

Conference Call Agenda Project 2012-13 Nuclear Plant Interface Coordination Five-Year Review Team

September 25, 2013 | 9:00 a.m. to 1:00 p.m. ET

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Administrative

1. **Introductions**
2. **Review NERC Antitrust Compliance Guidelines and Public Announcement**
3. **FYRT Participant Conduct Policy**
4. **FYRT E-mail List Policy**
5. **Review Meeting Agenda and Objectives**

Agenda Items

1. **Review Previous Action Items**
 - a. 45-day comment period closed on September 9, 2013.
2. **Develop Response to Comments***
 - a. Revise and finalize Issues List.
3. **Review the Redlined NUC-001-2 Standard***
 - a. Determine whether revisions are required to the redlined changes.
4. **Review the SAR***
 - a. Determine whether revisions are required to the draft SAR.
5. **Review the Five-Year Review Recommendation***
 - a. Determine whether changes are needed to the Five-Year Review Recommendation to Revise NUC-001-2.
6. **Next Steps**
 - a. Finalize response to comments.

b. Finalize recommendation to the Standards Committee

7. Discuss Future Meeting and Action Dates

a. TBD

8. Adjourn

*Background materials included.

DRAFT 9/17/13

NUC-001-2 FYR Commenter Issues

Proposed Redlined Standard

New defined terms in the NERC Glossary of Terms:

- electric system (Duke (use “BES”), MRO)
- Protective Relay Setpoints (MRO)

Suggested Position: It does not appear that industry supports adding any new defined terms to the NERC Glossary of Terms at this time. However, the SDT should evaluate whether “electric system” should be defined in the NUC-001 standard. The FYRT agrees that a single undefined term is appropriate in R7 and R8 for "protective setpoints" and "relay setpoints."

General 1: It does not appear the changes identified in the SAR are properly reflected in the proposed redline. (MRO, FMPA)

- Modify the VSL and VRF Matrices to conform to NERC Guidelines.
- Add Time Horizons.

Suggested Position: The SDT will develop VSLs, VRFs, measures, and Time Horizons.

General 2: We would like the FYRT to consider the “Standards Independent Experts Review Project,” which stated that the NUC standard is “steady state. (ACES, MRO)

Suggested Position: The FYRT considered the Independent Experts Report and generally agreed with its recommendations on NUC-001-2. However, based on industry’s experience and recent “errata” changes to the standard, the FYRT believes – and industry consensus appears to support – that the standard should be revised to improve the standard.

General 3: Measures need to be updated and located with its related requirement; measures recommendations not reflected in the proposed redlined standard. (Dominion, MRO, SER)

Suggested Position: The SDT will develop VSLs, VRFs, measures, and Time Horizons as part of the regular standards drafting process.

General 4: Ensure that the NPLR definition in the standard is consistent with the Glossary. (MRO, SERC)

Suggested Position: The use of the term “NPLR” as related to the Canadian nuclear plants is potentially confusing and will be changed to another term not used in the glossary.

General 5: Concerned that material changes in NUC-001 could lead to continent-wide revisions of the individual plant NPIR agreements – affirm the standard. (ConEd)

Suggested Position: The FYRT was careful to avoid recommendations that would renumber the standard to minimize impacts any revisions might have on existing agreements. Any inconvenience caused by the changes required to improve the standard will be offset by enhanced reliability.

Effective Date: Ensure that it reflects the revised language to account for Canada. (IESO)

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Suggested Position: The revised standard NERC language for Effective Date is as follows, which takes into account Canadian jurisdictional characteristics:

First day of the second calendar quarter after the date that this standard is approved by an applicable governmental authority or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is six months after the date this standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction.

R7 and R8: The terms “protective setpoints” and “relay setpoints” should be clarified since they are identified as a subset of “protection systems.” (ConEd, FMPA) Deleting lowercase “protection systems” and adding “protective setpoints” and “relay setpoints” creates ambiguity and confusion. Instead, the same example should be used for both requirements, add clarity for each requirement, or preserve current wording. (ACES)

Suggested Position: The FYRT agrees that one term is more appropriate than two different terms. The term “protective relay setpoints” may be a possible solution.

R9: The redline states that some elements may not apply. Therefore, each section should not be a subrequirement. (ACES, Exelon)

Suggested Position: In the new format, R9.3 becomes Part 9.3. The FYRT will consider and address transmission concerns in the body of the requirements. Clarifying language also can be added to an external “Rationale” text box directly in the standard. A possible solution is to add an opening sentence in R9 indicating that the Nuclear Plant Generator Operator has the responsibility for ensuring all the R9 requirements are addressed in aggregate within the agreements with the transmission entities. The FYRT will also clarify that the transmission entities have responsibility for ensuring that those requirements that are applicable to them are included in their agreements.

R9.4.1: Change “affecting NPIRs” to “affecting the NPIRS” per the FYR Recommendation to Revise. (MRO)

Suggested Position: The FYRT will fix this typo.

R9.4.5: Retire, as training already is covered in PER-005. (SERC)

Suggested Position: The FYRT determined that PER-005 does not sufficiently address specific training and discussion of the nuclear plant interface requirements. However, the FYRT will review PER-005 again to determine whether R9.4.5 can be retired without adversely affecting reliability.

Proposed SAR

Reliability Functions: Add “Nuclear Plant Generator Operators” (FMPA, MRO) and “Resource Planner” (SERC).

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Suggested Position: “Nuclear Plant Generator Operators” is not a reliability function. Therefore, the FYRT will not make this change. [What about “Resource Planner”? Might the transmission folks have a different opinion? The team should discuss.]

Reliability and Market Interface Principles: Check number 5 since R9.4 addresses communications. (FMPPA, MRO)

Suggested Position: The FYRT will review whether to adopt this suggestion.

Regional Variances: The FYRT identified changes in NUC-001-2, section E, Regional Differences, which is not reflected in the SAR. The SAR should address the Canadian (CANDU) Nuclear Power Plant design basis which coincide with the changes made to NUC-001-2 and address Canadian jurisdictional differences. (FMPPA, MRO)

Suggested Position: The FYRT will develop language in the SAR to better reflect the redline. i.e., the intent of the FYRT.

FYR Recommendation to Revise

Background, Question 4: The comment is in conflict with the answer “Yes.” (Dominion, City of Austin)

Suggested Position: The requirements meet the RBS criteria, but this is a format issue. NERC staff will develop a potential response to this comment.

General Comments

Review to ensure there are no redundant standards, e.g., EOP-005-2, NUC-001-2, R9.3.5, and NUC-001-2

Suggested Position: The FYRT will review and take a position on this example.

A. Introduction

1. **Title:** Nuclear Plant Interface Coordination
2. **Number:** NUC-001-~~3~~2
3. **Purpose:** This standard requires coordination between Nuclear Plant Generator Operators and Transmission Entities for the purpose of ensuring nuclear plant safe operation and shutdown.
4. **Applicability:**
 - 4.1. Nuclear Plant Generator Operators.
 - 4.2. Transmission Entities shall mean all entities that are responsible for providing services related to Nuclear Plant Interface Requirements (NPIRs). Such entities may include one or more of the following:
 - 4.2.1 Transmission Operators.
 - 4.2.2 Transmission Owners.
 - 4.2.3 Transmission Planners.
 - 4.2.4 Transmission Service Providers.
 - 4.2.5 Balancing Authorities.
 - 4.2.6 Reliability Coordinators.
 - 4.2.7 Planning Coordinators.
 - 4.2.8 Distribution Providers.
 - 4.2.9 Load-serving Entities.
 - 4.2.10 Generator Owners.
 - 4.2.11 Generator Operators.
5. **Effective Date:** April 1, 2010

B. Requirements

- R1. The Nuclear Plant Generator Operator shall provide the proposed NPIRs in writing to the applicable Transmission Entities and shall verify receipt. [*Risk Factor: Lower*]
- R2. The Nuclear Plant Generator Operator and the applicable Transmission Entities shall have in effect one or more Agreements¹ that include mutually agreed to NPIRs and document how the Nuclear Plant Generator Operator and the applicable Transmission Entities shall address and implement these NPIRs. [*Risk Factor: Medium*]
- R3. Per the Agreements developed in accordance with this standard, the applicable Transmission Entities shall incorporate the NPIRs into their planning analyses of the electric system and shall communicate the results of these analyses to the Nuclear Plant Generator Operator. [*Risk Factor: Medium*]
- R4. Per the Agreements developed in accordance with this standard, the applicable Transmission Entities shall: [*Risk Factor: High*]

1. Agreements may include mutually agreed upon procedures or protocols in effect between entities or between departments of a vertically integrated system.

