCC Areas and perform pre-seasonal and long-term resource adequacy assessments. The CP-8 Working Group most recently met on February 17, 2023 and is scheduled to meet next on March 24, 2023. The group recently completed the <i>NPCC 2022 Long Range Adequacy Overview</i> and the <i>2022-2023 NPCC Winter Reliability Assessment</i> , which were approved at the December 2022 RCC meeting and posted to the NPCC website. At the request of the TFCP in January 2023, the WG is performing a periodic review of its Scope.

Item	Name	Assignment
CP- 2023S	Summer 2023 Multi-Area Probabilistic Reliability Assessment Status/ Comments:	Assess NPCC Area reliability by estimating the projected use of Area Operating Procedures designed to mitigate resource shortages for the summer (May through September) period. The assessment Scope of Work and Base/Severe Case assumptions were approved by the TFCP on January 9, 2023 and February 8, 2023, respectively. A final report for TFCO/TFCP approval and RCC comment will be issued on April 3, 2023. Task Force approval will be requested by April 21, 2023. A presentation for the NPCC Board of Directors is planned for May 3, 2023 prior to a May 4, 2023 Media Release.

Item	Name	Assignment
CP- 2022-23W	Winter 2022-2023 Multi-Area Probabilistic Reliability Assessment Status/ Comments:	Assess NPCC Area reliability by estimating projected use of Area Operating Procedures designed to mitigate resource shortages for the winter (November through March) period. The CP-8 Working Group completed the NPCC Winter 2022-2023 Multi-Area Probabilistic Assessment in November 2022. The RCC approved the report at its December 6, 2022 meeting.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF PLANNING

Item	Name	Assignment
TIE	NPCC 2023 Tie Benefits Report	Estimate NPCC Area Annual Tie Benefits for a five-year period, assuming a hypothetically “At Criteria” and “As Is” system representation, applying consistent methodology and assumptions to all NPCC Areas, using the same multi-area reliability model.
	Status/ Comments:	The CP-8 WG is developing a draft objective and Scope of Work for the TFCP’s consideration of approval in Q2 - 2023. The RCC is anticipated to consider the Report in December 2023.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM STUDIES

Item	Name	Assignment
SS-38	Inter-Area Dynamic Analysis Working Group	Assigned to analyze dynamic phenomena, which may affect interconnected system reliability, especially in the area of low frequency oscillations.
	Status/ Comments:	The SS-38 Working Group members are conducting dynamic analyses in accordance with the 2022/2023 NPCC UFLS Assessment Terms of Reference reviewed and approved by TFSS on June 30, 2022. The SS-38 WG has completed the review the preliminary NPCC UFLS study results on the base line analyses. The documentation of these results and the sensitivity analyses will follow.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM STUDIES

Item	Name	Assignment
SS-37	Base Case Development Working Group Status/ Comments:	<p>On an annual basis, develop a library of solved power flow cases and associated dynamic data.</p> <p>MMWG 2022 Series Dynamic Cases The SS-37 Working Group is currently working with the MMWG Coordinator to address issues with NPCC dynamics data that arose after merging with Eastern Interconnection dynamics data as part of the 2022 Series dynamics case development effort. The final dynamics cases are expected to be completed in a timely fashion.</p> <p>MMWG 2023 Series Cases The SS-37 Working Group is currently preparing for development of twelve (12) 2023 Series power flow and eight (8) dynamics base cases. On February 08-09, 2023, the SS-37 Working Group held its annual kick-off meeting to discuss the activities of 2022, providing updates on MMWG activities and to establish a 2023 work plan. The 2023 work plan includes tie line and interchange schedules, power flow cases, dynamics cases, contingency files, and frequency response classifications of governors. The 2023 Series power flow and dynamics cases will be built using PSS/E version 35.3. The MMWG voted to approve the version upgrade and confirmed the vote in the October 2022 MMWG meeting. The MMWG vote included SS-37's approval of the PSS/E version upgrade.</p> <p>Automation Sub-Group The SS-37 Automation Sub-Group continues to develop tools to make the power flow and dynamic case building process more efficient. The Automation Sub-Group is focusing on leveraging existing tools and efficiencies deployed by NPCC PC's and update those tools to account for the NPCC footprint.</p> <p>Short Circuit Sub-Group The SS-37 Short Circuit Sub-Group successfully completed the exercise of comparing short circuit MVA calculations made independently at boundary buses by two neighbors. The exercise has resulted in strengthening the availability of current and historical (three years) short circuit data for the NPCC footprint. The Short Circuit Sub-Group will hold a spring meeting to continue discussions on methods for achieving consistency in their models at boundary buses and share best practices from industry.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM STUDIES

