

**STATE OF ILLINOIS**  
**ILLINOIS COMMERCE COMMISSION**

COMMONWEALTH EDISON COMPANY	:	
	:	
Petition for Establishment of Performance	:	Docket No. 22-0067
Metrics Under Section 16-108.18(e) of the	:	On Rehearing
Public Utilities Act.	:	

Rebuttal Testimony on Rehearing of

**PATRICK M. ARNS**

Director of Distribution Planning, Smart Grid, and Innovation  
Commonwealth Edison Company

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1   **I.    INTRODUCTION**

2           **A.    Witness Identification**

3    **Q.    What is your name and business address?**

4    **A.    My name is Patrick M. Arns. My business address is 2 Lincoln Centre, Oakbrook Terrace,**  
5           **Illinois 60181.**

6    **Q.    Are you the same Patrick M. Arns that submitted Rebuttal (ComEd Ex. 5.0 CORR,**  
7           **5.01, 5.02), Supplemental Rebuttal (ComEd Ex. 12.0, 12.01), Surrebuttal Testimony**  
8           **(ComEd Ex. 19.0), Declaration (ComEd Ex. 35.0), and Direct Testimony on**  
9           **Rehearing (ComEd Ex. 36.0, 36.01, 36.02), in this proceeding on behalf of**  
10          **Commonwealth Edison Company (“ComEd”)?**

11   **A.    Yes.**

12          **B.    Purpose and Conclusions of Rebuttal Testimony on Rehearing**

13   **Q.    What is the purpose of your Rebuttal Testimony on Rehearing?**

14   **A.    First**, in my Rebuttal Testimony on Rehearing, I rebut unsubstantiated, inaccurate, and  
15          accusatory claims made in the Direct Testimony on Rehearing of Staff witness Sunday  
16          Balogun (Staff Ex. 26.0) against ComEd’s compliance and operational performance of its  
17          system.

18               **Second**, I respond to Mr. Balogun’s arguments concerning the “Definition of Major  
19          Event Day (MED) in [Performance] Metrics 1 and 2” as identified in the November 14,  
20          2022, Notice of Commission Action and December 1, 2022, Amended Notice of  
21          Commission Action.

22 In particular, I address Mr. Balogun’s criticisms of the use of the IEEE definition  
23 of MEDs. I explain why his criticisms are inaccurate and demonstrate why the  
24 Commission should continue with its decision to use the objective, industry-standard IEEE  
25 1366 methodology to define an MED. Mr. Balogun’s misinformed warnings about that  
26 established standard are no reason to abandon it, thereby also abandoning the only actual  
27 MED definition in this case.

28 I also refute Mr. Balogun’s efforts to justify Criterion 2, which requires an MED to  
29 include “conditions [that] exceed National Electrical Safety Code requirements.” Staff Ex.  
30 26.0 at 21:456-458. The National Electrical Safety Code (“NESC”) is a safety standard  
31 and is not designed to determine what events can cause controlled or uncontrolled  
32 interruptions across a system. Indeed, even Mr. Balogun acknowledges that retention of  
33 Criterion 2 will likely result in no major events qualifying as MEDs for purposes of  
34 ComEd’s reliability performance metrics. *See id.* at 21:462-466. Such an extreme outcome  
35 renders meaningless the Commission’s prior determination that ComEd can exclude MEDs  
36 and arguably leaves the final reliability performance metrics outside of ComEd’s control  
37 to achieve. Additionally, retaining Criterion 2 would ensure both time consuming and  
38 expensive litigation at the Commission with each passing storm and would in effect direct  
39 ComEd to design its system for the low frequency weather extremes rather than normally  
40 expected weather.

41 I also briefly discuss Criteria 1 (with modifications) and 3, which can provide the  
42 Commission with the comfort of knowing that for purposes of the reliability performance  
43 metrics, MEDs are *not* the direct results of controllable events by ComEd.

I note that standards expert witness Dr. Richard Brown also provides rebuttal testimony on rehearing on behalf of ComEd (ComEd Ex. 40.0) concerning the IEEE 1366 Standard, the NESC, and topics related to the MED definition issue on rehearing.

**Third**, my Rebuttal Testimony on Rehearing responds to the Direct Testimonies on Rehearing of Natural Resources Defense Council witness Ron Nelson (NRDC Ex. 4.0) and Citizens Utility Board and Environmental Defense Fund witness Andrew Barbeau (CUB/EDF Ex. 8.0) on the rehearing topic “Clarifying the construct of intervenor-proposed tracking metrics.” There is agreement on how to handle certain intervenor-proposed tracking metrics, but not for others. I will explain how the Commission should address those issues.

**Fourth**, I propose a timeline for the refiling of an updated final Multi-Year Performance and Tracking Metrics Plan (“Plan”) and Rider PIM, if necessary.

**C. Attachments to Rebuttal Testimony on Rehearing**

**Q. Are there any attachments to your Rebuttal Testimony on Rehearing?**

**A.** Yes. I attach as ComEd Ex. 38.01 relevant portions of Staff responses to ComEd’s 8th Set of Data Requests to Staff.

**II. COMED’S STRONG COMMITMENT TO SAFETY AND COMPLIANCE**

**Q. Mr. Balogun characterizes your testimony as meaning “that some of ComEd’s facilities do not meet or should not be required to meet the Commission rules in Part 305” and as implying “that not all ComEd’s facilities meet and satisfy requirement[s]**

64 **in the Sections of the 2017 NESC that the Commission has adopted.” Staff Ex. 26.0,**  
65 **at 27:583-585, 595-28:597. Is that correct?**

66 A. No. I did not imply that, and it is not true. I have reviewed my prior testimony carefully,  
67 and there is simply no basis for these highly accusatory statements that are entirely  
68 unsupported by any evidence. In fact, I have explained that ComEd standards have always  
69 been based on satisfying all NESC and other relevant standards, and our internal  
70 requirements often exceed minimum NESC requirements. *See* Arns Dir. on Reh’g, ComEd  
71 Ex. 36.0 at 19:362-20:385; *see also*, Arns Sur., ComEd Ex. 19.0 at 21:415-419. ComEd  
72 takes its responsibility for the safe design and operation of its facilities for the public, its  
73 workforce, the environment, surrounding property and infrastructure and other  
74 considerations extremely seriously.

75 Indeed, Mr. Balogun’s remarks reflect poorly on his views of Staff’s thorough  
76 reviews of ComEd’s standards and compliance with applicable standards over the years,  
77 as well as on his opinion about the regular and constructive collaborations between ComEd  
78 and Staff on system design, operation, and inspection practices. In addition, Mr. Balogun’s  
79 claims are particularly out of bounds in this case as these remarks about ComEd’s safety  
80 and compliance practices are irrelevant to the rehearing topic of the definition of MEDs for  
81 purposes of the reliability performance metrics.