- R4.1.** Incorporate the NPIRs into their operating analyses of the electric system.
- R4.2.** Operate the electric system to meet the NPIRs.
- R4.3.** Inform the Nuclear Plant Generator Operator when the ability to assess the operation of the electric system affecting NPIRs is lost.
- R5.** ~~Per the aAgreements developed in accordance with this standard, t~~The Nuclear Plant Generator Operator shall operate ~~per the Agreements developed in accordance with this standard~~the nuclear plant to meet the NPIRs. [*Risk Factor: High*]
- R6.** Per the Agreements developed in accordance with this standard, the applicable Transmission Entities and the Nuclear Plant Generator Operator shall coordinate outages and maintenance activities which affect the NPIRs. [*Risk Factor: Medium*]
- R7.** Per the Agreements developed in accordance with this standard, the Nuclear Plant Generator Operator shall inform the applicable Transmission Entities of actual or proposed changes to nuclear plant design (e.g., protective setpoints), configuration, operations, limits, ~~protection systems,~~ or capabilities that may impact the ability of the electric system to meet the NPIRs. [*Risk Factor: High*]
- R8.** Per the Agreements developed in accordance with this standard, the applicable Transmission Entities shall inform the Nuclear Plant Generator Operator of actual or proposed changes to electric system design (e.g., relay setpoints), configuration, operations, limits, ~~protection systems,~~ or capabilities that may impact the ability of the electric system to meet the NPIRs. [*Risk Factor: High*]
- R9.** The Nuclear Plant Generator Operator and the applicable Transmission Entities shall include, as a minimum, the following elements within the ~~agreement~~Agreement(s) identified in R2. Agreements with each Transmission Entity must contain the elements of R9 applicable to that Transmission Entity. Each Agreement does not have to contain each element; however, the aAgreements, in the aggregate, must address all R9 the elements in R9; however, . each agreement does not have to contain each element. Agreements with each Transmission Entity must contain the elements of R9 applicable to that Transmission Entity.: [*Risk Factor: Medium*]
- R9.1.** Administrative elements: (~~Retirement approved by NERC BOT pending applicable regulatory approval.~~)
 - R9.1.1.** Definitions of key terms used in the agreement. (~~Retirement approved by NERC BOT pending applicable regulatory approval.~~)
 - R9.1.2.** Names of the responsible entities, organizational relationships, and responsibilities related to the NPIRs. (~~Retirement approved by NERC BOT pending applicable regulatory approval.~~)
 - R9.1.3.** A requirement to review the agreement(s) at least every three years. (~~Retirement approved by NERC BOT pending applicable regulatory approval.~~)
 - R9.1.4.** A dispute resolution mechanism. (~~Retirement approved by NERC BOT pending applicable regulatory approval.~~)
- R9.2.** Technical requirements and analysis:
 - R9.2.1.** Identification of parameters, limits, configurations, and operating scenarios included in the NPIRs and, as applicable, procedures for providing any specific data not provided within the ~~agreement~~Agreement.

- R9.2.2.** Identification of facilities, components, and configuration restrictions that are essential for meeting the NPIRs.
- R9.2.3.** Types of planning and operational analyses performed specifically to support the NPIRs, including the frequency of studies and types of Contingencies and scenarios required.
- R9.3.** Operations and maintenance coordination:
 - R9.3.1.** Designation of ownership of electrical facilities at the interface between the electric system and the nuclear plant and responsibilities for operational control coordination and maintenance of these facilities.
 - R9.3.2.** Identification of any maintenance requirements for equipment not owned or controlled by the Nuclear Plant Generator Operator that are necessary to meet the NPIRs.
 - R9.3.3.** Coordination of testing, calibration and maintenance of on-site and off-site power supply systems and related components.
 - R9.3.4.** Provisions to address mitigating actions needed to avoid violating NPIRs and to address periods when responsible Transmission Entity loses the ability to assess the capability of the electric system to meet the NPIRs. These provisions shall include responsibility to notify the Nuclear Plant Generator Operator within a specified time frame.
 - R9.3.5.** Provision for considering, within the restoration process, the requirements and urgency of a nuclear plant that has lost all off-site and on-site AC power.
 - R9.3.6.** Coordination of physical and cyber security protection of the Bulk Electric System at the nuclear plant interface to ensure each asset is covered under at least one entity's plan.
 - R9.3.7.** Coordination of the NPIRs with transmission system Special Protection Systems and underfrequency and undervoltage load shedding programs.
- R9.4.** Communications and training:
 - R9.4.1.** Provisions for communications affecting NPIRs between the Nuclear Plant Generator Operator and Transmission Entities, including communications protocols, notification time requirements, and definitions of applicable unique terms.
 - R9.4.2.** Provisions for coordination during an off-normal or emergency event affecting the NPIRs, including the need to provide timely information explaining the event, an estimate of when the system will be returned to a normal state, and the actual time the system is returned to normal.
 - R9.4.3.** Provisions for coordinating investigations of causes of unplanned events affecting the NPIRs and developing solutions to minimize future risk of such events.
 - R9.4.4.** Provisions for supplying information necessary to report to government agencies, as related to NPIRs.
 - R9.4.5.** Provisions for personnel training, as related to NPIRs.

C. Measures

- M1.** The Nuclear Plant Generator Operator shall, upon request of the Compliance Enforcement Authority, provide a copy of the transmittal and receipt of transmittal of the proposed NPIRs to the responsible Transmission Entities. (Requirement 1)
- M2.** The Nuclear Plant Generator Operator and each Transmission Entity shall each have a copy of the Agreement(s) addressing the elements in Requirement 9 available for inspection upon request of the Compliance Enforcement Authority. (Requirement 2 and 9)
- M3.** Each Transmission Entity responsible for planning analyses in accordance with the Agreement shall, upon request of the Compliance Enforcement Authority, provide a copy of the planning analyses results transmitted to the Nuclear Plant Generator Operator, showing incorporation of the NPIRs. The Compliance Enforcement Authority shall refer to the Agreements developed in accordance with this standard for specific requirements. (Requirement 3)
- M4.** Each Transmission Entity responsible for operating the electric system in accordance with the Agreement shall demonstrate or provide evidence of the following, upon request of the Compliance Enforcement Authority:
 - M4.1** The NPIRs have been incorporated into the current operating analysis of the electric system. (Requirement 4.1)
 - M4.2** The electric system was operated to meet the NPIRs. (Requirement 4.2)
 - M4.3** The Transmission Entity informed the Nuclear Plant Generator Operator when it became aware it lost the capability to assess the operation of the electric system affecting the NPIRs. (Requirement 4.3)
- M5.** The Nuclear Plant Generator Operator shall, upon request of the Compliance Enforcement Authority, demonstrate or provide evidence that the Nuclear Power Plant is being operated consistent with the Agreements developed in accordance with this standard. (Requirement 5)
- M6.** The Transmission Entities and Nuclear Plant Generator Operator shall, upon request of the Compliance Enforcement Authority, provide evidence of the coordination between the Transmission Entities and the Nuclear Plant Generator Operator regarding outages and maintenance activities which affect the NPIRs. (Requirement 6)
- M7.** The Nuclear Plant Generator Operator shall provide evidence that it informed the applicable Transmission Entities of changes to nuclear plant design, configuration, operations, limits, protection systems, or capabilities that would impact the ability of the Transmission Entities to meet the NPIRs. (Requirement 7)
- M8.** The Transmission Entities shall each provide evidence that it informed the Nuclear Plant Generator Operator of changes to electric system design, configuration, operations, limits, protection systems, or capabilities that would impact the ability of the Nuclear Plant Generator Operator to meet the NPIRs. (Requirement 8)

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

Regional Entity.

1.2. Compliance Monitoring Period and Reset Time Frame

Not applicable.

1.3. Compliance Monitoring and Enforcement Processes:

Compliance Audits
Self-Certifications
Spot Checking
Compliance Violation Investigations
Self-Reporting
Complaints

1.4. Data Retention

The Responsible Entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- For Measure 1, the Nuclear Plant Generator Operator shall keep its latest transmittals and receipts.
- For Measure 2, the Nuclear Plant Generator Operator and each Transmission Entity shall have its current, in-force ~~agreement~~ Agreement.
- For Measure 3, the Transmission Entity shall have the latest planning analysis results.
- For Measures 4.3, 6 and 8, the Transmission Entity shall keep evidence for two years plus current.
- For Measures 5, 6 and 7, the Nuclear Plant Generator Operator shall keep evidence for two years plus current.

If a Responsible Entity is found non-compliant it shall keep information related to the noncompliance until found compliant.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

1.5. Additional Compliance Information

None.