Item	Name	Assignment
SS-39	Geomagnetic Disturbance Working Group	Develop a White Paper recommending voluntary guidelines to address R3, R4, and R8 of NERC Standard TPL-007-4.
	Status/ Comments:	<p>The SS-39 Working Group continues to provide high value to member utilities through education, sharing of information, and collaborative discussions.</p> <p>On February 24, 2023, the SS-39 Working Group held a meeting during which New York ISO presented results of their GMD Vulnerability Assessment. The presentation was labeled CEII, so only members with an NDA on file with NPCC attended. Additional vulnerability assessment presentations are scheduled for March and April.</p>
Item	Name	Assignment
SS-40	Load Modeling for Transient Stability Studies Working Group	Coordinate development and assessment of load models in dynamic simulations, which include benchmarking the load models with actual system events, exploring potential impact of dynamic load models on inter-area dynamics and transfer capabilities, ensuring consistency & accuracy of load model fractions, and investigating practical methods for observability into the distribution system.
	Status/ Comments:	<p>The SS 40 Working Group has developed a detailed two-year work plan which was approved by TFSS at its March meeting. This effort and the Working Group's participation supporting NERC Load Modeling Working Group is on-going</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM PROTECTION

Item	Name	Assignment
SP-7	Working Group on Review Of Protection System Misoperations	Review and analyze misoperations of transmission and generation protection systems and special protection systems on the bulk electric system and report on the statistics of misoperations as they occur in the NPCC region including lessons learned and implementation of corrective action plans by registered entities.
	Status/ Comments:	<p>The Task Force on System Protection reviewed the status of SP-7 Working Group on Protection System Misoperation Review as completed through Q3 of 2022. The total number of misoperations for Q3 2022 is 33 compared to the NPCC Q3 quarterly average of 40 misoperations. This is the third lowest number of misoperations reported for the past six years.</p> <p>The misoperation rate for Q3 2022 is 6.78%. The cumulative misoperation rate as of 2017 is 8.18%. Note that during this quarter, 487 operations were reported compared to the Q2 quarterly average of 579 operations. This is the second lowest number of operations that were reported for the past quarters.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

Eastern Interconnection Reliability Assessment Group

Item	Name	Assignment
ERAG	Eastern Interconnection Reliability Assessment Group	The Eastern Interconnection Reliability Assessment Group (ERAG) oversees the Multi-Regional Modeling Group (MMWG) steady state and dynamics base case development, Eastern Interconnection interregional assessment activities and other interregional matters of interest.
	Status/ Comments:	<p><u>Eastern Interconnection (EI) MOD-032 Designee</u> A new MOD-032 Process Document was approved by the NERC OLT in January to designate ERAG, WECC, and TRE as permanent designees for MOD-032 case development. The Process Document will be incorporated in a revised ERAG agreement, which is currently under development.</p> <p><u>Acceptable Model Working Group</u> ERAG members reviewed a charter developed by a sub-group of ERAG for the formation of an Acceptable Model Working Group (AMWG). The AMWG will consist of subject matter experts from industry who will develop an acceptable model list for use by the Multiregional Modeling Working Group (MMWG) and contribute to the maintenance of the NERC acceptable model list. The charter underwent initial review at the ERAG meeting and will be approved at a special meeting on March 15, 2023.</p> <p><u>Multiregional Modeling Working Group (MMWG) Update</u> The MMWG Chair provided an update on activities. The 2022 Series MMWG dynamics case development effort is currently underway and is expected to be complete during March 2023. MMWG members agreed that the 2023 Series cases can be developed in PSSE Version 35. The next MMWG meeting is scheduled to take place on March 22 & 23, 2023.</p> <p><u>Future Studies</u> ERAG members provided comments to a draft scope document for an assessment planned to be undertaken by ERAG and entitled Resource Mix Change Assessment. The purpose of the assessment is to determine how the changing generation mix will impact the amount of power, incremental above normal base power transfers, can be transferred over the transmission network in a reliable manner to load pockets and between ISO/RTO/Bas in the Eastern Interconnection. The assessment will also determine the effect of high penetration of IBRs on system inertia and frequency response.</p> <p><u>Short Circuit Database</u> A subgroup was formed to determine the feasibility of hosting a database for short circuit data, primarily at the seams at planning coordinator boundaries. The intent of the database is to standardize data collected between entities and ensure that it us up to date.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