82 **III. DEFINITION OF MEDS**

83 **A. MED Definitions**

84 **Q. Can you summarize the issue for rehearing concerning the definition of MEDs?**

85 A. Yes. Simply put, the issue to be resolved on rehearing is how MEDs should be defined, or  
86 determined, for purposes of the two reliability performance metrics. Performance Metric  
87 1 will measure improvements in systemwide reliability; Performance Metric 2 will measure  
88 reliability improvements in environmental justice (“EJ”) and Restore, Reinvest, Renew  
89 (“R3”) communities.<sup>1</sup> Both performance metrics use SAIDI (and Performance Metric 2  
90 also uses SAIFI, CEMI, and CELID) to calculate reliability, which in turn, relies on a  
91 determination of MEDs. In its September 27 final Order (“final Order”), the Commission  
92 held that ComEd can exclude up to five MEDs per year from the SAIDI and SAIFI  
93 calculations for Performance Metrics 1 and 2. *Commonwealth Edison Co.*, ICC Docket  
94 No. 22-0067, Final Order (Sept. 27, 2022) at 102-103. Therefore, a standardized definition  
95 of MEDs is needed to determine ComEd’s performance for the two performance metrics.<sup>2</sup>

96 **Q. How does the final Order define MEDs?**

97 A. In its final Order, the Commission accepts the IEEE 1366-2012 definition of MEDs as the  
98 foundational definition. The Commission also modifies the IEEE definition slightly based  
99 on an agreed ComEd and Staff proposal to exclude interruptions lasting one minute or less

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<sup>1</sup> Mr. Balogun incorrectly refers to Performance Metric 2 as “Customers Exceeding Minimum Service Levels of Reliability or Resiliency.” Staff Ex. 26.0 at 2:50-51. That was a proposed performance metric that ComEd proposed, and later replaced, in the direct case.

<sup>2</sup> In response to ComEd’s Nov. 17, 2022, Verified Motion for Clarification, the Commission clarified that the issue on rehearing concerning the definition of MEDs applies to both Performance Metrics 1 and 2. *Commonwealth Edison Co.*, ICC Docket No. 22-0067, Amended Notice of Commission Action (Dec, 1, 2022).

in the calculation of SAIDI. In addition, the final Order adopts three additional “conditions” that must be met for an event to qualify as a MED. These criteria are:

- (1) MEDs must result from outages that result from an event outside of the Company’s control, such as an extreme weather event or terrorist or cyberattack on the system.
- (2) In the case of MEDs resulting from extreme weather, conditions must exceed National Electric Safety Code requirements as specified in 83 Ill. Admin. Code 305 (“Part 305”) and other provisions within the Code.
- (3) MEDs may not result from a planned event within the Company’s control, such as maintenance activities on a non-storm day.

Order at 103. This definition of MEDs with the one-minute modification, and the three criteria, are reflected in ComEd’s final Plan and Rider PIM filed on November 22, 2022, in this docket.

**Q. Can you summarize ComEd’s position on rehearing regarding the definition of MEDs for purposes of the two performance metrics?**

**A.** Yes. The Commission should adopt a clear, straightforward definition of MEDs for purposes of calculating SAIDI performance for Performance Metrics 1 and 2. A practicable and objective definition of MEDs for purposes of Performance Metrics 1 and 2 is necessary for several reasons.

**First**, a practicable and objective MED definition grounded in standards will result in Performance Metrics 1 and 2 that better reflect ComEd’s performance in improving reliability, rather than luck or extreme weather beyond ComEd’s control. As stated throughout this docket, the closer that definition and its application can be kept to an



objective standard, the more meaningfully those improvements can be measured and less “noisy” the metrics become.

**Second**, an MED definition that is grounded in the statistical methodology of a mature standard, rather than the particular meteorological circumstances at the site of every outage, will also prevent ComEd from having to invest significantly to design the system for low probability weather extremes. It will also avoid the need for ComEd to install weather sensing devices at every one of its facilities so it can determine whether the requisite weather conditions occurred during outages.

**Third and finally**, by using an objective definition, like the IEEE 1366, which is easily implementable, protracted litigation each time ComEd experiences a weather event to determine whether it qualifies as an MED will be avoided, along with the added time and costs associated with such extraneous processes.

**Q. Can you summarize ComEd’s recommendations on rehearing regarding the definition of MEDs for purposes of the two performance metrics?**

**A.** Yes. Without restating my Direct Testimony on Rehearing, I recommend that the Commission:

- (1) Retain the IEEE 1366 definition of MEDs, and its exclusion of interruptions lasting one minute or less in the calculation of SAIDI and SAIFI;
- (2) Reject Criterion 2 completely;
- (3) Retain Criteria 1 (with modifications) and 3.

I discuss each of these recommendations, and refute Mr. Balogun’s misinformed reaction to them, in my Rebuttal Testimony on Rehearing.

**B. IEEE 1366 Definition**

**Q. Starting with your first recommendation, why should the Commission retain the IEEE 1366 definition of MEDs?**

**A.** There are numerous reasons why the IEEE 1366 definition of MEDs should be used in the context of these performance metrics. As I have previously explained, IEEE Standard 1366 is an objective methodology widely utilized by electric utilities, researchers, and regulators across the nation to measure reliability including the determination of whether an event qualifies as a major event day. ComEd witness Dr. Richard Brown, who has served on the IEEE group and published several educational pieces on the topic, provides rebuttal testimony on rehearing in which he discusses the IEEE 1366 methodology and explains why it is a reasonable and appropriate methodology to use for reliability performance metrics. (ComEd Ex. 40.0).

**Q. Does Staff witness Mr. Balogun also seek to retain the IEEE 1366 definition of MEDs?**

**A.** No. Mr. Balogun calls for an outright rejection of the IEEE baseline definition of MED (*i.e.*, the IEEE methodology). Staff Ex. 26.0 at 9:194-197. Mr. Balogun's recommendations for rejecting the IEEE 1366 definition are fraught with inaccuracies and misunderstandings, however. Both Dr. Brown and I address them in our Rebuttal Testimonies on Rehearing.

**Q. Does Mr. Balogun propose an alternative definition for MEDs if the IEEE 1366 definition is eliminated, per his recommendation?**

**A.** No. Mr. Balogun appears to believe that the three additional criteria provided in the final Order could independently define an MED, but he is wrong. The Commission's additional

three criteria cannot sufficiently define an MED on their own, and I do not believe the Commission intended them to do so. Instead, the criteria add additional qualifications (*e.g.*, clarifying that the underlying event be outside the utility's control and conditions must exceed NESC requirements for weather-related outages) on top of the foundational IEEE definition. However, one of these criteria – Criterion 2 – is unworkable and would only undermine the Commission's construct of the two performance metrics.

**Q. Is ComEd aware of an alternative definition of "MED" that could be used instead of IEEE 1366?**

A. No. "MED" is a term that is defined and used by the IEEE – there is not an alternative version used elsewhere. "MED" is not defined in the Commission's regulations or the Public Utilities Act ("PUA").

**Q. Are there additional reasons why the Commission cannot eliminate the IEEE 1366 definition of MEDs?**

A. Yes, the IEEE 1366 definition cannot be eliminated because it is woven into the fabric of the reliability performance metrics design. The final Order requires that the IEEE Standard 1366 is used to determine which events are major event days, and thus, it is needed to identify which events can be part of the MED exclusion. Additionally, the entire construct of the final Order's MED exclusion was decided in relation to the number of MEDs (as identified using the IEEE Standard 1366) that ComEd has historically experienced. Similarly, ComEd's goals for Performance Metrics 1 and 2 (15% improvement in SAIDI over 10 years) were developed with the assumption that SAIDI would be calculated in accordance with IEEE Standard 1366. Also, all of the analysis performed to determine

whether the performance metrics were reasonably achievable was undertaken using the IEEE 1366 methodology.

**Q. With that understanding of the integral nature of the IEEE Standard 1366, if the Commission were to eliminate IEEE 1366 as the MED definition, what else would have to change?**

**A.** The Commission would have to revisit every element of the two reliability performance metrics design, including how SAIDI and SAIFI should be calculated, whether any exclusions were appropriate (and if so, how many), and the appropriate goals and baseline. Throughout the metrics redesign process, the Commission would also have to determine if the redesigned metric is reasonably achievable and has the potential to provide customer benefits.