2. Violation Severity Levels

- 2.1. Lower:** Agreement(s) exist per this standard and NPIRs were identified and implemented, but documentation described in M1-M8 was not provided.
- 2.2. Moderate:** Agreement(s) exist per R2 and NPIRs were identified and implemented, but one or more elements of the Agreement in R9 were not met.
- 2.3. High:** One or more requirements of R3 through R8 were not met.
- 2.4. Severe:** No proposed NPIRs were submitted per R1, no Agreement exists per this standard, or the Agreements were not implemented.

E. Regional Differences

The design basis for Canadian (CANDU) Nuclear Power Plants (NPPs) does not result in the same licensing requirements as U.S. NPPs. Nuclear Regulatory Commission (NRC) design criteria specifies that in addition to emergency on-site electrical power, electrical power from the electric network also be provided to permit safe shutdown. ~~This requirement is specified in such NRC Regulations as 10 CFR 50 Appendix A—General Design Criterion 17 and 10 CFR 50.63 Loss of all~~

~~alternating current power.~~ There are no equivalent Canadian Regulatory requirements for electrical power from the electric network to be provided to permit safe shutdown~~Station Blackout (SBO) or coping times as they do not form part of the licensing basis for CANDU NPPs.~~
Therefore, the definition of Nuclear Plant Licensing Requirements (NPLR) for Canadian CANDU ~~units~~NPPs will be as follows:

Nuclear Plant Licensing Requirements (NPLR) are requirements included in the design basis of the nuclear plant and are statutorily mandated for the operation of the plant; when used in this standard, NPLR shall mean nuclear power plant licensing requirements for avoiding preventable challenges to nuclear safety as a result of an electric system disturbance, transient, or condition.

F. **Associated Documents**

Version History

Version	Date	Action	Change Tracking
1	May 2, 2007	Approved by Board of Trustees	New
2	To be determined	Modifications for Order 716 to Requirement R9.3.5 and footnote 1; modifications to bring compliance elements into conformance with the latest version of the ERO Rules of Procedure.	Revision
2	August 5, 2009	Adopted by Board of Trustees	Revised
2	January 22, 2010	Approved by FERC on January 21, 2010 Added Effective Date	Update
2	February 7, 2013	R9.1, R9.1.1, R9.1.2, R9.1.3, and R9.1.4 and associated elements approved by NERC Board of Trustees for retirement as part of the Paragraph 81 project (Project 2013-02) pending applicable regulatory approval.	

This draft SAR is being posted, along with a draft redline of NUC-001-2, to provide information on the scope of revisions proposed by the Project 2012-13 NUC Five-Year Review Team. Once the recommendation is finalized and accepted by the Standards Committee, any revisions would be made through the formal standard development process.

Standards Authorization Request Form

When completed, please email this form to:
sarcomm@nerc.com

NERC welcomes suggestions to improve the reliability of the bulk power system through improved reliability standards. Please use this form to submit your request to propose a new or revised NERC Reliability Standard.

Request to propose a new or a revised Reliability Standard

Title of Proposed Standard:	Nuclear Plant Interface Coordination – NUC-001-2 (Project 2012-13)
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Date Submitted:	TBD
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SAR Requester Information

Name:	John Gyra
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Organization:	Exelon Generation LLC (Nuclear)
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Telephone:	610.765.5692	E-mail:	john.gyath@exeloncorp.com
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SAR Type (Check as many as applicable)

New Standard

Withdrawal of existing Standard

Revision to existing Standard

Urgent Action

SAR Information

Industry Need (What is the industry problem this request is trying to solve?):

The Standards Committee assigned seven subject matter experts to review the NUC standard as part of NERC's obligation to conduct periodic reviews of its standards. The Five-Year Review Team concluded that NUC-001-2 remains necessary for reliability by requiring coordination between Nuclear Plant Generator Operators and Transmission Entities to ensure nuclear plant safe operation and shutdown. The standard, however, requires revision to provide greater clarity and to sharpen industry focus on tasks that have a more direct impact on reliability.

SAR Information

Purpose or Goal (How does this request propose to address the problem described above?):

This SAR proposes revising NUC-001-2 in line with the recommendations of the NUC Five-Year Review Team as described in the *Five-Year Review Recommendation to Revise NUC-001-2*, (Attachment 1). The proposed changes to the standard add clarity, remove redundancy, and bring compliance elements in accordance with NERC guidelines. The NUC Five-Year Review Team recommends revising R5 to make it consistent with R4, and to state that the Nuclear Plant Generator Operator shall operate the nuclear plant to meet the NPIRs. The team also recommends removing the reference in R7 and R8 to "Protection Systems" as defined in the NERC Glossary of Terms to focus the standard on attributes that could impact the NPIRs, such as frequency or voltage setpoints, and not the expanded five elements of the defined term. Protection systems are a subset of the nuclear plant design and electric system design attributes referenced in R7 and R8 respectively, and reference to setpoints will be made with these attributes. The team recommends revising R9 to clarify that that all agreements do not have to discuss each of the elements in R9, but that the sum total of the agreements need to address the elements.

Identify the Objectives of the proposed standard’s requirements (What specific reliability deliverables are required to achieve the goal?):

The objective of NUC-001-2 is to require coordination between Nuclear Plant Generator Operators and Transmission Entities to ensure nuclear plant safe operation and shutdown. This objective supports reliability principles 1, 2, 3, 4, and 8 by requiring: (1) the planning and operation of the Bulk Electric System (BES) to consider the unique requirements of nuclear plants; (2) consideration of the nuclear plant requirements in the defined frequency and voltage limits established for BES operation; (3) the nuclear plant unique information necessary for the planning and operation of interconnected bulk power systems be made available to those entities responsible for planning and operating the systems reliably; (4) plans for emergency operation and system restoration of interconnected bulk power system elements be coordinated with the requirements of nuclear plants; and (8) coordination of physical and cyber security protection of the BES at the nuclear plant interface.

Brief Description (Provide a paragraph that describes the scope of this standard action.)

The scope of this standard action is to revise NUC-001-2 in accordance with the recommendations made by the Five-Year Review Team in the *Five-Year Review Recommendation to Revise NUC-001-2*, (Attachment 1), and consistent with industry consensus to make additional standard revisions to the extent such consensus develops.

SAR Information

Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR. Also provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)

The Five-Year Review Team identified several ambiguous, deficient, or duplicative elements during its review. The revisions proposed in the *Five-Year Review Recommendation to Revise NUC-001-2* would enhance clarity in several requirements critical to reliability, and improve compliance efficiency by removing elements not necessary for reliability. Specifically, the Five-Year Review Team has identified the following sections and requirements for revision:

- The standard applies to all Nuclear Plant Generator Operators. Therefore, the term “Nuclear Plant Generator Operator” should be pluralized in section A.4. Applicability.
- R5 should be revised for consistency with R4 and to clarify that nuclear plants must be operated to meet the Nuclear Plant Interface Requirements.
- As explained in the attached *Position Paper on NUC-001-2 R7 and R8*, the term “Protection Systems” should be omitted from requirements R7 and R8, and language should be added to clarify requirement applicability.
- R9 and R9.4.1 should be revised to clarify requirement applicability.
- Section E. Regional Differences should be revised to remove reference to specific Nuclear Regulatory Commission regulations and to clarify that there are no Canadian Regulatory requirements for electrical power from the electric network to permit safe shutdown.
- Modify the Violation Severity Level and Violation Risk Factor matrices to conform to NERC guidelines.
- Revise measures to ensure appropriate clarity and applicability to each corresponding requirement.
- Make errata changes where warranted.
- Add Time Horizons to each requirement.

Reliability Functions

Standards Authorization Request Form

Reliability Functions	
The Standard will Apply to the Following Functions (Check each one that applies.)	
<input checked="" type="checkbox"/> Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator’s wide area view.
<input checked="" type="checkbox"/> Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports Interconnection frequency in real time.
<input type="checkbox"/> Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
<input checked="" type="checkbox"/> Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
<input type="checkbox"/> Resource Planner	Develops a >one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.
<input checked="" type="checkbox"/> Transmission Planner	Develops a >one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.
<input checked="" type="checkbox"/> Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
<input checked="" type="checkbox"/> Transmission Owner	Owns and maintains transmission facilities.
<input checked="" type="checkbox"/> Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
<input checked="" type="checkbox"/> Distribution Provider	Delivers electrical energy to the End-use customer.
<input checked="" type="checkbox"/> Generator Owner	Owns and maintains generation facilities.
<input checked="" type="checkbox"/> Generator Operator	Operates generation unit(s) to provide real and reactive power.
<input type="checkbox"/> Purchasing-Selling Entity	Purchases or sells energy, capacity, and necessary reliability-related services as required.
<input type="checkbox"/> Market Operator	Interface point for reliability functions with commercial functions.

Standards Authorization Request Form

Reliability Functions	
<input checked="" type="checkbox"/> Load-Serving Entity	Secures energy and transmission service (and reliability-related services) to serve the End-use Customer.