Eastern Interconnection Reliability Assessment Group

Item	Name	Assignment
ERAG	Eastern Interconnection Reliability Assessment Group	The Eastern Interconnection Reliability Assessment Group (ERAG) oversees the Multi-Regional Modeling Group (MMWG) steady state and dynamics base case development, Eastern Interconnection interregional assessment activities and other interregional matters of interest.

Status / Comments:

NERC Acceptable Model List

ERAG members discussed the benefit of forming a new group whose members will consist of subject matter experts who will review and provide updates to the NERC acceptable model list. NERC staff agreed to work with ERAG members to prepare a scope of work and further explore the formation of a group.

Future Studies Subgroup

A subgroup was formed to work with NERC staff to develop a list of assessments that could be undertaken. Potential topics for assessments are 1) Reserve Margins, 2) Resource Mix Changes, and 3) Black Start Capability. It was agreed that following development of a scope of work, NERC staff would perform the assessments and report results to ERAG members. ERAG members also discussed the possibility of holding a webinar to present results of the assessments

ERAG Seasonal Working Group

Item	Name	Assignment
ERAGWG	ERAG Seasonal Working Group	The ERAG Seasonal Working Group conducts appraisals of the Eastern Interconnection. Appraisals are conducted for weather scenarios, including drought and polar vortex type conditions, to determine the impacts on power flows across the Eastern Interconnection.

Status / Comments:

The ERAG Working Group remains inactive until an ERAG-conducted system study is initiated.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

Item	Name	Assignment
RAS	Reliability Assessment Subcommittee (RAS)	Conduct an annual review of the overall reliability of the existing and planned generation and transmission system of the six Regional Reliability Entities for the ten-year horizon. Conduct semiannual, seasonal assessments of the overall reliability of the existing generation and transmission systems of the six Regional Reliability Entities.
	Status/ Comments:	<p>The NERC RAS most recently met on February 8-9, 2023 in Salt Lake City, UT to discuss the: 2023 NERC Long Term Reliability Assessment (LTRA), the 2022 NERC Probabilistic Assessment (Proba) Regional Risk Scenarios Report, the 2023 NERC Summer Reliability Assessment (SRA) and a 2022-2023 Winter Operations overview. The RAS will meet next on April 11-12, 2023 in Austin, TX to prepare for the 2023 LTRA and 2023 NERC SRA.</p> <p><u>NERC 2022-2023 Winter Reliability Assessment (WRA)</u> The RAS requested each Region’s assistance in assessing reliability risks for the upcoming winter season on July 25, 2022. The NPCC CO-12 and CP-8 Working Groups coordinated and developed the regional data and narrative submissions for NERC by the Fall 2022 deadlines. NERC released the public report on November 17, 2022.</p> <p><u>2022 Long Term Reliability Assessment (LTRA)</u> The RAS requested each Region’s assistance in assessing the long-term (10-year) reliability of their Region (as outlined in the ERO Reliability Assessment Process Document) on February 17, 2022. Initial narrative and data responses, coordinated by the NPCC CP-8 Working Group, were submitted to NERC by June 17, 2022. The NPCC CP-8 Working Group also assisted the RAS complete a peer review process in July 2022 and final responses were submitted by July 29, 2022. NERC released the public report on December 15, 2022, following subsequent RAS, NERC RSTC, and NERC Board of Trustees reviews.</p> <p><u>2023 Summer Reliability Assessment (SRA)</u> The NERC RAS requested each Region’s assistance in assessing reliability risks for the 2023 summer season in January 2023. The NPCC CO-12 and the CP-8 Working Groups are leading the coordination and development of the NPCC regional data and narrative submissions for NERC by the April 6, 2023 deadline. NERC is anticipated to release the public report on May 17, 2023.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