**Q. Does Mr. Balogun provide any specific evidence for why the IEEE 1366 definition of MEDs should be eliminated?**

**A.** No. Mr. Balogun only makes generalized claims that are unsupported by any evidence and are inconsistent and incompatible. For example, Mr. Balogun claims that use of the IEEE 1366 definition of MED would allow a “minor” storm to be characterized as an MED if it “causes high outages.” Staff Ex. 26.0 at 6:126-127. However, Mr. Balogun did not explain his concerns about “minor” yet destructive storms, or provide a historical example of such a situation. *See* ComEd Ex. 38.01, which provides Staff Response to ComEd – Staff 8.02.

207 Q. **Mr. Balogun criticizes the IEEE 1366 definition of MEDs because it does not account**  
208 **for specific weather conditions. See Staff Ex. 26.0 at 6:121-122. Is this a valid critique**  
209 **of a reliability methodology?**

210 A. No. The beauty of the IEEE standard is that it is event-neutral. As Dr. Brown explains  
211 (ComEd Ex. 40.0), IEEE Standard 1366 was originally developed to overcome many  
212 attempts in the industry to define MEDs through weather or other conditions and finding  
213 them all lacking. See also IEEE 1366-2012, Annex B, previously provided as ComEd Ex.  
214 5.01 at 38-46. Furthermore, an event-type based methodology is impractical because it is  
215 not feasible to identify and define each and every different type of weather, and every other  
216 type of event that could potentially result in an outage. Mr. Balogun illustrates this exact  
217 point when he criticizes the IEEE 1366 definition for not considering “the speed of wind  
218 or the number of lightning strikes” when evaluating whether an MED occurred. Staff Ex.  
219 26.0 at 6:121-122. Yet Mr. Balogun does not (nor could he) describe what the speed of  
220 wind should be, or what the number of lightning strikes should be, to identify an MED.

221 Q. **Can you provide another example of how an event-type based methodology, as**  
222 **proposed by Mr. Balogun, would be problematic?**

223 A. Yes, actually Mr. Balogun provides a second good example on this point. As I mentioned  
224 earlier, Mr. Balogun used the term “minor storm” in his Direct Testimony on Rehearing.  
225 When asked in a data request to define the term in that context, he defined “minor storm”  
226 as:

227 [A] weather event with no significant, sustained winds, or severe winds  
228 gusts, or a combination of wind and ice loading that should not cause  
229 substantial interruptions in ComEd's electric service territory if ComEd's

230 facilities are constructed to the standards in the sections of 2017 NESC as  
231 adopted into Part 305.

232 ComEd Ex. 38.01. His definition reveals the limitation of trying to define MEDs by type  
233 or size. For example, his definition appears to contend that “major” storms could be limited  
234 to only wind and ice events. Presumably, all other severe weather conditions, such as  
235 flooding, heavy snow, extreme heat or cold, or lightning, would either not be considered  
236 as storms, or only considered to be “minor” storms.<sup>3</sup> It is not clear what differentiates a  
237 “minor” storm from a “major” storm. Arguably, under Mr. Balogun’s approach, the  
238 Commission would have to define or differentiate “minor” and “major” for each type of  
239 possible weather variable. This is an extraordinarily complicated, complex, and subjective  
240 approach to the straightforward task of defining MEDs for purposes of these metrics. The  
241 IEEE Standards group already abandoned this approach, and instead developed the IEEE  
242 Standard 1366, which objectively determines through statistics when system stresses  
243 become “major”, *i.e.*, a MED.

244 **Q. Is Mr. Balogun correct when he asserts that use of IEEE Standard 1366 could even**  
245 **result in an interruption caused by a “mistake, oversight, or inaction by ComEd**  
246 **itself” being classified as an MED? Staff Ex. 26.0 at 7:144-145.**

247 **A.** Mr. Balogun did not provide a single historical example of when a “mistake, oversight, or  
248 inaction by ComEd” led to an MED in support of his claim. Regardless, Mr. Balogun’s  
249 assertion is moot. To assuage the Commission’s concerns about controllable events,

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<sup>3</sup> In either possibility – that these extreme weather events would not be considered “storms” at all, or that they, by virtue of type, be treated as “minor”, conflicts with Part 411, which requires utilities to “design its system according to generally accepted engineering practices, including consideration of *normally expected weather*.” 83 Ill. Admin. Code Sec. 411.100(e).

ComEd previously agreed to not consider controllable outages as MEDs. *See* Arns Direct on Rehearing, ComEd Ex. 36.0 at 25:492-496.

**Q. Mr. Balogun is concerned that if the IEEE 1366 definition of MEDs is adopted, ComEd will no longer adhere to applicable Illinois law and Commission rules concerning safety and reliability. Staff Ex. 26.0 at 27:583-28:602. Are his fears valid?**

A. Not only are the baseless concerns invalid, but they are frankly insulting. The only issue on rehearing is how MEDs should be defined for purposes of calculating the two reliability performance metrics. The laws, standards, and rules that ComEd must (and does) follow and exceed when designing, maintaining, and operating its grid are not at issue on rehearing (or at all in this docket). As I have repeatedly said throughout this proceeding, ComEd's internal requirements generally exceed the NESC minima as adopted in Part 305 and all other applicable codes, standards, and practices. We ensure that every structure complies with the minimum NESC requirements, if not better. ComEd has a variety of internal processes and procedures in place to ensure that its facilities are designed and constructed in compliance with the NESC and other applicable requirements. *See supra* at 4.

**Q. Are Mr. Balogun's concerns that IEEE Standard 1366 is only a "voluntary guide" and not a Commission requirement a valid reason for the Commission to reject its definition of MED? Staff Ex. 26.0 at 4:82-86.**

A. Not at all. Mr. Balogun asserts that the "voluntary" nature of the IEEE is relevant because that means the Commission and Illinois utilities are not bound by IEEE 1366 for calculating reliability indices. This is a red herring. ComEd is not asserting that the Commission should adopt the IEEE standard because it is a requirement. Rather, the IEEE Standard

1366 provides an objective and practicable definition of measuring reliability and resiliency improvement including classification of MEDs.

As an aside, the Commission’s adoption of the IEEE 1366 definition of MED in its final Order would seem to have transformed the IEEE 1366 standard from a “guide” to a required element of the Commission-approved performance metrics for the purpose of defining MEDs.

**Q. On multiple occasions in his testimony, Mr. Balogun argues “the requirements in the existing Commission rules and regulations that regulate Illinois public utilities, including ComEd, are superior to the requirements in the IEEE 1366 Guide.” See, e.g., Staff Ex. 26.0 at 6:128-130. Does he provide any support for his claims?**

**A.** No, this is another example of Mr. Balogun’s baseless assertions in his testimony. Not only does Mr. Balogun fail to clarify to which “existing Commission rules and regulations” he refers, but he also does not explain why they are “superior” to “requirements in the IEEE 1366 Standard.” In addition, Mr. Balogun’s assertions are irrelevant to the issue on rehearing – the definition of MEDs. To the extent that Mr. Balogun is suggesting that the Commission’s rules provide a definition of MEDs, and that the definition of MEDs provided under the Commission’s rules is “superior to” the definition of MEDs under the IEEE standard, again his argument fails: there is no definition of MEDs under the Commission’s regulations.

**Q. How do you respond to Mr. Balogun’s assertion that “IEEE 1366 does not take into consideration that ComEd, like other public electric utilities in Illinois, is required to use and adhere to (1) the Commission rules in Part 305 and Part 411, (2) the**



**Commission rules on vegetation management; and (3) the use of appropriate lightning arresters<sup>4</sup> on its distribution system”?** Staff Ex. 26.0 at 11:237-241.