Reliability and Market Interface Principles	
Applicable Reliability Principles (Check all that apply).	
<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained and implemented.
<input type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.
<input checked="" type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.
Does the proposed Standard comply with all of the following Market Interface Principles?	
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Enter (yes/no) Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Standards Authorization Request Form

Related Standards	
Standard No.	Explanation

Related SARs – N/A	
SAR ID	Explanation

Regional Variances – N/A	
Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
RFC	

Standards Authorization Request Form

Regional Variances – N/A	
SERC	
SPP	
WECC	

Five-Year Review Recommendation to Revise NUC-001-2

July 23, 2013

Introduction

The North American Electric Reliability Corporation (NERC) has an obligation to conduct a five-year review of each Reliability Standard developed through NERC's American National Standards Institute-accredited Reliability Standards development process.¹ Project 2012-13 – Nuclear Plant Interface Coordination was created to review NUC-001-2 as part of the current cycle of five-year reviews of standards due for review.

The NERC Standards Committee appointed seven nuclear industry subject matter experts to serve on the NUC-001-2 five-year review team (FYRT) on April 22, 2013.² The FYRT used background information on the standard and the questions set forth in the Five-Year Review Template developed by NERC and approved by the NERC Standards Committee, along with associated worksheets and reference documents, to determine whether NUC-001-2 should be: (1) affirmed as is (i.e., no changes needed); (2) revised (which may include revising or retiring one or more requirements); or (3) withdrawn.

As a result of this examination, The FYRT hereby recommends to **REVISE** NUC-001-2, and will therefore also develop and submit a draft Standard Authorization Request (SAR) outlining the proposed scope and technical justification for the revision once the current 45-day industry comment period concludes.

Applicable Reliability Standard: NUC-001-2

Note: NUC-001-2 is the mandatory and enforceable version of NUC-001 and has been enforceable since April 1, 2010. On April 11, 2012, the NERC Standards Committee approved capitalizing "Protection System" in accordance with the Implementation Plan for Project 2007-17. That recommendation has not yet been implemented. Additionally, the NERC Board of Trustees approved retiring R9.1 and its sub

¹ The currently effective Standard Processes Manual (SPM), which became effective on June 27, 2013, obligates NERC to conduct periodic reviews of all Reliability Standards at least once every ten years, and periodic reviews of those standards that are American National Standards (approved by the American National Standards Institute) at least once every five years. The NUC standard is not an American National Standard, and thus the NUC standard would only require a periodic review at least once every ten years under the current SPM. However, the former SPM, which became effective on January 31, 2012, required all standards to undergo a five-year review, and this five-year review process was launched under that SPM. The periodic review process is addressed on page 45 of the current SPM: http://www.nerc.com/pa/Stand/Resources/Documents/Appendix_3A_StandardsProcessesManual.pdf.

² The Standards Committee added the seventh FYRT member on May 21, 2013.

requirements on February 7, 2013 as part of the Paragraph 81 project (Project 2013-02) pending applicable regulatory approval. FERC issued a Notice of Proposed Rulemaking on April 18, 2013, proposing to, among other things, approve retiring R9.1 and its sub requirements.

FYRT Members (name and organization):

1. John Gyraht (Chair), Exelon Generation LLC (Nuclear)
2. George Attarian (Vice Chair), Duke Energy
3. Mukund "Mookie" Chander, Entergy Services Inc.
4. Kevin Donnelly, Consolidated Edison of NY
5. Pete Jenkins, Luminant Generation Company LLC
6. Jerry Whooley, PJM Interconnection
7. Les Carter, Ontario Power Generation

Date Review Completed: July 23, 2013

Background Information *(initially completed by NERC staff)*

1. Are there any outstanding Federal Energy Regulatory Commission directives associated with the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations to associated FERC orders for inclusion in a SAR.)

Yes

No

Note that several responses to FERC Order 693 directives require retaining specific NUC-001-2 language (relevant language noted in *italics*):

- (S- Ref 10370 - Para 1608): Next-day analysis required of minimum voltages at nuclear power plant auxiliary buses. Next day analysis is required in proposed TOP-002-3, R1. A specified minimum voltage limit is by definition an SOL which must be studied in proposed TOP-002-3, Requirement R1. Additionally, *approved NUC-001-2, Requirements R3 & R4.1 require the transmission entity to incorporate NPIRs in their planning and operating analyses.* Approved FAC-011-2 and approved FAC-014-2, Requirement R2 require the Transmission Operator to incorporate SOLs into their analyses. All data required for Operational Planning Analyses is stipulated in proposed TOP-003-2. *Approved NUC-001-2, Requirements R3 & R8 covers the information flowing back to the nuclear plant operator.*
- (S- Ref 10374): Directive applicable to TOP-002 is covered in NUC-001-1, which requires one to “[i]nform the nuclear plant operator in real-time if the auxiliary power bus voltages cannot be maintained.”
- (S- Ref 10391 - Para 1671): NRC has raised some significant issues regarding the consideration of nuclear power plants voltage requirements. Consider the NRCs comments on voltage requirements as part of the standards development process. Next day analysis is required in proposed TOP-002-3, R1. A specified minimum voltage limit is by definition an SOL which must be studied in proposed TOP-002-3, Requirement R1. Additionally, *approved NUC-001-2, Requirements R3 & R4.1 require the transmission entity to incorporate NPIRs in their planning and operating analyses.* Approved FAC-011-2 and approved FAC-014-2, Requirement R2 require the Transmission Operator to incorporate SOLs into their analyses. All data required for Operational Planning Analyses is stipulated in proposed TOP-003-2. *Approved NUC-001-2, Requirements R3 & R8 covers the information flowing back to the nuclear plant operator.*

2. Have stakeholders requested clarity on the Reliability Standard in the form of an Interpretation (outstanding, in progress, or approved), Compliance Application Notice (CAN) (outstanding, in progress, or approved), or an outstanding submission to NERC’s Issues Database? (If there are,

NERC staff will include a list of the Interpretation(s), CAN(s), or stakeholder-identified issue(s) contained in the NERC Issues Database that apply to the Reliability Standard.)

Yes

No

3. Is the Reliability Standard one of the most violated Reliability Standards? If so, does the root cause of the frequent violation appear to be a lack of clarity in the language?

Yes

No

Please explain: Based on NERC staff's review of violations and possible violations over the past three years, the NUC Reliability Standard is one of the least-violated Reliability Standards.

4. Does the Reliability Standard need to be converted to the results-based standard (RBS) format as outlined in *Attachment 1: Results-Based Standards*? (Note that the intent of this question is to ensure that, as Reliability Standards are reviewed, the formatting is changed to be consistent with the current format of a Reliability Standard. If the answer is yes, the formatting should be updated when the Reliability Standard is revised.)

Yes

No

Note: The FYRT reviewed NUC-001-2 and determined that each requirement identifies a clear and measurable expected outcome, such as: (1) a stated level of reliability performance; (2) a reduction in a specified reliability risk; or (3) a necessary competency. Therefore, no requirements require conversion to the RBS format.

Additional Questions Considered by the FYRT

If NERC staff answered “Yes” to any of the questions above, the Reliability Standard probably requires revision. The questions below are intended to further guide your review. Some of the questions reference documents provided by NERC staff as indicated in the Background questions above.

1. **Paragraph 81:** Does one or more of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? Use *Attachment 2: Paragraph 81 Criteria* to make this determination.

Yes

No

Please summarize your application of Paragraph 81 Criteria, if any: R9.1 has been retired under Paragraph 81 principles, pending applicable regulatory approval. The review team applied the criteria specified in *Attachment 2: Paragraph 81 Criteria* in reviewing the remainder of the NUC standard and determined that no additional requirements should be retired under Paragraph 81 principles.

2. **Clarity:** If the Reliability Standard has an Interpretation, CAN, or issue associated with it, or is frequently violated because of ambiguity, it probably needs to be revised for clarity. Beyond these indicators, is there any reason to believe that the Reliability Standard should be modified to address a lack of clarity? Consider:
 - a. Is this a Version 0 Reliability Standard?
 - b. Does the Reliability Standard have obviously ambiguous language or language that requires performance that is not measurable?
 - c. Are the requirements consistent with the purpose of the Reliability Standard?

Yes

No

Please summarize your assessment: The FYRT recommends the following sections of NUC-001-2 be revised to improve the clarity of the standard:

- 1) Applicability Section 4.1: Add plural to "Nuclear Plant Generator Operator"
- 2) Requirement R5: Revise for consistency with R4 and to clarify that nuclear plants must be operated to meet the Nuclear Plant Interface Requirements.