Item	Name	Assignment
PAWG	NERC Probabilistic Assessment Working Group	Advance the work initiated by the NERC Generation & Transmission Reliability Planning Models Task Force (GTRPMTF) and the Probabilistic Assessment Improvement Task Force (PAITF) in the conduct of NERC's Core probabilistic assessments. Coordinate and promote the alignment of probabilistic resource adequacy assessments conducted by the ERO and industry.
	Status/ Comments:	The NERC Probabilistic Assessment Working Group (PAWG) met February 7-8, 2023 to discuss the: 2022 NERC ProbA Regional Risk Scenarios Report, the Probabilistic Planning for Tail Risks Whitepaper and 2023 Probabilistic Analysis Forum planning efforts. The latter two Work Plan Items are expected to be completed in Q2 and Q3 2023, respectively, following RSTC review and approval.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

Item	Name	Assignment
TADS	Transmission Availability Data System	Serve as the Regional Entity Coordinator in support of the NERC TADS outage data collection and the analysis of the NPCC Transmission Owners (TO) outage information. Oversee the use of and the data entry of automatic outage information by the TO in the NERC Internet based data management tool - webTADS.
	Status/ Comments:	<p>The User Group holds monthly calls; the last one was conducted on January 17, 2023.</p> <p>NERC conducted a training on October 11-12, 2022. The Transmission Availability Data System User Group (TADSUG) implements a uniform approach to reporting and measuring North American BES transmission inventory, availability, and other related reliability data. Training was intended for all members of industry with roles relating to TADS. Examples of roles include data gathering, data entry, and data quality reviews.</p> <p>Also, Q3 due date was changed to Q4 date, February 15, 2023.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

Item	Name	Assignment
DADS	Demand Availability Database System	Serve as the Regional Entity Coordinator in support of the DADS data collection and analysis for NPCC. Oversee the collection of the data in the NERC Internet based data management tool – web DADS.
	Status/ Comments:	<p>In December 2020, the DADS Working Group became the DADS User Group (DADSUG). The DADSUG performs the same functions as the DADSWG; however, it no longer reports into the NERC Committee structure. Instead, it reports to the NERC Performance Analysis Department. In response to the recent coronavirus (COVID -19) developments, NERC extended the Q1 reporting deadline for all Section 1600 applications to June 29, 2020.</p> <p>The DADS User Group worked on its Scope to develop a process for soliciting and evaluating DADS changes and recommend selected improvements, such as changes to definitions, metrics, Demand Response Programs. The DADS User Group also discussed the Severity Risk Index correlation with Demand Response Event Days. The DADS User Group has started working on clarification of DADS reporting criteria.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
GADS	Generator Availability Data System	<p>Serve as the Regional Entity Coordinator in support of the Generator Availability data collection and Data System analysis for NPCC. Oversee the collection of the data in the NERC Internet based data management tool – web E-GADS.</p> <p>Status/ Comments:</p> <p>A conference call held on January 31, 2023.</p> <p>The GADS Solar team continues to make progress on the Data Reporting Instructions (DRI). Site-level event reporting criteria and cause codes for events are in development. Solar reporting will be similar to the GADS Wind application. A phased in approach will be used. Configuration and performance reporting will be at the inverter sub-group level.</p> <p>Based on recent solar outage studies conducted by NERC staff, the following revisions have been made to define the event reporting threshold for solar resources:</p> <ul style="list-style-type: none">▪ Event Start: The plant output at the point of interconnection experiences a decrease in Actual Generation of at least 20 MW below the Expected Generation.▪ Event End: The difference between Expected and Actual Generation is less than 5% and the plant is producing 10% of the plant’s capacity or 5MW of energy, whichever is greater, or 95% of the equipment unavailable due to the event cause has been returned to service. <p>NERC has posted the 2023 Data Reporting Instructions (DRI) for GADS on the following link. A new Cause Code- 4741 – Frequency Trip (81 Relay) has been added to the Appendix B of this DRI.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