A. While I agree with Mr. Balogun that that the IEEE Standard 1366 does not explicitly take into consideration or incorporate the Illinois-specific rules or regulations, it does take into account the meaningful trends of distribution utility reliability across the industry. Dr. Brown expresses a similar response in his Rebuttal Testimony on Rehearing, ComEd Ex. 40.0. In fact, that is one of the specific design benefits of the statistically-based, content-neutral design of IEEE 1366. Just as IEEE 1366 does not take into account the cause of the event (*i.e.*, weather, cyberattack), it also does not take into account each and every utility’s *unique* regulatory environment and *specific* regulations.

Furthermore, it would be nonsensical for the relevant part of IEEE 1366 germane to this matter – which is concerned with calculating MEDs for reliability measurement purposes – to reflect particular Illinois safety and design rules and regulations. IEEE 1366 is a statistical-based definition and methodology standard used nationwide through the electric utility industry and the U.S. Energy Information Administration to measure reliability.

My answer to this question should not be taken to mean that ComEd does not already comply with these Commission rules – they are simply irrelevant in this context.

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<sup>4</sup> Mr. Balogun appears to misunderstand the purpose of lightning arresters – they are used to mitigate damages from lightning, not to prevent outages outright. In fact, lightning arresters often protect equipment by intentionally causing an outage. Lightning protection often serves as a sacrificial component essentially in design to pass the energy of lightning to ground and limit the damage to other equipment. It neither stops lightning from occurring or prevents all outages associated with it and by design in most cases results in an outage. I had mentioned lightning arresters in my Direct Testimony on Rehearing simply to provide a rare example of a weather condition (*i.e.*, lightning) mentioned in the NESC. ComEd Ex. 36.0 at 13:264-270. But my next point was that if there were an outage caused by lightning, the NESC section related to lightning arresters does not provide sufficient detail to determine if Criterion 2 was satisfied. *Id.* at 15:289-291.

**C. NESC & Criterion 2**

**Q. Regarding your second recommendation, why should the Commission eliminate Criterion 2?**

**A.** Without restating my Direct Testimony on Rehearing in full (ComEd Ex. 36.0), Criterion 2 must be eliminated from the definition of MED for purposes of the reliability metric for three main reasons: (1) it cannot be practicably implemented; (2) the reliability performance metrics would become outside ComEd's control to achieve; and (3) the resulting costs to customers would likely be immense.

**Q. Can you summarize your first reason – that the Commission should eliminate Criterion 2 because it cannot be practicably implemented?**

**A.** Yes. Criterion 2 cannot be practicably implemented because of its ambiguous and perplexing wording. Criterion 2 invokes NESC provisions, as adopted by Part 305 of the Commission's regulations, which concern safeguarding of employees and utility facilities. As explained by ComEd witness Dr. Brown, the NESC concerns safety; it has never been used to determine what qualifies as an MED. *See* ComEd Ex. 40.0, 12:240-247; 13:261-263. Therefore, there is no established guidance on how Criterion 2 would be incorporated into an MED calculation, and the Order does not offer any direction. Similarly, Mr. Balogun fails to provide guidance (in fact, he says that the Commission should *not* have to provide guidance). Staff Ex. 26.0 at 25:541-546. Therefore, it is not clear how the NESC requirements should be applied to each outage situation, or what to do in the event that there is no applicable NESC requirement.

A conservative reading of Criterion 2 would require ComEd to determine the historic NESC standard applicable to every piece of equipment involved in an outage, as well as the specific localized weather conditions at the time of the outage. This would be, in all practical considerations, simply impossible during system-wide storm events across ComEd's 11,400 square mile service territory.

**Q. Can you explain your second reason – that the Commission must eliminate Criterion 2 because it will result in the two reliability performance metrics being outside ComEd's control to achieve?**

A. Yes. Criterion 2 will likely result in performance metrics that are outside ComEd's reasonable control to achieve. In its strictest interpretation, Criterion 2 will disqualify *all* weather events from being categorized as MEDs. I demonstrated this in my Direct Testimony on Rehearing by applying Criterion 2 to all of the major events that previously qualified as MEDs and EWEDs in calendar year 2021 in ComEd's service territory, as well as the more recent example of the November 5, 2022, event. In both situations, all of the historical events would have been disqualified as MEDs when Criterion 2 is applied. *See* ComEd Ex. 36.0 at 14:287 at Table 1; 21:418-24:480. Mr. Balogun agrees with our analysis and findings in both cases. *See* Staff Ex. 26.0 at 21:465-466; 22:476-485; *see also* Staff Response to ComEd – Staff 8.01, provided as ComEd Ex. 38.01. Therefore, one can safely assume that the future application of Criterion 2 would result in all weather-related (which they all are) major events being disqualified as MEDs. This would not only moot the final Order's ruling that ComEd can exclude up to five MEDs from its reliability performance metrics calculations each year, but also result in performance metrics that are

outside ComEd's reasonable control to achieve. ComEd's achievement of the metrics would become solely reliant on good weather and luck, rather than its own effort, investment, design, and operation.

**Q. Can you summarize your third reason – that the Commission should eliminate Criterion 2 because it will otherwise result in exorbitant costs?**

A. Yes. The costs resulting from Criterion 2 would be exorbitant. To even attempt to record the localized weather conditions at each possible outage location, ComEd would have to install weather sensors on all of its equipment throughout its 11,400 square mile service territory. It would also likely engage in time-consuming and expensive litigation before the Commission every time a storm occurred to determine if and how Criterion 2 applied. But the most important (and expensive) outcome is that, forced to be at the mercy of luck and the weather, ComEd would have to design its entire system to try and ensure it can withstand even the most extreme weather at each and every location on its system. This would also conflict with Part 411 reliability obligations to “design its system according to generally accepted engineering practices, including consideration of *normally expected weather*, animal activity and other conditions.” 83 Ill. Admin. Code Sec. 411.100(e) (emphasis added to original).

**Q. Mr. Balogun states that Criterion 2 is necessary because it prevents “controllable” outages from being qualified as MEDs. Does Criterion 2 actually achieve this goal?**

A. No. Unlike Criteria 1 and 3, which both literally identify controllable outages and state they do not qualify as MEDs, Criterion 2 does not achieve this goal. Criterion 2's inclusion of the NESC standards (under Part 305) does not exclude controllable events because the

NESC standards have nothing to do with controllable and uncontrollable events. Rather, the stated purpose of Part 305 is safety: “[t]he purpose of [Part 305] is the practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communication lines and their associated equipment. It contains minimum requirements considered necessary for the safety of employees and the public.” 83 Ill. Admin. Code Sec. 305.10.

Criterion 2 is also not necessary because ComEd has already agreed in my Direct Testimony on Rehearing that MEDs should (and will) exclude controllable events. *See* ComEd Ex. 36.0 at 5:84-91. As further assurance, ComEd agrees that Criteria 1 (with modifications) and 3 should remain included in the final Order. ComEd Ex. 36.0 at 25:492-496. I discuss this further in the next Section.