- 3) Requirement R7 and R8: Delete "Protection Systems" in requirements R7 and R8 since it is a subset of the "nuclear plant design" and "electric system design" elements currently contained in R7 and R8 respectively. Add parenthetical clause (e.g. protective setpoints) to R7 following "nuclear plant design" and parenthetical clause (e.g. relay setpoints) to R8 following "electric system design".
- 4) Requirement R9: Revise to clarify that all agreements do not have to discuss each of the elements in R9, but that the sum total of the agreements need to address the elements.
- 5) Requirement R9.4.1: Insert "affecting the NPIRs" following "Provisions for communications" and insert "applicable unique" following ""definitions of".
- 6) Regional Differences: Revise to remove reference to specific Nuclear Regulatory Commission regulations and to clarify that there are no Canadian Regulatory requirements for electrical power from the electric network to permit safe shutdown.

Reference the draft Standard Authorization Request (SAR) developed by the FYRT for additional information regarding the above recommended revisions.

3. **Definitions:** Do any of the defined terms used within the Reliability Standard need to be refined?

Yes

No

Please explain: The FYRT recommends that the defined term "Protection Systems" not be used in Requirements R7 and R8 since the definition is overly broad in application here, and has other NERC compliance implications. The original SDT use of "protection systems" was focused on the attributes that could impact the NPIRs such as frequency or voltage set points (i.e. relay settings) and not the expanded five elements of "Protection Systems" as defined in the NERC Glossary of Terms. The FYRT concurs with the original application of the term "protection systems" and therefore recommends deletion of the defined term "Protection Systems". Please see the attached Five-Year Review Position Paper on NUC-001-2 R7 and R8 for further details.

4. **Compliance Elements:** Are the compliance elements associated with the requirements (Measures, Data Retention, VRFs, and VSLs) consistent with the direction of the Reliability Assurance Initiative and FERC and NERC guidelines? If you answered "No," please identify which elements require revision, and why:

Yes

No

M4-M8 do not give examples of what constitutes “evidence.” R7/R8 “may,” M7/M8 “would.” M7 and M8 do not contain “actual or proposed” language as used in R7 and R8 respectively.

5. **Consistency with Other Reliability Standards:** Does the Reliability Standard need to be revised for formatting and language consistency among requirements within the Reliability Standard or consistency with other Reliability Standards? If you answered “Yes,” please describe the changes needed to achieve formatting and language consistency:

Yes

No

6. **Changes in Technology, System Conditions, or other Factors:** Does the Reliability Standard need to be revised to account for changes in technology, system conditions, or other factors? If you answered “Yes,” please describe the changes and specifically what the potential impact is to reliability if the Reliability Standard is not revised:

Yes

No

7. **Consideration of Generator Interconnection Facilities:** Is responsibility for generator interconnection Facilities appropriately accounted for in the Reliability Standard?

Yes

No

Guiding Questions:

If the Reliability Standard is applicable to GOs/GOPs, is there any ambiguity about the inclusion of generator interconnection Facilities? (If generation interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)

The FYRT did not identify any ambiguity.

If the Reliability Standard is not applicable to GOs/GOPs, is there a reliability-related need for treating generator interconnection Facilities as transmission lines for the purposes of this Reliability Standard? (If so, GOs and GOPs that own or operate relevant generator interconnection Facilities should be explicit in the applicability section of the Reliability Standard.)

This standard is applicable to GOs/GOPs; therefore, this guiding question was not considered.

Recommendation

The answers to the questions above, along with a preliminary recommendation of the SMEs conducting the review of the Reliability Standard, will be posted for a 45-day informal comment period, and the comments publicly posted. The SMEs will review the comments to evaluate whether to modify their initial recommendation, and will document the final recommendation which will be presented to the Standards Committee.

Preliminary Recommendation (to be completed by the SME team after its review and prior to posting the results of the review for industry comment):

- AFFIRM
- REVISE
- RETIRE

Technical Justification: See attached draft SAR.

Preliminary Recommendation posted for industry comment (date): July 23, 2013

Final Recommendation (to be completed by the SME team after it has reviewed industry comments on the preliminary recommendation):

- AFFIRM *(This should only be checked if there are no outstanding directives, interpretations or issues identified by stakeholders.)*
- REVISE
- RETIRE

Technical Justification: TBD

Date submitted to NERC Staff: TBD

Attachment 1: Results-Based Standards

The fourth question for NERC staff asks if the Reliability Standard needs to be converted to the results-based standards (RBS) format. The information below will be used by NERC staff in making this determination, and is included here as a reference for the SME team and other stakeholders.

RBS standards employ a defense-in-depth strategy for Reliability Standards development where each requirement has a role in preventing system failures and the roles are complementary and reinforcing. Reliability Standards should be viewed as a portfolio of requirements designed to achieve an overall defense-in-depth strategy and comply with the quality objectives identified in the resource document titled, "[Acceptance Criteria of a Reliability Standard](#)."

A Reliability Standard that adheres to the RBS format should strive to achieve a portfolio of performance-, risk-, and competency-based mandatory reliability requirements that support an effective defense-in-depth strategy. Each requirement should identify a clear and measurable expected outcome, such as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk, or c) a necessary competency.

- a. **Performance-Based**—defines a particular reliability objective or outcome to be achieved. In its simplest form, a results-based requirement has four components: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome?
- b. **Risk-Based**—preventive requirements to reduce the risks of failure to acceptable tolerance levels. A risk-based reliability requirement should be framed as: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome that reduces a stated risk to the reliability of the bulk power system?
- c. **Competency-Based**—defines a minimum set of capabilities an entity needs to have to demonstrate it is able to perform its designated reliability functions. A competency-based reliability requirement should be framed as: who, under what conditions (if any), shall have what capability, to achieve what particular result or outcome to perform an action to achieve a result or outcome or to reduce a risk to the reliability of the bulk power system?

Additionally, each RBS-adherent Reliability Standard should enable or support one or more of the eight reliability principles listed below. Each Reliability Standard should also be consistent with all of the reliability principles.

1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.
6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.
8. Bulk power systems shall be protected from malicious physical or cyber attacks.

If the Reliability Standard does not provide for a portfolio of performance-, risk-, and competency-based requirements or consistency with NERC's reliability principles, NERC staff should recommend that the Reliability Standard be reformatted in accordance with RBS format.

Attachment 2: Paragraph 81 Criteria

The first question for the SME Review Team asks if one or more of the requirements in the Reliability Standard meet(s) criteria for retirement or modification based on Paragraph 81 concepts.³ Use the Paragraph 81 criteria explained below to make this determination. Document the justification for the decisions throughout and provide them in the final assessment in the Five-Year Review worksheet.

For a Reliability Standard requirement to be proposed for retirement or modification based on Paragraph 81 concepts, it must satisfy **both**: (i) Criterion A (the overarching criterion) and (ii) at least one of the Criteria B listed below (identifying criteria). In addition, for each Reliability Standard requirement proposed for retirement or modification, the data and reference points set forth below in Criteria C should be considered for making a more informed decision.

Criterion A (Overarching Criterion)

The Reliability Standard requirement requires responsible entities (“entities”) to conduct an activity or task that does little, if anything, to benefit or protect the reliable operation of the BES.

Section 215(a) (4) of the United States Federal Power Act defines “reliable operation” as: “... operating the elements of the bulk-power system within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements.”

Criteria B (Identifying Criteria)

B1. Administrative

The Reliability Standard requirement requires responsible entities to perform a function that is administrative in nature, does not support reliability and is needlessly burdensome.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability and whose retirement or modification will result in an increase in the efficiency of the ERO compliance program. Administrative functions may include a task that is related to developing procedures or plans, such as establishing communication contacts. Thus, for certain requirements, Criterion B1 is closely related to Criteria B2, B3 and B4. Strictly administrative functions do not inherently negatively impact reliability directly and, where possible, should be eliminated or modified for purposes of efficiency and to allow the ERO and entities to appropriately allocate resources.

³ In most cases, satisfaction of the Paragraph 81 criteria will result in the retirement of a requirement. In some cases, however, there may be a way to modify a requirement so that it no longer satisfies Paragraph 81 criteria. Recognizing that, this document refers to both options.

B2. Data Collection/Data Retention

These are requirements that obligate responsible entities to produce and retain data which document prior events or activities, and should be collected via some other method under NERC's rules and processes.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability. The collection and/or retention of data do not necessarily have a reliability benefit and yet are often required to demonstrate compliance. Where data collection and/or data retention is unnecessary for reliability purposes, such requirements should be retired or modified in order to increase the efficiency of the ERO compliance program.

B3. Documentation

The Reliability Standard requirement requires responsible entities to develop a document (*e.g.*, plan, policy or procedure) which is not necessary to protect BES reliability.

This criterion is designed to identify requirements that require the development of a document that is unrelated to reliability or has no performance or results-based function. In other words, the document is required, but no execution of a reliability activity or task is associated with or required by the document.