Item	Name	Assignment
MIDASUG	Misoperation Data Analysis System User Group	<p>Serve as the Regional Entity Coordinator in support of the Misoperation data collection and Data System analysis for NPCC. Oversee the collection of the data in the NERC Internet based data management tool – MIDAS.</p> <p>Status/ Comments:</p> <p>The User Group holds monthly calls. A WebEx call was held on January 7, 2023.</p> <p>The 2023 MIDAS Data Reporting Instructions have been posted to NERC’s website. The document is intended to provide guidance for MIDAS reporting as detailed in the Section 1600 Data Request and is not intended as guidance for any NERC Standards Compliance. The document is used for identifying Composite Protection Systems that should be reported in MIDAS, determining the number of Composite Protection System Operations to report quarterly, and identifying and coding Misoperations.</p> <p>The group discussed NERC State of Reliability Report’s MIDAS Analysis Review. NERC gave a briefing on the Joint Review of Protection System Commissioning Programs 2021 FERC, NERC and REs Report.</p> <p>In 2022, virtual training was offered on reporting for MIDAS on November 14-15. The purpose of the training was to assist reporters in using a uniform approach to reporting and measuring North American composite protection system operations and Misoperations.</p> <p>MIDAS training included items such as how MIDAS data is used, accurately reporting composite protection system operation counts, identifying, coding, and reporting Misoperations, as well as how to use the MIDAS Portal application.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

OTHER

Item	Name	Assignment
IPSAC	Interregional Planning Stakeholder Advisory Committee	The Interregional Planning Stakeholder Advisory Committee (IPSAC) is an open stakeholder group that provides input for the development of the Northeast Coordinated System Plan (NCSP). The NCSP outlines activities conducted jointly by ISO New England, New York ISO, and PJM.
	Status/ Comments:	The last IPSAC meeting was held on December 5, 2022. Agenda items include an update of the Regional Planning Needs and Solutions from PJM, ISO-New England and the New York ISO; stakeholder discussion of the status of the Interconnection Queue projects, and an update on the Interregional Offshore Wind planning activities .



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
CO-10	Operational Tools Working Group	<p>The Operational Tools Working Group (CO-10) is responsible for taking a lead role in the development of NPCC and NERC operational tools (e.g., electronic tagging, the NERC Interchange Distribution Calculator and electronic scheduling), including hardware, software, and integrated systems. The Operational Tools Working Group will define the need for operational tools, evaluate the cost benefits of operational tools, coordinate their implementation within NPCC and coordinate common training in the use of operational tools.</p> <p>Status/ Comments:</p> <p>The CO-10 Working Group continues to review of tool failures and associated lessons learned as generated from the NERC Event Analysis Program and develops regional insights templates from the review of NERC EMS/SCADA lessons learned to further aid NPCC entities in utilizing these valuable lessons. Once obtaining Task Force on Coordination of Operation (TFCO) approval of the Critical Operating Tools Survey Report (COTSR), the CO-10 Working Group successfully distributed the report to all participants in the survey.</p> <p>Once sufficient responses and enough data from the survey were received, a discussion and analysis of the Critical Operating Tool (COT) data was held during the November 3-4, 2022 CO-10 meeting. A draft of the report, which was created following the meeting, was reviewed during the February 9-10, 2023 meeting. The decision was made to continue to revise the draft report at the CO-10 meeting in May, 2023. Once completed, the report will assess the implementation of best practices from the survey and provide recommendations. The completed the Critical Operating Tools Survey Report (COTSR) will then be presented to the TFCO at their next available meeting.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY (TFIST)

Item	Name	Assignment
IST-1	Infrastructure Security and Technology (TFIST) Workshop	Periodic workshops presentations to address timely issues and update member system personnel associated with the provision of on-line computer systems for operation of the power system. Last Workshop: October 2022
	Status/ Comments:	The Task Force on Infrastructure Security & Technology (TFIST) hosted an Operational Technology Workshop on October 5, 2022. This virtual workshop included presentations by Idaho National Laboratory, Cybersecurity and Infrastructure Security Agency, Multi-State Information Sharing and Analysis Center and DOE's Office of Cybersecurity, Energy Security and Emergency Response. TFIST expects to present at NPCC's Spring 2023 Compliance and Reliability Workshop.
Item	Name	Assignment
IST-2	Telecommunications Working Group	Provide a forum to identify, discuss and advance the technology of Telecommunications Infrastructure for the reliable operations of the NPCC Bulk Power System. The Telecommunications Working Group (IST-2) will also support the Task Force on Infrastructure Security & Technology in their work on issues related to Telecommunications.
	Status/ Comments:	The Working Group provided their 2021 annual report at the June 2022 RCC meeting. The IST-2 Working Group continues to support this testing.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY (TFIST)

Item
IST-4

Name
Cyber Security

Assignment

The purpose of the Cyber Security Working Group is to address specific cyber security issues that are assigned by the TFIST. Although these cyber security topics are assigned by the TFIST, they may be developed by any Task Force or Working Group that require a response or a coordinated effort between Task Forces regarding a cyber security matter.

