

NUC-001-3 Preliminary Recommendation

Adverse or Minority Opinions and Response to Comments Received December 2019

Question One:

NUC-001-3, Requirement R1 states that “The Nuclear Plant Generator Operator shall provide the proposed NPIRs in writing to the applicable Transmission Entities and shall verify receipt.” For clarification, the PRT recommends that a future revision consider revising “proposed” to “proposed new or revised NPIRs,” as noted above. Do you agree with the PRT’s assertion that this observation does not warrant immediate revisions to the Standard? If not, please explain your rationale. Project 2017-05 NUC-001-3 Periodic Review | Preliminary Team Recommendation:

- **Adverse or minority opinions:**
 - None
- **NUC-001-3 EPR Team Response to Question One:**

The PRT recommended that a future revision consider revising “proposed” to “proposed new or revised NPIRs,” to better clarify the intent of the requirement but does not warrant an immediate revision to the Standard. All commenters supported the PRT’s recommendation and there were no adverse or minority comments.

Question Two:

NUC-001-3, Requirement R3 states that “Transmission Entities shall incorporate the NPIRs into their planning analyses of the electric system...”

The PRT seeks industry comment on whether or not the planning analyses should be better defined to align with the Glossary of Terms Used in NERC Reliability Standards (e.g., Near-Term Transmission Planning Horizon and/or Long-Term Transmission Planning Horizon). Do you agree with the PRT’s assertion that this observation does not warrant immediate revisions to the Standard? If not, please explain your rationale.

- **Adverse or minority opinions:**
 - **Independent Electricity System Operator:** We concur that the identified potential “issue” does not warrant immediate revisions to the Standard. Without the “planning analysis” more clearly specified or defined, responsible entities would simply incorporate the NPIRs into their planning analysis for both near-term and long-term horizon. While either of the horizons may not be absolutely needed or applicable for certain entities, there is no reliability gap if planning analyses for both horizons are conducted.

We suggest deleting the second part of R3, ‘and shall communicate the results of these analyses to the Nuclear Plant Generator Operator’. Communication is not necessary if no impact has been identified during the planning analyses. In practice, this would just be an

administrative burden to the applicable entities, with no reliability benefit. If there is an impact, the communication need is covered by Requirement R8.

Alternatively, to cater for cases where the Generator Operator may occasionally need these results, this part could be changed to 'and shall make the results of these analyses available to the Nuclear Plant Generator Operator.'

- **Texas RE:** Texas RE does recommend defining planning analysis or use a term that is defined such as Operations Planning Analysis. Additionally, Texas RE recommends defining "electric system" which is used in both Requirements R3 and R4.
 - **U.S. Bureau of Reclamation:** Reclamation recommends R3 be revised to reference R2 as the source of the Agreements and specify a time frame in which the results of the planning analyses be communicated to Nuclear Plant Generator Operators.
- **NUC-001-3 EPR Team Response to Question Two:**

The PRT proposed that in a future revision the planning analyses should be better defined to align with the Glossary of Terms Used in NERC Reliability Standards (e.g., Near-Term Transmission Planning Horizon and/or Long-Term Transmission Planning Horizon) but does not warrant an immediate revision to the Standard. Majority of commenters supported the PRT's recommendation that this observation be included for consideration in a future revision to the Standard with additional substantive comments addressed below.

 - **Independent Electricity System Operator:** In response to the comments from the Independent Electricity System Operator, the PRT does not agree with proposing a future revision deleting the second part of Requirement R3, "and shall communicate the results of these analyses to the Nuclear Plant Generator Operator". After consulting with the nuclear industry, it is apparent that the Nuclear Plant Generator Operator is in favor of continuing to receive the results of these analyses regardless of the outcome. There are many reasons to communicate this information even if the Transmission Entity performing the analyses may determine there is no impact to the NPGO including verification of statements in the licensing basis and to ensure all the necessary normal, transient, and accident conditions are accounted for. Another compelling reason is to identify a reduction in margin. For example, expected switchyard voltages on a nuclear generating unit trip may still be acceptable; however, could have less margin to the acceptable limit than the previous analyses. The NPGO should evaluate all reports provided to validate the transmission studies and challenge any negative trends that if identified early enough could be evaluated to potentially regain margin in the future or mitigated. In addition, Requirement R8 is not sufficient to ensure communication of an impact is addressed. The analyses may identify an "impact", but this may not necessarily because the Transmission Entity to propose a change to the electric system design that would require a communication in accordance with R8.
 - **Texas RE:** In response to the comments from Texas RE, the PRT agrees that on the next revision the term "electric system" should be evaluated and if necessary, defined for clarification.