B4. Reporting

The Reliability Standard requirement obligates responsible entities to report to a Regional Entity, NERC or another party or entity. These are requirements that obligate responsible entities to report to a Regional Entity on activities which have no discernible impact on promoting the reliable operation of the BES and if the entity failed to meet this requirement there would be little reliability impact.

B5. Periodic Updates

The Reliability Standard requirement requires responsible entities to periodically update (*e.g.*, annually) documentation, such as a plan, procedure or policy without an operational benefit to reliability.

This criterion is designed to identify requirements that impose an updating requirement that is out of sync with the actual operations of the BES, unnecessary, or duplicative.

B6. Commercial or Business Practice

The Reliability Standard requirement is a commercial or business practice, or implicates commercial rather than reliability issues.

This criterion is designed to identify those requirements that require: (i) implementing a best or outdated business practice or (ii) implicating the exchange of or debate on commercially sensitive information while doing little, if anything, to promote the reliable operation of the BES.

B7. Redundant

The Reliability Standard requirement is redundant with: (i) another FERC-approved Reliability Standard requirement(s); (ii) the ERO compliance and monitoring program; or (iii) a governmental regulation (e.g., Open Access Transmission Tariff, North American Energy Standards Board (“NAESB”), etc.).

This criterion is designed to identify requirements that are redundant with other requirements and are, therefore, unnecessary. Unlike the other criteria listed in Criterion B, in the case of redundancy, the task or activity itself may contribute to a reliable BES, but it is not necessary to have two duplicative requirements on the same or similar task or activity. Such requirements can be retired or modified with little or no effect on reliability and removal will result in an increase in efficiency of the ERO compliance program.

Criteria C (Additional data and reference points)

Use the following data and reference points to assist in the determination of (and justification for) whether to proceed with retirement or modification of a Reliability Standard requirement that satisfies both Criteria A and B:

C1. Was the Reliability Standard requirement part of a FFT filing?

The application of this criterion involves determining whether the requirement was included in a FFT filing.

C2. Is the Reliability Standard requirement being reviewed in an ongoing Standards Development Project?

The application of this criterion involves determining whether the requirement proposed for retirement or modification is part of an active Standards Development Project, with consideration for the status of the project. If the requirement has been approved by Registered Ballot Body and is scheduled to be presented to the NERC Board of Trustees, in most cases it will not need to be addressed in the five-year review. The exception would be a requirement, such as the Critical Information Protection (“CIP”) requirements for Version 3 and 4, that is not due to be retired for an extended period of time. Also, for informational purposes, whether the requirement is included in a future or pending Standards Development Project should be identified and discussed.

C3. What is the VRF of the Reliability Standard requirement?

The application of this criterion involves identifying the VRF of the requirement proposed for retirement or modification, with particular consideration of any requirement that has been assigned as having a Medium or High VRF. Also, the fact that a requirement has a Lower VRF is not dispositive that

it qualifies for retirement or modification. In this regard, Criterion C3 is considered in light of Criterion C5 (Reliability Principles) and C6 (Defense in Depth) to ensure that no reliability gap would be created by the retirement or modification of the Lower VRF requirement. For example, no requirement, including a Lower VRF requirement, should be retired or modified if doing so would harm the effectiveness of a larger scheme of requirements that are purposely designed to protect the reliable operation of the BES.

C4. In which tier of the most recent Actively Monitored List (AML) does the Reliability Standard requirement fall?

The application of this criterion involves identifying whether the requirement proposed for retirement or modification is on the most recent AML, with particular consideration for any requirement in the first tier of the AML.

C5. Is there a possible negative impact on NERC's published and posted reliability principles?

The application of this criterion involves consideration of the eight following reliability principles published on the NERC webpage.

Reliability Principles

NERC Reliability Standards are based on certain reliability principles that define the foundation of reliability for North American bulk power systems. Each reliability standard shall enable or support one or more of the reliability principles, thereby ensuring that each standard serves a purpose in support of reliability of the North American bulk power systems. Each reliability standard shall also be consistent with all of the reliability principles, thereby ensuring that no standard undermines reliability through an unintended consequence.

Principle 1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

Principle 2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.

Principle 3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.

Principle 4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.

Principle 5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.

Principle 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Principle 7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.

Principle 8. Bulk power systems shall be protected from malicious physical or cyber attacks. (footnote omitted).

C6. Is there any negative impact on the defense in depth protection of the BES?

The application of this criterion considers whether the requirement proposed for retirement or modification is part of a defense in depth protection strategy. In other words, the assessment is to verify whether other requirements rely on the requirement proposed for retirement or modification to protect the BES.

C7. Does the retirement or modification promote results or performance based Reliability Standards?

The application of this criterion considers whether the requirement, if retired or modified, will promote the initiative to implement results- and/or performance-based Reliability Standards.

Unofficial Comment Form

Project 2012-13 Nuclear Plant Interface Coordination

Please **DO NOT** use this form for submitting comments. Please use the [electronic form](#) to submit comments on the draft Five-Year Review Recommendation on NUC-001-2. A draft Standard Authorization Request (SAR) for NUC-001-2 that shows the scope of the recommended changes is also posted for information. The electronic comment form must be completed by 8:00 p.m. ET **September 9, 2013**.

If you have questions please contact [Sean Cavote](#) (via email) or by telephone at 404.446.9697.

[NUC-001-2 Five-Year Review Project Page](#)

Background Information

The Standards Committee assigned seven subject matter experts to review the NUC standard as part of NERC's obligation to conduct periodic reviews of its standards. The Five-Year Review Team recommends certain revisions to NUC-001-2 to provide greater clarity and to sharpen industry focus on tasks that have a more direct impact on reliability. As required by the NERC Standard Processes Manual, this recommendation is being posted for stakeholder comment prior to being finalized and submitted to the Standards Committee.

This posting includes three documents: the draft Five-Year Review of NUC-001-2, with a recommendation to revise; and two supporting documents to assist stakeholders in understanding the scope of revisions the review team is recommending:

- Draft Standards Authorization Request Form to Propose Revisions to NUC-001-2 (to provide additional information on the scope); and
- Redlined NUC-001-2 showing the proposed recommended revisions to the Requirements and other elements of NUC-001-2.

The Five-Year Review Team identified several ambiguous, deficient, or duplicative elements during its review. The revisions proposed in the *Five-Year Review Recommendation to Revise NUC-001-2* would enhance clarity in several requirements critical to reliability, and improve compliance efficiency by removing elements not necessary for reliability. Specifically, the Five-Year Review Team has identified the following sections and requirements for revision (additional detail is provided in the Proposed Revisions to NUC-001-2 document, also included with this posting):

NUC-001-2, Nuclear Interface Coordination

1. Applicability, 4.1: The term “Nuclear Plant Generator Operator” should be pluralized to clarify that the standard applies to all Nuclear Plant Generator Operators.
2. R5 should be revised for consistency with R4 and to clarify that nuclear plants must be operated to meet the Nuclear Plant Interface Requirements.
3. As explained in the attached *Position Paper on NUC-001-2 R7 and R8*, the term “Protection Systems” should be omitted from requirements R7 and R8, and language should be added to clarify requirement applicability.
4. R9 and R9.4.1 should be revised to clarify requirement applicability.
5. Section E. Regional Differences should be revised to remove reference to specific Nuclear Regulatory Commission regulations and to clarify that there are no Canadian Regulatory requirements for electrical power from the electric network to permit safe shutdown.
6. Modify the Violation Severity Levels and Violation Risk Factors to conform to NERC guidelines.
7. Revise measures to ensure appropriate clarity and applicability to each corresponding requirement.
8. Make errata-type changes where warranted.
9. Add Time Horizons to each requirement.

Questions

You do not have to answer all questions. Enter comments in simple text format. Bullets, numbers, and special formatting will not be retained.

1. Do you agree with this recommendation? If not, please explain specifically what aspects of the recommendation you disagree with.

Yes

No

Comments:

2. Do you agree that NUC-001-2 should be revised?

Yes

No

Comments:

3. A draft SAR and redline of NUC-001-2 showing the proposed recommended revisions to the Requirements of NUC-001-2 have been posted with the Nuclear Plant Interface Coordination (Project 2012-13) Five-Year Review Team (FYRT) Draft Recommendation. If you agree that NUC-001-2 should be revised, do you agree that the redlined NUC-001-2 standard posted with the SAR is an effective and reasonable implementation of that recommendation? Please note that if the recommendation to revise NUC-001-2 is made in the final recommendation and accepted by the Standards Committee, any changes will be made through the formal standards development process.