**Q. Does Mr. Balogun agree with your historical analyses that when Criterion 2 is applied to all of the days in 2021 and November 5, 2022, all of which qualified as an MED under IEEE Standard 1366 and as an extreme weather event day (“EWED”) under Part 411, that none of them would qualify as an MED?**

**A.** Yes. Mr. Balogun agrees with my analyses. And then he continues, arguing that such an outcome would be appropriate because all of the related outages were within ComEd’s “control” to prevent because no NESC requirements were exceeded during the events. *See* Staff Ex. 26.0 at 21:465-466; *see also* ComEd Ex. 38.01. Note that these days included,

among others, the August 2021 storms in which 10 tornados were confirmed by the National Weather Service in ComEd's service territory.<sup>5</sup>

**Q. Is Mr. Balogun correct that all weather conditions that do not explicitly exceed objective references within the NESC should be interpreted as “controllable interruptions”? Staff Ex. 26.0 at 22:476-23:495; 23:500-506.**

**A.** No. First, Mr. Balogun flatly conflates ComEd's conformance to generally accepted engineering, construction, or maintenance practices required by the Commission's regulations, and its adopted portions of the NESC, with a distribution system being wholly impervious to outages. No system, no matter how it is maintained and constructed, can withstand every external event.

Second, using the public weather data available, there have never been recorded weather conditions in ComEd's service territory that have exceeded the NESC references (for extreme wind). Under Mr. Balogun's logic, that would mean that Criterion 2 is likely to disqualify every weather-related event as an MED. For reasons I've previously discussed, this would not only moot the Commission's MED exclusion rule, but also make the two reliability metrics out of ComEd's control to achieve. *See generally*, ComEd Ex. 36.0 at 8-24.

**Q. Is it the purpose and intention of the NESC and Part 305 to prevent all outages from occurring?**

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<sup>5</sup> See National Weather Service Report on August 9, 2021: 10 Tornadoes and Significant Rainfall for Parts of Northern Illinois, available at: <https://www.weather.gov/lot/2021aug09>.

A. No, it is not. The NESC is just that – a safety code. ComEd witness Dr. Brown, an industry expert on reliability with expertise in the NESC, discusses the NESC in more detail. *See* ComEd Ex. 40.0. Further, as noted above, the Commission’s reliability rules call for “adequate, efficient, and reasonable level[s]” of reliability. 83 Ill. Admin. Code 411.100(a). In no part of those rules does it express the requirement for *absolute* reliability under all weather conditions in Illinois that Mr. Balogun concludes in his testimony.

**Q. Staff argues that “requiring ComEd to demonstrate that an event exceeds the standards by which the system was designed will further ensure that MEDs are outside the Company’s control.” How do you respond? Staff Ex. 26.0 at 14:300-304.**

A. ComEd cannot control the weather.

**Q. Is Mr. Balogun’s assertion correct that, as long as ComEd adheres to Parts 305 and 411 of the Commission Rules, it will prevent all interruptions from occurring (*i.e.*, all events are “controllable”)? Staff Ex. 26.0 at 14:300-304.**

A. No. Once again, Mr. Balogun misunderstands the purpose of Parts 305 and 411. They are not intended to prevent outages resulting from extreme events, but rather ensure that the system is designed and maintained safely and reliably.

For example, Mr. Balogun asserts that purpose of Part 305 is to ensure “equipment can withstand controllable events that can cause and exacerbate controllable interruptions.” Staff Ex. 26.0 at 15:325-328. His claim is contradicted by the plain language of Part 305, however, which states, “[t]he purpose of [Part 305] is the practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communication lines and their associated equipment. It contains minimum requirements considered

necessary for the safety of employees and the public.” 83 Ill. Admin. Code Sec. 305.10. Similarly, Section 411.100 focuses on “Reliability Obligations” of Illinois utilities, and charges each with “provid[ing] services and facilities that, in accordance with the Act and other applicable statutes, provide an adequate, efficient and reasonable level of reliability giving appropriate consideration to the costs and benefits of changing or maintaining the level of reliability.” 83 Ill. Admin. Code Sec. 411.100(a). Neither Part 305 nor Part 411 task Illinois utilities with avoiding and preventing every outage and neither Part promises to make the utilities that adhere to the requirements (which ComEd unwaveringly does) impervious to weather-related outages.

**Q. Is Mr. Balogun’s assertion correct that ComEd would not have to determine the applicable NESC standard when the facility was installed or updated for purposes of applying Criterion 2? Staff Ex. 26.0 at 26:556-567.**

**A.** No, he is wrong. As I explained in my Direct Testimony on Rehearing, the applicable NESC standards are those in place when the facility was installed or upgraded.<sup>6</sup> ComEd Ex. 36.0 at 17:335-337. Therefore, in order to evaluate an interruption under Criterion 2, ComEd would have to first determine when the equipment at issue was installed or upgraded to determine the applicable NESC requirement. Dr. Brown affirms this as well. See ComEd Ex. 40.0 at 19:394-399. Depending on the age of the equipment, and the number of facilities involved in an outage, this could be an enormously laborious task. The task would become even more impractical in outage situations involving cascading

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<sup>6</sup> For existing installations, the NESC generally provides that existing installations that comply with prior editions of the code generally do not need to be modified to comply with the current version of the rules with a limited number of exceptions. 2017 NESC Rule 013B.2; provided as ComEd Ex. 36.01 at 29.



457 impacts, where multiple elements are damaged from external causes. Additionally, Mr.  
458 Balogun makes certain mischaracterizations regarding ComEd on this point that require  
459 corrections.

460 **Q. What mischaracterizations does Mr. Balogun make about your testimony concerning**  
461 **grandfathered NESC standards?**

462 A. He makes two mischaracterizations that demand correction. First, Mr. Balogun falsely  
463 infers from my testimony that ComEd’s facilities do not meet all of the applicable  
464 Commission rules and requirements. Staff Ex. 26.0 at 27:583-585. This takes my remarks  
465 – which were simply about how Criterion 2 would seemingly have to be applied in  
466 consideration with how the code works to evaluate a storm event – out of context. Once  
467 again, ComEd takes extremely seriously its responsibility for the safety of its facilities and  
468 operation and as such, all of its engineering, design and operational practices meet, and in  
469 many cases exceed, the applicable Commission rules and requirements. *See also* ComEd  
470 Ex. 36.0 at 19:362-20:385. Furthermore, his unfounded remarks about ComEd’s safety  
471 and compliance culture are irrelevant to the question on hand – the definition of MEDs.

472 Second, Mr. Balogun misconstrues a discussion in my Direct Testimony on  
473 Rehearing about how the Illinois Administrative Code and NESC both provide for  
474 “grandfathering” clauses that define the applicable code considerations for existing  
475 facilities as those in effect at the time they were installed. Specifically, he states that  
476 “regardless of the age and time they were installed, all ComEd’s facilities are expected to  
477 meet and satisfy all of the Commission’s rules and requirements” (Staff Ex. 26.0 at 25:554-  
478 556), which implies that I may hold contrary views. As I have stated repeatedly, ComEd

479 facilities meet, and often exceed, all applicable Commission's rules and requirements. That  
480 is not an issue. Rather, my testimony was merely introducing the concept of grandfathering  
481 clauses, which are further articulated in Part 305, which states "[t]he rules which were in  
482 effect at the time of the original installation" (83 Ill. Admin. Code Sec. 305.40(b)(3)(A))  
483 and similarly expressed in Section 013(B)(2) of the NESC (as explained further by Dr.  
484 Brown).