- **U.S. Bureau of Reclamation:** In response to the comments from U.S. Bureau of Reclamation, the PRT asserts that the linkage from Requirement R3 to R2 already exists. The statement "[P]er the Agreements" that begins Requirements R3 through R8 inherently ties these requirements back to Requirement R2. In addition, the PRT does not agree that a time frame needs to be delineated in the Standard. If a specific timeframe needs to be identified, then that timeframe can be mutually agreed to by the Parties and incorporated into the implementing Agreements.

Question Three:

Currently, the Time Horizons in NUC-001-3, Requirement R4 are listed as Operations Planning and Real-time Operations. The PRT contends that while the Time Horizons should also include Same-day, it asserts that this observation does not warrant immediate revisions to the Standard. Do you agree with this assertion? If not, please explain your rationale.

- **Adverse or minority opinions:**
 - None
- **NUC-001-3 EPR Team Response to Question Three:**

The PRT recommended that a future revision consider revising Requirement R4 Time Horizons to also include "Same-day" but asserts that this observation does not warrant immediate revisions to the Standard. All commenters supported the PRT's recommendation and there were no adverse or minority comments.

Question Four:

While the PRT agrees that the following observation does not warrant immediate revisions, it identified a potential new Sub-part for Requirement R9 to clarify that some Transmission Entities may rely on specific Bulk Electric System requirements to support NPLRs and therefore recommends clarification by adding the following new Sub-part:

- 9.2.4 Any Agreement that includes NPIR(s) proposed by a Nuclear Plant Generator Operator shall also include NPIR(s) based on more limiting Bulk Electric System requirements to support the NPLRs if specified by one or more Transmission Entities.
- Do you agree with the PRT's assertion that this observation does not warrant immediate revisions to the Standard? If not, please explain your rationale.
- **Adverse or minority opinions:**
 - **Bonneville Power Administration:** BPA believes that the proposed sub-part 9.2.4 needs more clarification, and potentially may be unnecessary. BPA believes that the agreement that includes NPIR requirements could be more stringent than the BES requirement. Some nuclear plants may require the Transmission Entity to maintain unusually high voltage at their primary station service bus to enable the plant operator to shutdown safely during Loss of Coolant Accident. The BES requirement (planning standards) allows the Transmission Entity to develop

acceptable voltage criteria which may be lower than the required voltage level by the plant operator. Therefore, adding this sub-part would make it confusing and unnecessary.

- **Independent Electricity System Operator:** We concur that the observed potential “gap” does not warrant immediate revisions to the standard. In fact, we do not believe there is a need to add the proposed sub-part since by definition, NPIR already includes those “...requirements based on Bulk Electric System requirements that have been mutually agreed to by the Nuclear Plant Generator Operator and the applicable Transmission Entities.” The proposed 9.2.4 will thus be redundant with what is already included in the definition for development “...Agreement that include mutually agreed to NPIRs” per R2.
- We concur that the observed potential “gap” does not warrant immediate revisions to the standard.
- **Texas RE:** In order to be consistent with other Reliability Standards, Texas RE recommends using the term “Responsible Entities” rather than “Transmission Entities” in section A4.2.
- **U.S. Bureau of Reclamation:** Reclamation asserts the PRT has identified a gap in the standard created by the absence of R9.2.4. Since the current standard does not require that NPIRs based on Bulk Electric System requirements be included in Agreements to address and implement NPIRs, Reclamation recommends this requirement be immediately added to the standard to fill the gap.
- **NUC-001-3 EPR Team Response to Question Four:**
The PRT proposed that in a future revision the potential addition of a new Sub-part for Requirement R9 to clarify that some Transmission Entities may rely on specific Bulk Electric System requirements to support the Nuclear Plant Licensing Requirements (NPLRs). All but one commenter supported the PRT's recommendation that this observation be included for consideration in a future revision to the Standard. Adverse and substantive comments are addressed below.
 - **Bonneville Power Administration:** In response to the comments from Bonneville Power Administration, the PRT has modified the proposed new sub-part R9.2.4 to better clarify the intent by adding the words "more limiting" prior to BES requirements as follows:

9.2.4 Any Agreement that includes NPIR(s) proposed by a Nuclear Plant Generator Operator shall also include NPIR(s) based on [**more limiting**] Bulk Electric System requirements to support the NPLRs if specified by one or more Transmission Entities [*emphasis added*]
 - **Independent Electricity System Operator:** In response to the comments from the Independent Electricity System Operator the PRT still asserts that a new Sub-part to Requirement R9 would require clear identification in the Agreements the unique cases where such limiting requirements occur even when the coordination of such limiting requirements will likely have been previously coordinated with the NPGO.
 - **Texas RE:** In response to the comments from the Texas RE the PRT asserts that the NERC Standard process allows for unique terminology if defined locally in the Standard. NUC-001-3

defines "Transmission Entities" in the Applicability Section to clearly identify the entities responsible for providing services related to the NPIRs. By using the term "Transmission Entities" and "Nuclear Plant Generator Operator" the obligations are clear throughout the Standard.