Yes

No

Comments:

4. If you have any other comments on the Five-Year Review Recommendation to Revise or the SAR that you have not already mentioned above, please provide them here:

Comments:

Individual or group. (27 Responses)

Name (15 Responses)

Organization (15 Responses)

Group Name (12 Responses)

Lead Contact (12 Responses)

IF YOU WISH TO EXPRESS SUPPORT FOR ANOTHER ENTITY'S COMMENTS WITHOUT ENTERING ANY ADDITIONAL COMMENTS, YOU MAY DO SO HERE. (5 Responses)

Comments (27 Responses)

Question 1 (20 Responses)

Question 1 Comments (22 Responses)

Question 2 (19 Responses)

Question 2 Comments (22 Responses)

Question 3 (20 Responses)

Question 3 Comments (22 Responses)

Question 4 (0 Responses)

Question 4 Comments (22 Responses)

Group
MRO NERC Standards Review Forum
Russel Mountjoy
Yes
Yes, the NSRF agrees with the overall recommendation to "REVISE" NUC-001-2 Standard, however, it does not appear the changes proposed are properly reflected and coordinated between the three applicable documents, (1) Five-Year Review Recommendation to Revise NUC-001-2, (2) the SAR and (3) Redlined version of NUC-001-2. Examples of these are in responses to Questions #3 and #4 of the Comment Form.
Yes
Yes, however, the NSRF is concerned that the Redlined copy of NUC-001-2 does not reflect all the changes being addressed in the Five-Year Review Recommendation to Revise NUC-001-2 document nor in the SAR. (For details, see response to Questions #3 and #4.
No
We believe there are recommendations not addressed in the Redline that are listed in the SAR Information. They are the following and should be noted somehow in the Redline: 1.) Bullet #6, Modify the VSL and VRF Matrices to conform to NERC Guidelines 2.) Bullet #9, Add Time Horizons to each Requirement Included within NUC-001-2 Section E is a definition of Nuclear Plant Licensing Requirements (NPLR) which is also defined in the NERC Glossary of Terms Used in Reliability Standards. The two do not match nor do we believe that NPLR needs to be defined within the Standard. Note - Five-Year Review Recommendation to Revise NUC-001-2, Additional Questions Considered by the FYRT, addresses Clarity (No. 2) which lists several improvements. Under this, Item #5 recommends inserting "affecting the NPIRs" to R9.4.1, which is currently just "affecting NPIRs". Need to make the two match. Note - Five-Year Review Recommendation to Revise NUC-001-2, Additional Questions Considered by the FYRT, addresses Compliance Elements (No. 4) which recommends inserting "actual and proposed" before the text....changes to Nuclear Plant Design in Measures 7 and 8, as used for R7 and R8, respectively. These changes are not shown in the Redline copy of NUC-001-2.
Please consider the following additional recommendations/comments: 1.) The following terms, used in the NUC-001 Standard, should be considered as new defined terms for the NERC Glossary of Terms used in Reliability Standards: a. The term "electric system" is used numerous times throughout the Standard and not defined. b. The term "Protective Relay Setpoints" used several times in the Standard should be defined since identified as a subset of a "Protection System". 2.) The SAR does not list "Nuclear Plant Generator Operators" (NPGOs) as part

of the applicable Reliability Functions, however, is clearly listed in Section 4. Applicability of the NUC-001-2 Standard. 3.) The Reliability and Market Interface Principles No. 5 should also be checked, as applicable, within the SAR since Requirement R9.4 of NUC-001-2 clearly addresses communications. 4.) The Five-year Review identified changes within the NUC-001-2 Redline in Section E, Regional Differences; however, Regional Variances was marked as N/A in the SAR. We believe that there should be something in the SAR to address the Canadian (CANDU) Nuclear Power Plant design basis which coincide with the changes made to NUC-001-2 and address Canadian jurisdictional differences.

Group

PPL Corporation NERC Registered Affiliates

Stephen J. Berger

Yes

These comments are submitted on behalf of the following PPL NERC Registered Affiliates (PPL): Louisville Gas and Electric Company and Kentucky Utilities Company; PPL Electric Utilities Corporation, PPL EnergyPlus, LLC; and PPL Generation, LLC; PPL Montana, LLC; and PPL Susquehanna, LLC. The PPL NERC Registered Affiliates are registered in six regions (MRO, NPCC, RFC, SERC, SPP, and WECC) for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, PSE, RP, TO, TOP, TP, and TSP. The PPL NERC Registered Affiliates agree with proposed revisions to the standard, especially revision #3. We believe that "Protection Systems" should be omitted from R7 and R8. The intent of the NUC-001 standards was not to tie in PRC-005 compliance obligations of maintenance and testing of Relays, CTs & PTs, D.C. Circuitry, Communication Devices and Batteries, but instead was to coordinate major changes to overall protections systems and protection system settings for those systems that could possibly impact the protection system interface at the GO/TO interconnection. The PPL NERC Registered Entities agree with proposed change #4. The proposal of revising R9 to clarify that all the agreements do not have to discuss each element of R9 is helpful for nuclear generators that have multiple agreements with transmission entities. This proposed revision may also be helpful for any GO/GOP's that have obligations in agreements that are necessary to meet a sub requirements of NUC-001 R9 to meet a NPIR with nuclear generators or transmission entities. This allows the agreement to cover only what is applicable to the specific entity and removes the responsibility to document unnecessary elements of R9 in cases where the entity involved in the agreement does not perform all the functions required of R9. For example, an agreement between the blackstart facility and the associated NPGO and/or TO could be required documentation necessary to meet R9.2.2 if the blackstart facility is identified as a facility necessary for meeting a NPIR. This blackstart facility would not be required to include in the agreement documentation of other R9 subrequirements such as R9.4.1, provision of communication between the NPGO and Transmission Entities, if it had been established that the NPGO will communicate with the TO and not directly with the blackstart generator. Therefore the amendment to the standard would allow agreements to meet the NPIR to be limited to only the relevant R9 subrequirements of the applicable entity. Currently, the standard is written ambiguously and an auditor could interpret that all R9 requirements must be included in an agreement regardless if the entity is required or even able to perform the function as stated in R9.

Yes

Given the compliance uncertainties now that "Protection Systems" is a formalized definition in NERC's glossary intended for PRC-005 maintenance and testing intervals, it is necessary to exclude the use of this term from the standard. The NUC-001 standard would allow for PRC-005 standard creep and could find nuclear generators and transmission owners in double jeopardy under the standards NUC-001 R7, R8 and PRC-005 for any "Protection System" related potential violations.

Yes

Individual

Silvia Parada Mitchell

NextEra Energy

Yes

NextEra generally agrees with the revisions to NUC-001-2; however, NextEra does not find that there is an immediate need to make the changes, which are minor, and, therefore, requests that any SAR or proposed revisions to NUC-001-2 be given a low priority in the Standards development process.

Group

Northeast Power Coordinating Council

Guy Zito

Yes

Yes

Yes

Individual

Winnie Holden

PSEG

Yes

Yes

Yes

Individual

Thomas Foltz

American Electric Power

Yes

Yes

Yes

Group

ACES Standards Collaborators

Ben Engelby

No

We agree with the Five Year Review team that there are areas that could be refined within NUC-001. However, we question the format of Requirement R9, in particular using sub-requirements. The proposed redline text states that some of these elements may not apply, and therefore, each section should not be a sub-requirement.

Yes

We generally agree with the proposed revisions. However, we would like the Five Year Review Team to consider the "Standards Independent Experts Review Project," which stated that the NUC standards were considered to be "steady state" with high content and quality scores. With this feedback, we recommend that this project receive a low priority ranking if it is determined that these proposed revisions meet the threshold of creating a new standards development project.

Yes

The SAR and the redlined standard provide a reasonable approach to the revision. As stated earlier, if it is determined that NUC-001 should be revised, we recommend this project receive a low priority based on the Industry Expert Review report that concluded that the NUC standards are considered to be "steady state" with high content and quality scores.

(1) We believe the proposed changes to R7 and R8 (deleting lowercase "protection systems" and adding "protective setpoints" and "relay setpoints") creates ambiguity and confusion. What is the drafting team trying to distinguish by using different terms such as relay setpoint and protective setpoint? This proposed revision may create additional confusion. We suggest using the same example for both requirements, adding clarity for each example, or leaving the requirements as currently worded. (2) Thank you for the opportunity to comment.

Group

US Bureau of Reclamation

Erika Doot

No

The Bureau of Reclamation (Reclamation) recommends that Generator Owners (GOs) and Generator Operators (GOPs) should be removed from the Applicability section of NUC-001-3. Reclamation does not believe that GOs or GOPs should be considered "Transmission Entities" subject to the standard. Reclamation believes that coordination among generators should be facilitated by Balancing Authorities (BAs) and Transmission Operators (TOPs) rather than between generators directly. Reclamation believes that NPIRs should be proposed to BAs and TOPs, and BAs and TOPs should develop necessary secondary agreements with generators within their footprints. Therefore, Reclamation recommends that the review team add removal of GOs & GOPs from the standard to the scope of the SAR and proposed revision. The team might also consider whether Distribution Providers (DPs) and Load Serving Entities (LSEs) should be considered "Transmission Entities" or should be removed from the Applicability section.