485 **Q. Mr. Balogun recommends using the storm liability waiver petition provision to prove**  
486 **that weather conditions during a specific period were beyond its control, and thus**  
487 **should qualify as an MED for purposes of the reliability performance metrics. Staff**  
488 **Ex. 26.0 at 23:509-25:536. Does Mr. Balogun's recommendation assuage your**  
489 **concerns about implementing Criterion 2?**

490 A. No. In fact, it reinforces my concerns. To the extent Mr. Balogun is proposing that ComEd  
491 should be required to make an affirmative showing each time a weather event occurs as to  
492 whether it qualifies for an MED under Criterion 2, similar to a showing required for storm  
493 liability waivers, it will create unnecessary litigation and costs for Illinois customers.  
494 ComEd experiences multiple MEDs every year, and under Mr. Balogun's  
495 recommendation, each one would require a waiver petition proceeding to confirm their  
496 MED status. Storm waiver petitions take months, if not years, to resolve. For example,  
497 the Ameren Illinois storm waiver proceeding that Mr. Balogun references (*Ameren Illinois*  
498 *Co.*, ICC Docket No. 20-0676), took nine months to conclude (filed September 2, 2020;  
499 ended May 27, 2021). ComEd's 2011 storm waiver proceeding for six summer storms  
500 (*Commonwealth Edison Co.*, ICC Docket No. 11-0588) took almost three years to resolve

through appeal (filed August 18, 2011; appellate decision July 31, 2014). During each petition proceeding, ComEd would introduce evidence about the particular equipment at issue and localized weather conditions, which would likely involve the installation of weather sensing equipment throughout ComEd's system, as well as the retention of outside meteorological experts. Additionally, while I am not a lawyer, it is my understanding that the storm waiver process does not invoke the NESC, so it is unclear how it could be used to apply Criterion 2. Further, it uses a different standard ("unpreventable") regarding interruptions than what Mr. Balogun ("uncontrollable") invokes here. *See, e.g., Ameren Illinois Co.*, ICC Docket No. 20-0676, Final Order (April 29, 2021) at 4-6.

**Q. Mr. Balogun uses the Ameren Illinois storm waiver petition in ICC Docket No. 20-0676 as an example of how the storm waiver process can be used to determine whether weather conditions were beyond the utility's control. Is his example apt?**

**A.** No, the example actually undermines Mr. Balogun's recommendation and statements. In that proceeding, the Commission ultimately granted the storm waiver request. There, wind speeds referenced in the docket were recorded "in excess of 60 mph." However, "in excess of 60 mph" would not seem to satisfy Mr. Balogun's test when applying Criterion 2 and the NESC, which under Rule 250-2(e) concerning "Basic Wind Speed" requires 90 miles per hour for 3 seconds at 33 feet above ground.<sup>7</sup> Furthermore, Mr. Balogun would likely consider "winds in excess of 60 mph" to be the same as those events provided in Table 1 of my Direct Testimony on Rehearing, and therefore, in his opinion, a "controllable event"

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<sup>7</sup> Staff testified and the final Order concluded that weather conditions exceeded National Electric Safety Code design standards, (*see Ameren Illinois Co.*, ICC Docket No. 20-0676, Final Order (Apr. 29, 2021) at 5). For the reasons I've stated above, it is not clear to me which NESC requirement(s) Staff and the final Order believed had been exceeded during the storm.

that cannot be an MED. *See, e.g.*, Staff Ex. 26.0 at 22:479-480. In addition, the final Order in the Ameren docket relies on evidence that “fallen trees and limbs” caused outages resultant from the winds. *Ameren Illinois Co.*, ICC Docket No. 20-0676, Final Order (Apr. 29, 2021) at 3. But there is no applicable NESC requirement for “fallen trees and limbs”, and thus, this event would not qualify as an MED under Mr. Balogun’s application of Criterion 2. Yet the Commission granted the requested waiver. *See id.* at 6 (finding that “many of the interruptions... were unpreventable.”). In summary, this particular example shows how the evaluation of a storm through the storm waiver process is inconsistent with Mr. Balogun’s own interpretations offered for Criterion 2.

**D. Criteria 1 and 3**

**Q. Do you agree with the intent of Criterion 1, that MEDs should only account for events outside of the Company’s control?**

A. Yes. As explained above and in my Direct Testimony on Rehearing, ComEd agrees that MEDs should only account for events outside of ComEd’s control. I continue to believe that the IEEE 1366 definition of MEDs already addresses this concern and therefore, Criterion 1 (and 3) are superfluous. *See* ComEd Ex. 36.0 at 25:484-491; *see also*, ComEd BOE at 20. That being said, in the interest of providing additional assurance that ComEd will not exclude controllable interruptions from its reliability measurements, ComEd would not oppose the Commission retaining Criterion 1, subject to modification.

**Q. What modifications do you propose?**

A. There are two modifications ComEd proposes to Criterion 1. First, as I proposed in my Direct Testimony on Rebuttal, the illustrative examples that Criterion 1 provides could

provide the wrong impression that they are an exhaustive list of uncontrollable events, or that all uncontrollable events must be equally extreme. To eliminate any confusion, ComEd recommends that the illustrative list is removed.

Second, as ComEd proposed in its Brief on Exception (ComEd BOE at 19-20), Criterion 1 should be modified so that it is clear that ComEd may not exclude MEDs that directly result from a material mistake or oversight that was fully within ComEd's control, but for which the MED would not have occurred. This proposed modification is to ensure that ComEd's reliability reflects only those circumstances that are truly within its control.

Accordingly, ComEd proposes that Criterion 1 be clarified as follows:

MEDs must not be a direct result from ~~an event outside of~~ outages that result from a material mistake or oversight that was fully within the Company's control, ~~such as an extreme weather event or terrorist or cyber attack on the system~~ but for which the outage would not have occurred.

**Q. Mr. Balogun opposes ComEd's proposed modification to delete the examples provided in Criterion 1. Staff Ex. 26.0 at 19:407-412. How do you respond?**

**A.** Mr. Balogun appears to misunderstand both my proposed modification and the purpose of Criterion 1, stating that he "disagree[s] with ComEd's opposition to the final Order's 'criterion 1' on what must qualify as [an] MED." Staff Ex. 26.0 at 19:411-412. Criterion 1 does not provide a finite list of what qualifies as an MED (nor should it). I do not oppose Criterion 1, so long as it is refined. My recommended modifications are merely meant to provide clarity on what is, and is not, a controllable event when determining MEDs. Criterion 1 does not provide a finite list of what qualifies as an MED (nor should it).

Q. **Is there agreement between ComEd and Staff regarding the continued inclusion of Criterion 3?**

A. Yes. While ComEd continues to believe that Criterion 3 is not necessary, ComEd does not oppose the language for Criterion 3 as drafted in the final Order. *See* ComEd Ex. 36.0 at 7:148-149. Mr. Balogun “support[s] and agree[s] with ComEd’s position.” Staff Ex. 26.0 at 27:580.

**IV. INTERVENOR-PROPOSED TRACKING METRICS**

Q. **Rehearing was granted to provide ComEd and intervenors the opportunity to clarify several intervenor-proposed tracking metrics. Has ComEd been able to clarify certain intervenor-proposed tracking metrics?**

A. Yes. While time did not permit ComEd to reach any formal agreements, it did allow for the fruitful discussions and the resolution of several of the tracking metrics. Table 1 below provides the summary of the current state of the issues I previously identified in my Direct Testimony on Rehearing.