- **U.S. Bureau of Reclamation:** In response to the comments from the U.S. Bureau of Reclamation, the PRT does not agree that this observation requires an immediate revision to the Standard. Although the PRT identified a potential new Sub-part for Requirement R9 to clarify that some Transmission Entities may rely on specific Bulk Electric System requirements to support NPLRs the PRT believes that these BES limiting requirements are infrequent as typically the NPLR are much more stringent. In these unique cases the coordination of such limiting requirements will likely have been previously coordinated and the NPGO will have already incorporated these limiting parameters into the implementing Agreements.

Question Five:

The PRT identified a number of potential errata (i.e., administrative) clarifications listed in the NUC-001-3 EPR Template. If you disagree with any of the observations, provide your rationale.

- **Adverse or minority opinions:**

- **Several commenters:** Please clarify the proposed errata in the template
- **ACES Power Marketing:** To conform to other NERC Reliability Standards, we believe this standard should use the reference "Responsible Entity" as the applicable functional entity instead of "Transmission Entity". This reference should also be identified within the standard's applicability section as any functional entity that has been assigned a responsibility to provide service through a Nuclear Plant Interface Requirement.

- **NUC-001-3 EPR Team Response to Question Five:**

The PRT identified a number of potential errata (i.e., administrative) clarifications to be included for consideration in a future revision to the Standard. Several commenters requested clarification on the proposed errata but in general did not disagree that errata changes did not warrant immediate correction. For clarity the PRT has listed the potential errata changes identified below.

- Remove 4.2.9 "Load Serving Entity (LSE)" as an entity listed that may provide services related to the NPIRs (aligns with Project 2017-07, "Standards Alignment with Registration" as LSE is no longer on the NERC registry criteria. Renumber remaining applicable functional entities.
- Capitalize "Part" and/or "Parts" in all places applicable for consistency.
- Insert missing punctuation colon ":" after Part 9.3 Operations and maintenance coordination [:]
- Lowercase "Administrative" in Requirement 9.4
- VSL table – review use of "Requirement", "R", and "Part" and align for consistency

- **ACES Power Marketing:** Similar to the response to Texas RE in Question #4, in response to the comments from ACES Power Marketing the PRT again asserts that the NERC Standard process allows for unique terminology if defined locally in the Standard. NUC-001-3 defines "Transmission Entities" in the Applicability Section to clearly identify the entities responsible for providing services related to the NPIRs. By using the term "Transmission Entities" and "Nuclear Plant Generator Operator" the obligations are clear throughout the Standard.

Question Six:

The team considered the cost effectiveness of the standard and did not identify a concern related to cost effectiveness as drafted. Do you agree? If not, please provide additional detail.

- **Adverse or minority opinions:**

- None

- **NUC-001-3 EPR Team Response to Question Six:**

The PRT did not identify a concern related to cost effectiveness. Commenters either agreed with the PRT's observation, did not comment on this question or acknowledged that there is some administrative cost involved.

Question Seven:

Given the observations detailed in the NUC-001-3 template, the PRT's preliminary recommendation is to defer the suggested clarifications for later consideration; therefore, developing a draft Standard Authorization Request now is not necessary. Do you agree with the PRT's assertion that the Reliability Standard: (i) does not need immediate modification through standards development; (ii) is sufficient to protect reliability; and (iii) meets the reliability objective of the standard? If not, please provide your rationale.

- **Adverse or minority opinions:**

- **U.S. Bureau of Reclamation:** Reclamation recommends the standard be immediately revised to include the proposed requirement R9.2.4. See the response to Question 4. See comment on previous question.

- **NUC-001-3 EPR Team Response to Question Seven:**

The PRT's preliminary recommendation is to defer the suggested clarifications for later consideration and that developing a draft Standard Authorization Request now is not necessary. The PRT further asserts that that the Reliability Standard: (i) does not need immediate modification through standards development; (ii) is sufficient to protect reliability; and (iii) meets the reliability objective of the Standard. All but one commenter supported the PRT's recommendation that this observation be included for consideration in a future revision to the Standard. Adverse and substantive comments are addressed below.

- **U.S. Bureau of Reclamation:** In response to the comments from the U.S. Bureau of Reclamation, as in the response to Question #4 the PRT again asserts that it does not agree

that this observation requires an immediate revision to the Standard. Although the PRT identified a potential new Sub-part for Requirement R9 to clarify that some Transmission Entities may rely on specific Bulk Electric System requirements to support NPLRs the PRT believes that these BES limiting requirements are infrequent as typically the NPLR are much more stringent. In these unique cases the coordination of such limiting requirements will likely have been previously coordinated and the NPGO will have already incorporated these limiting parameters into the implementing Agreements.