Status/ Comments:

At its August 14-15, 2019 meeting, the Task Force on Coordination of Operation (TFCO) discussed the recently filed for regulatory approval CIP-012-1 standard and its implementation plan. TFCO members agreed that the impacted NPCC RCs, BAs and TOPs would benefit from a coordinated approach to meeting the requirements of the CIP-012-1 standard. On November 10, 2019, the TFCO requested the Task Force on Infrastructure Security & Technology (TFIST) consider standing-up ad-hoc Working Group IST-4.

IST-4's whitepaper was posted for Open Process comments from June 14, 2021 to July 29, 2021. TFIST approved IST-4's responses which did not change the whitepaper. In August 2021, TFIST and TFCO approved the CIP-012 Whitepaper for Reliability Coordinating Committee's (RCC) approval. RCC approved this whitepaper during its September 8, 2021 meeting.

Building on top of that whitepaper, IST-4 worked with NPCC's CIP Compliance on corresponding audit expectations. Compliance presented at NPCC's 2022 Fall Compliance and Reliability Workshop.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY (TFIST)

Item	Name	Assignment
IST-5	Physical Security Working Group	<p>The Physical Security Working Group exchanges information regarding approaches to physical security to enhance the reliability and resiliency of the BPS. The Physical Security Working Group (IST-5) also supports TFIST in their work on issues related to Physical Security.</p>
	Status/ Comments:	<p>The Working Group continues to maintain an “Emerging Trends” guidance document through collaboration with industry physical security experts and Physical Security Working Group (PSWG) members regarding reemerging threat vectors, suggested mitigation practices, technologies and continued lessons learned as a result of the current COVID-19 pandemic. Member entities continue to contribute changes and adaptations that are needed to their Security plans as new issues and situations arise. This will continue to be an ongoing exercise to address both emerging threat trends and new issues regarding the COVID-19 pandemic. Members of the PSWG continue to share physical security approaches and mitigations to unique situations posed by the COVID-19 pandemic. The Working Group held their 2022 Q3 meeting on September 22, 2022 with the Q4 meetings scheduled for December 13, 2022. September meeting agenda included another collaborative gas and electric sectors security threats joint discussion with participation of American Gas Association (AGA) representatives, emerging threats and trends, and training and conferences opportunities. Members of IST-5 WG, also participated in the Fall 2022 Threat Discussion forum organized by Avangrid and held in Boston on October 6, 2022. Forum agenda included presentations on various physical and cyber security topics, including threat overview presentation by E-ISAC and DHS.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Administrative Services

MEMBERS' FORUMS

Item	Name	Assignment
General	NPCC General Meeting	To promote the reliable and efficient operation of the interconnected bulk power systems in Northeastern North America, NPCC invites high level policy makers from Federal, Provincial, and State regulatory and/or Governmental authorities and senior executives within NPCC to identify and discuss emerging issues related to the reliability of the NPCC Region.
	Status/ Comments:	The need for next the NPCC General meeting will be reviewed later in 2023.
Item	Name	Assignment
Gov/Reg	NPCC Governmental Regulatory Affairs Advisory Group	To provide a forum where industry and governmental and/or regulatory representatives can exchange views and strive to develop consensus policy recommendations on reliability issues specific to the NPCC Region and share actionable information related to regional energy and reliability matters.
	Status/ Comments:	The Advisory Group's activities are currently being provided by the NPCC DER/VER Forums and ERO State/Provincial Outreach initiatives.
Item	Name	Assignment
PIC	Public Information Committee	To highlight and summarize NPCC activities and accomplishments and disseminate appropriate information to the media, as well as respond to related requests for information.
	Status/ Comments:	NPCC continues to participate in communications coordination with NERC and the Regions. The <i>NPCC 2023 Summer Reliability Assessment</i> Media Release is anticipated for May 4, 2023.