**Table 1**

Category	Tracking Metric	Proposing Party (if not ComEd)	Issue (if any) Identified in ComEd Ex. 36.0	Status
Emissions Reductions	1. Emissions Reductions Supported by ComEd Programs			
	2. ComEd Net GHG Emissions			
	3. Marginal Greenhouse	CUB/EDF		

	Gas Emissions Reduction Index			
	4. Emissions Reductions from Electrification Index	CUB/EDF		
	5. Report Tracking Metrics for Any Demand Response-related Tariff or Program (19 components)	NRDC	<ul style="list-style-type: none"> <li>Publicly Available Information: Components 3, 9, 17, 18</li> <li>Duplicative: Components 8, 14</li> <li>Vague/Not Clearly Defined: Component 16</li> </ul>	<b>Resolved:</b> ComEd and NRDC agree to remove Components 8, 14, and 16. (NRDC Ex. 4.0; ComEd Ex. 38.0); <b>Not Resolved:</b> ComEd proposes to remove Components 3, 9, 15, 17, and 18. (ComEd Ex. 38.0)
	6. Managed EV Charging (4 components)	NRDC	Information not available to ComEd	<b>Resolved:</b> ComEd agrees to keep in Plan. (ComEd Ex. 38.0)
	7. V2G Export Compensation (3 components)	NRDC		
	8. EV EMS Cost Savings (3 components)	NRDC	Information not available to ComEd	<b>Not Resolved:</b>

				ComEd proposes to remove from Plan (ComEd Ex. 38.0)
	9. Direct Current Fast Charging Load	NRDC	Information not available to ComEd	<b>Resolved:</b> ComEd agrees to modify Data Collection Method in Plan. (ComEd Ex. 38.0)
Grid Flexibility	10. DERMS and Managed Charging Network Availability			
	11. DERMS Participation			
	12. Cumulative DER Interconnected to ComEd Distribution System			
	13. Annual DER Interconnected to ComEd Distribution System			
	14. EV Load and Participation			
	15. Grid Flexibility Tracking Metrics (16 components)	CUB/EDF	Vague/incompletely defined components	<b>Resolved:</b> ComEd will modify Plan language. (CUB/EDF Ex. 8.0; ComEd Ex. 38.0)



Cost Savings	16. Avoided Outage Cost Due to Grid Modernization Investments			
	17. Number of NWA Opportunities			
	18. DER projects pending capacity-constrained interconnection	JSP		
	19. Number of pending interconnection requests with cost estimate and current status	JSP		
	20. Interconnection upgrade cost estimates as compared to actual interconnection cost	JSP		
	21. Total costs of interconnection upgrade by project and feeder	JSP		
	22. Total time measured in days to complete key milestones of interconnection process	JSP		
	23. Hosting capacity for DERs	JSP	Unreasonable/burdensome	<b>Not Resolved:</b> Not defended by JSP;

				ComEd proposes to remove from Plan. (ComEd Ex. 38.0)
Diversity in Jobs and Opportunities	24. % Tier 1 Spend with Illinois Businesses			
	25. % Diverse Professional Services Spend			
	26. Number of Diverse Contractors Completing ComEd Development Programs			
Equity in Allocation of Grid Planning Benefits	27. IEEE and All-In Regional SAIDI			
	28. DSM Program Equitable Participation			
	29. Financial Assistance Outreach & Education			
	30. Customers Exceeding Minimum Service Levels			
	31. Equitable Grid Planning Metric (3 components)	CUB/EDF	Information not available to ComEd	<b>Not Resolved:</b> ComEd proposes to remove from Plan.

				(ComEd Ex. 38.0)
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**A. NRDC-Proposed Tracking Metrics**

**Q. Table 1 indicates that some of the 19 components of NRDC-proposed Tracking Metric 5 will be removed from the Plan. Can you provide more detail?**

A. Yes. ComEd and NRDC agree in testimony that for NRDC-proposed Tracking Metric 5, NRDC witness Mr. Nelson agrees with ComEd that Components 8, 14, and 16 are duplicative and should be removed from the Plan. *See* NRDC Ex. 4.0 at 4:48-49; 4:55-56; 5:68-69. ComEd will remove them from the final Plan and renumber accordingly.

In addition, ComEd continues to advocate that Component 15 of Tracking Metric 5 should also be removed because of its redundancy. Mr. Nelson did not discuss Component 15 or offer an opinion on whether it should be removed from the Plan, in his Direct Testimony on Rehearing, but removal based on redundancy would be consistent with the agreed outcome of the other components.

**Q. Are you proposing any specific modifications to other components of Tracking Metric 5?**

A. Yes. In response to Mr. Nelson's Direct Testimony on Rehearing (NRDC Ex. 4.0 at 9:162-164), ComEd recommends that the following Tracking Metric 5 Components be modified for clarity, specifically that the Plan will be revised to state that these components will track information about current and applicable future tariffs and programs:

- Component 2 (Load reduction capability measured as a weather normalized peak impact);

- Component 6 (Total and percentage MW and MWh participating by tariff and program); and
- Component 7 (Number of customers participating).

Similarly, ComEd recommends that the following Tracking Metric 5 Components be modified for clarity, specifically that the components' data collection method descriptions in the Plan will be revised to reflect that each component concerns "programs included in the PLR metric":

- Component 10 (kWh delivered by time period);
- Component 11 (Average and hourly peak impacts);
- Component 12 (Peak impacts as a function of temperature); and
- Component 13 (Pre- and post-event impacts). For Component 13, ComEd will further modify the definition to clarify "pre-" and "post-" mean two hours before and after the event, respectively.

**Q. Do you agree with Mr. Nelson's recommendation that ComEd should still collect and report the publicly-available information sought by components of NRDC-proposed Tracking Metric 5? NRDC Ex. 4.0 at 10:185-187.**

A. No. ComEd should not be required to serve as a (in the NRDC's words) "single data repository" (NRDC Ex. 4.0 at 3:28) and expend additional resources at its customers' expense to collect and report publicly-available data. NRDC is perfectly capable of collecting the publicly-available information itself.

For these reasons, ComEd continues to recommend that following NRDC-proposed Tracking Metric 5 components are removed from the final Plan:

- Component 3 (Total MW participating in RTO capacity market);
- Component 9 (Percentage of event hours called in top 100 ComEd and PJM system hours);
- Component 17 (Generation resource mix in ComEd's PJM zone during top 100 system hours); and
- Component 18 (Generation resource mix in ComEd's PJM zone during hours when DR was called).

**Q. Is ComEd proposing any additional changes to Tracking Metric 5?**

A. Yes, ComEd proposes to modify for clarity Tracking Metric 5 – Component 5 (Number of times a contingency or other event is called). Specifically, ComEd recommends modifying the Plan's description of the Component 5 data collection method to read, "ComEd will track events called for event-based programs included in the metric through the tools used to measure demand response for those respective programs." ComEd will update the Plan accordingly.

**Q. In your Direct on Rehearing, you recommended that Tracking Metric 6 (Managed EV Charging) be removed from the Plan. ComEd Ex. 36.0 at 35:658-666; 37:704-707. Have you altered your recommendation?**

A. Yes. I now recommend that Tracking Metric 6 should remain in the Plan, without modification.

**Q. Does ComEd agree with NRDC's suggestion that ComEd could gather information to satisfy NRDC-proposed Tracking Metric 8 (EV EMS Cost Savings) from those**

645 **customers installing EV charging infrastructure during the line extension process?**  
646 **NRDC Ex. 4.0 at 6:104-7:110.**

647 A. No, ComEd does not agree. As proposed, Tracking Metric 8 seeks information about  
648 customers who have an Electric Vehicle Energy Management System (“EV EMS”) but do  
649 not participate in a ComEd EV EMS-related program. ComEd does not have a practical  
650 method of capturing the universe of all such customers, as each customer would have to  
651 inform ComEd that they own an EV EMS. *See* ComEd Ex. 36.0 at 36:667-671. NRDC’s  
652 suggestion that ComEd obtain the information during the line extension process does not  
653 solve the problem either. NRDC Ex. 4.0 at 6:104-7:110. Not all customers participating  
654 in the make-ready or line extension process would have an EMS, and ComEd would not  
655 know if the customer obtained an EV EMS later. ComEd would still be reliant on  
656 customers voluntarily providing the information. Further, NRDC incorrectly assumes that  
657 the line extension process would provide ComEd with visibility to customer owned EV  
658 EMS or the specific impacts, if any, it may have on make ready costs.