Question Eight:

If you have any other comments on this review that you haven't already mentioned above, please provide them here.

- **Adverse or minority opinions:**

- **Ameren - Ameren Services:** In the standard in Requirement 7 and M7 as well as R8 and M8 in the sentence that ends with "*electric system to meet the NPIRs*", we suggest you add, right after NPIRs, "*or the Nuclear Plant Generator Operators ability to operate the plant to meet the NPIRs.*"

The way it's currently written it implies that it is always incumbent on the system to make the changes to meet the NPIRs whether the plant or the TO/TOP needs to make a change. That is most problematic if the plant decides to make changes, operational or design, that will result in needing to change the NPIRs or how either party operates. The way it is stated it seems that the system is left unable to meet the NPIRs when, in fact, the plant could operate differently to meet the NPIRs following the change. **Example:** A plant has declared they will no longer open a circuit switcher to accommodate an outage of plant downstream equipment. This would constitute an operational change for the plant since the switcher has been there since the plant came online and has always been the preferred method to clear their transformer(s). The next outage would cause the TOP to need to take a bus outage for a plant transformer outage. The same thing could happen if the plant decided they didn't want to pay for a repair of their SVCs. They could just say they are not going to use SVCs. The way NUC is currently written, the TOP would not have the ability to operate the electric system to meet the NPIRs.

The addition of the language mentioned above could clarify that it is anticipated that the plant can also make a change to be able to meet the NPIR.

- **American Transmission Company, LLC:** The GO provides NPIRs to the TE. The NPIRs are then included in one or more agreements between the GO & the TE. Those agreements are used as Measures to indicated compliance with NUC-001-3 Requirements 3, 4, 5, 6, 7, 8, and 9. Listing the NPIRs separately in **Requirement 1** is redundant to the evidence provided for Requirements 3 through 9. Requirements R1 & R2 could be consolidated into R3 and then referred to in subsequent Requirements.

Also, The GO provides NPIRs to the TE. The NPIRs are then included in one or more agreements between the GO & the TE. Those agreements are used as Measures to indicated

compliance with NUC-001-3 Requirements 3, 4, 5, 6, 7, 8, and 9. Listing the Agreement(s) separately in **Requirement 2** is redundant to the evidence provided for Requirements 3 through 9. Requirements R1 & R2 could be consolidated into R3 and then referred to in subsequent Requirements.

- **AEP:** There may be opportunity to provide greater clarity regarding exactly which situations drive the NPIR's applicability. For example, the NPIR needs to clearly define the individual unit status, load requirements of the plant, and the configuration of the low side reactive control in addition to defining the high side of the plant requirements.
- **NUC-001-3 EPR Team Response to Question Eight:**

Question #8 provided the opportunity for commenters to provide any other comments on this review that may not have been mentioned previously. Adverse and substantive comments are addressed below.

- **Ameren - Ameren Services:** In response to the comments from Ameren – Ameren Services, the PRT reminds the commenter that the Nuclear Plant Interface Requirements (NPIRs) must be "mutually agreed on" between the Nuclear Plant Generator Operator (NPGO) and the applicable Transmission Entities and then the NPIRs be implemented in one or more Agreements between the Parties. The NPIRs must be based on the Nuclear Plant Licensing Requirements (NPLRs). If the NPGO decides to make an operational or design change that results in a needed change to the NPIRs then Ameren can challenge the basis for that change. If Ameren needs further clarification in the implementing Agreement(s) to address communications related to nuclear plant design changes, then the Standard provides that flexibility.
- **American Transmission Company, LLC:** In response to the comments from American Transmission Company, LLC the PRT asserts that the Nuclear Plant Interface Requirements (NPIRs) should be a "stand alone" document based on the Nuclear Plant Licensing Requirements (NPLRs). Although there may be situations where the implementation of NUC-001-3 may result in one sole Agreement between the parties; depending on the configuration there may be multiple independent Transmission Entities with unique implementing Agreements that in aggregate meet Requirement R2. Given the Standard is written to accommodate different configurations, the NPIRs should remain as a separate, stand-alone document and therefore Requirement R1 is not redundant to the development of the Agreement(s) to meet Requirement R2.
- **AEP:** In response to the comments from AEP the PRT reminds the commenter that the Nuclear Plant Interface Requirements (NPIRs) must be "mutually agreed on" between the Nuclear Plant Generator Operator and the applicable Transmission Entities and then the NPIRs be implemented in one or more Agreements between the Parties. If AEP needs further clarification either in the NPIR or in the implementing Agreement(s) then the Standard provides that flexibility. There may also be some benefit in reviewing the NAGF, "Nuclear Plant Interface Requirements Practices," that was issued to drive the industry towards a consistent process for developing the NPIRs.