659 **Q. Do you agree with Mr. Nelson that ComEd should report on its efforts to secure direct**  
660 **current fast charging (“DCFC”)-related data to satisfy Tracking Metric 9 (Direct**  
661 **Current Fast Charging Load)? *See* NRDC Ex. 4.0 at 8:146-147.**

662 A. As it stated in the Plan, there are a number of obstacles faced by ComEd to collect the  
663 information sought by Tracking Metric 9, namely that ComEd does not currently have a  
664 way to collect this information. Without going into specifics, I disagree with the  
665 suggestions that Mr. Nelson provided to overcome these barriers. As stated in the Plan, “If  
666 and when ComEd establishes a program or a rate that allows for DCFC-originated load to

be specifically and individually tracked, it will provide information responsive to this tracking metric.” Plan at 25-26. ComEd also agrees to provide a narrative of our related efforts, as part of the reporting for Tracking Metric 9, and will update the Plan accordingly.

**B. CUB/EDF Tracking Metrics<sup>8</sup>**

**Q. Does CUB/EDF agree with ComEd’s proposed clarification of Tracking Metric 15 - Component 12 (number of circuits that enable back-feed), as provided in your Direct Testimony on Rehearing (ComEd Ex. 36.0 at 31:567-574)?**

**A.** Yes, CUB/EDF confirms that ComEd’s “educated guess” as to the meaning of Component 12, as currently reflected in the Plan, is correct. *See* Barbeau Dir. on Rehearing, CUB/EDF Ex. 8.0 at 28:489-492. ComEd will update the Plan accordingly.

**Q. Does ComEd agree with CUB/EDF’s proposed clarification to Tracking Metric 15 - Component 13?**

Yes, ComEd accepts CUB/EDF’s proposed clarification for Component 13 (the number of circuits that have reached hosting capacity) to read “the number of circuits for which the company’s current hosting capacity analysis lists the estimated hosting capacity as 0 kW.” CUB/EDF Ex. 8.0 at 29:493-508. ComEd will update the Plan accordingly.

**Q. Do you agree with CUB/EDF’s proposal regarding Tracking Metric 31 (Equitable Grid Planning) to postpone the development of a specific methodology until after the conclusion of the Multi-Year Integrated Grid Plan proceeding?**

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<sup>8</sup> The Direct Testimony on Rehearing of CUB/EDF witness Barbeau refers to ComEd witness Mr. Kirchman throughout his discussion of tracking metrics. For clarity, I (Patrick Arns) provided the relevant testimony on behalf of ComEd.

A. No. CUB/EDF-proposed Tracking Metric 31 (Equitable Grid Planning) is comprised of three components:

1. Total amount of distribution system investment, by investment category;
2. Total amount of distribution system investments that have a direct, locational impact on the reliability, safety, affordability, environmental objectives, and economic objectives of EIECs; and
3. Total amount of distribution system investments that have a systemwide impact on the reliability, safety, affordability, environmental objectives, and economic objectives of EIECs, multiplied by the share of customer electricity load by customers in EIECs.

ComEd has stated repeatedly throughout this proceeding that it is not aware of a way to track distribution system investments by community. ComEd is not aware of any such existing tracking method, and do not believe any such method can be created because of the boundary-crossing nature of the grid. Neither Staff nor another party, including CUB/EDF, has recommended a complete methodology to do so.

In the Plan, ComEd explains that Component 1 will be satisfied through the annual reliability report submitted pursuant to Part 411.120. *See* Plan at 37. ComEd also reiterates that it is not possible to track distribution system investments by community impact, and therefore it will only be able to provide the *estimated* percentage of investments identified under Component 1 that benefit EIECs. *See id.* Finally, ComEd states it cannot track or report data requested for Component 3 because part of the required information is impossible to determine. *See id.* at 38. Further, in my Direct Testimony on Rehearing, I



708 explained that Component 2 requires information that is out of ComEd's control to gather  
709 and report. *See* ComEd Ex. 36.0 at 36:686-37:694.

710 In his Direct Testimony on Rehearing, Mr. Barbeau ignores the impossibilities with  
711 fulfilling Component 2 of this Tracking Metric, and instead suggests that the topic be  
712 handed off to the ComEd Multi-Year Integrated Grid Plan (Docket 22-0486) proceeding.  
713 I disagree with Mr. Barbeau's recommendation. Most of the parties in that proceeding are  
714 the same parties in this proceeding, so it is doubtful that they will invent a methodology  
715 during the next 11 months to solve this tracking metric issue. Furthermore, in response to  
716 Mr. Barbeau's assertion that the PUA requires the Grid Plan proceeding to tackle this issue,  
717 neither I nor Mr. Barbeau are attorneys, so it is not appropriate for either of us to opine on  
718 what specific tracking metrics are required by the PUA. Further, Mr. Barbeau never  
719 commented on, or expressed any opposition to, ComEd's Plan with respect to Component  
720 3 of Tracking Metric 31, and he does not discuss Component 3 in his Direct Testimony on  
721 Rehearing. As such, I continue to advocate that ComEd satisfy Component 1 as provided  
722 in the Plan, and Components 2 and 3, which cannot be satisfied, be removed entirely in the  
723 Plan.

724 **C. JSP Tracking Metrics**

725 **Q. Has ComEd's recommendation to remove JSP-proposed Tracking Metric 23**  
726 **(Hosting Capacity for DERs) changed?**

727 **A.** No, I still believe that Tracking Metric 23 should be removed from the Plan. In my Direct  
728 Testimony on Rehearing, I explained that JSP-proposed Tracking Metric 23 (Hosting  
729 Capacity for DERs) is unreasonable and burdensome because ComEd already provides

similar information through its hosting capacity map, and the tracking metric will require ratepayer-funded investments in IT modifications and other resources merely to duplicate the same information at greater frequency. ComEd Ex. 36 at 34:629-639. JSP has not provided testimony on rehearing or otherwise provided support for its proposed tracking metric. Neither Staff nor another party provided support for Tracking Metric 23. Therefore, ComEd recommends that Tracking Metric be removed from the final Plan.

**V. PROPOSED TIMELINE FOR COMPLIANCE FILINGS**

**Q. Does ComEd have a proposed timeline for any required compliance filings?**

A. Yes. In the event that the final Order in this rehearing proceeding requires ComEd to file an updated Plan and Rider PIM, I recommend that a timeline similar to that used during the direct case be used. Similar to the timeline provided in the final Order for the compliance filing, ComEd proposes that it have approximately two months from the date of the order on rehearing to submit a revised Final Metrics Plan. Also, as it did with the initial compliance filing, ComEd will share a draft copy of the revised Final Metrics Plan with Staff and intervenors for comment approximately three weeks before the compliance filing due date, with parties to provide any comments or suggested corrections no later than 12 days before the filing due date. This approach is consistent with the agreement previously reached between ComEd and Staff, as described in the surrebuttal testimony of ComEd witness Chad Newhouse. Newhouse Sur., ComEd Ex. 18.0 at 18:279-290; *see also* ComEd Ex. 18.03, which provides the Staff Response to ComEd – Staff 5.01 (“Staff also recommends that if a Final Order on Rehearing necessitates an update to either the

751 compliance Rider PIM and/or the Plan, the compliance filing schedule outlined above be  
752 repeated under similar timeframes relative to service of the Final Order on Rehearing.”).

753 **VI. CONCLUSION**

754 **Q. Does this complete your Rebuttal Testimony on Rehearing?**

755 **A. Yes.**