Yes

No

As described in Question 1, Reclamation believes that the recommendation is incomplete because Generator Owners, Generator Operators, and perhaps other entities should be removed from the Applicability section's list of possible "Transmission Entities."

Individual

Michael Falvo

Independent Electricity System Operator

Yes

We do not feel strongly one way or the other since many of the proposed changes are intended to add clarity without much material impact on the intent of the standard or compliance implications other than the removal of the term "Protection Systems" from R7 and R8. We can support a revision at this time via the usual standard development process or the Errata process, or to simply keep it the same with a declaration that the standard has been reviewed and found to be valid and appropriate for another 5 years or when changes occur that warrant a revision.

Yes

We generally support the marked changes. It is comforting to know that "any changes will be made through the formal standards development process" as this is important that standard changes be managed by the

established formal process.
This is perhaps preemptive or premature but there are draft standards recently posted that propose effective dates and implementation plan that may conflict with the Ontario regulation with respect to making NERC standards effective in Ontario. We therefore kindly remind the SDT to ensure that in the Effective Dates Section of the standard, as well as in the implementation plan, to clearly state that: In those jurisdictions where regulatory approval is required, this standard shall become effective on the xxx day of the yyy calendar quarter after applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities. In those jurisdictions where no regulatory approval is required, this standard shall become effective on the xxx day of the yyy calendar quarter after Board of Trustees approval.
Individual
RoLynda Shumpert
South Carolina Electric and Gas
Agree
The SERC OC Standards Working Group
Individual
RoLynda Shumpert
South Carolina Electric and Gas
Agree
SERC OC Standards Working Group
Individual
Tiffany Lake
Westar Energy
Yes
Yes
Yes
Individual
John Bee
Exelon and its' affiliates
Yes
Yes
Yes
While reviewing the Draft, Exelon feels that R9 needs to be reworded. The requirement is applicable to NPGO and applicable Transmission Entities but the comment regarding "...the Agreements, in aggregate, must address all R9 elements." Is something that Transmission Entities cannot control or implement. Exelon believes if the wording really applies only to the NPGO as they have the "Agreements, in aggregate", not the Transmission Entities. Either make the "...in aggregate" statement separate and only applicable to the NPGO or state that the Transmission Entities will approve the Agreement with NPGO that includes applicable R9 items.
Group
NAGF Standards Review Team
Patrick Brown

Yes
1. We agree with proposed revisions to the standard, especially revision #3. We believe that "Protection Systems" should be omitted from R7 and R8. The intent of the NUC-001 standards was not to tie in PRC-005 compliance obligations of maintenance and testing of Relays, CTs & PTs, D.C. Circuitry, Communication Devices and Batteries, but instead was to coordinate major changes to overall protection systems and protection system settings for those systems that could possibly impact the protection system interface at the GO/TO interconnection. 2. We also agree with proposed change #4. The proposal of revising R9 to clarify that all the agreements do not have to discuss each element of R9 is helpful for nuclear generators that have multiple agreements with transmission entities. This proposed revision may also be helpful for any GO/GOP's that have obligations in agreements that are necessary to meet a sub-requirement of NUC-001 R9 to meet an NPIR with nuclear generators or transmission entities. This allows the agreement to cover only what is applicable to the specific entity and removes the responsibility to document unnecessary elements of R9 in cases where the entity involved in the agreement does not perform all the functions required of R9. For example, an agreement between the blackstart facility and the associated NPGO and/or TO could be required documentation necessary to meet R9.2.2 if the blackstart facility is identified as a facility necessary for meeting an NPIR. This blackstart facility would not be required to include in the agreement documentation of other R9 subrequirements such as R9.4.1, provision of communication between the NPGO and Transmission Entities, if it had been established that the NPGO will communicate with the TO and not directly with the blackstart generator. Therefore the amendment to the standard would allow agreements to meet the NPIR to be limited to only the relevant R9 subrequirements of the applicable entity. Currently, the standard is written ambiguously and an auditor could interpret that all R9 requirements must be included in an agreement regardless if the entity is required or even capable to perform the function as stated in R9.
Yes
Given the compliance uncertainties now that "Protection Systems" is a formalized definition in NERC's glossary intended for PRC-005 maintenance and testing intervals, it is necessary to exclude the use of this term from the standard. The NUC-001 standard would allow for PRC-005 standard creep and could find nuclear generators and transmission owners in double jeopardy under the standards NUC-001 R7, R8 and PRC-005 for any "Protection System" related potential violations.
Yes
Individual
Oliver Burke
Entergy Services, Inc.
Agree
SERC OC Review Group comments.
Group
SERC OC Review Group
Stuart Goza
Yes
Yes
Yes
SAR: We recommend consideration of adding "Resource Planner" to the "Reliability Functions" section due to the importance of area generation in providing offsite power. The 5YR Review Team is requested to review to ensure that there are no redundant standards. An example may be EOP-005-2, R1.2 and NUC-001-2, R9.3.5. NUC-001-2: We recommend the 5YR Review Team consider removing R9.4.5 as training is already covered in PER-005 standard. Further, the group recommends that M5, M7 & M8 should be updated to reflect the changes to the

requirements. Additionally, we recommend the 5YR Review Team review to ensure that the NPLR definition in the standard is consistent with the Glossary. The comments expressed herein represent a consensus of the views of the above named members of the SERC OC Review Group only and should not be construed as the position of the SERC Reliability Corporation, or its board or its officers.

Individual
Andrew Gallo
City of Austin dba Austin Energy
Yes
Yes
Yes

Austin Energy (AE) believes the response to Q4 in the NUC Five-Year Review Recommendation should be "No" to match the narrative response provided to that question.

Individual
David Thorne
Pepco Holdings Inc
Yes
Yes
Yes

Group
Dominion
Mike Garton
Yes
Yes
Yes

M5, M7 and M8 need to be updated to reflect changes made in R5, R7 and R8.

Five-Year Review Recommendation; Page 4, Question 4; the comment to Question 4 is in conflict with the answer, "Yes". The comment supports a "NO" response based on the comments provided. Dominion believes that the formatting of this standard does require a change in order to include the text of the Measure subsequent to the text of the related Requirement. Better alignment between Requirement and Measure is needed for R5/M5; specifically R5 ..."operate the nuclear plant to meet the NPIRs" and M5 ..."operated consistent with the Agreements..." Better alignment between Requirement and Measure is needed for R7/M7; specifically R7 ..."ability of the electric system to meet the NPIRs" and M7 ..."ability of the Transmission Entities to meet the NPIRs" Better alignment between Requirement and Measure is needed for R8/M8; Specifically R8 ..."ability of the electric system to meet the NPIR" and M8 ..."ability of the Nuclear Plant Generator Operator to meet the NPIRs" While the proposed red-line seeks to remedy Version 2.1 errata change (i.e. Capitalization of Protection System) Dominion agrees with the SAR suggestion to "make errata changes where warranted," provided that such errata change does not change the intent of the standard as was previously done with Version 2.1.

Individual

Kathleen Goodman
ISO New England Inc.
Agree
NPCC RSC
Group
DTE Electric
Kathleen Black
Yes
Yes
Yes
No additional comments
Group
Duke Energy
Michael Lowman
Yes
Yes
Duke Energy agrees with the changes made by the 5-year Review Team.
Yes
Duke Energy believes that the term "electric systems" should be changed to Bulk Electric System (BES) to better align this standard and requirements with the NERC Glossary of Terms. However, if this is not the proper definition, we seek clarification from the 5-year Review Team on the term "electric systems" used in NUC-001. NUC-001 should address coordination, between the Nuclear Plant Generator Operator and the applicable Transmission Entities, of power system design & operation required to support nuclear site emergency preparedness/response. Transmission entities need to ensure they are not doing things that purposely disable facilities relied on to mitigate site events.
Group
Florida Municipal Power Agency
Frank Gaffney
Yes
Yes, FMPA agrees with the overall recommendation to "REVISE" NUC-001-2 Standard, however, it does not appear the changes proposed are properly reflected and coordinated between the three applicable documents, (1) Five-Year Review Recommendation to Revise NUC-001-2, (2) the SAR and (3) Redlined version of NUC-001-2. Examples of these are in responses to Questions #2-4 of the Comment Form.
Yes
Yes, however FMPA is concerned that the Redlined copy of NUC-001-2 does not reflect all the changes being addressed in the Five-Year Review Recommendation to Revise NUC-001-2 document nor in the SAR. (For details, see response to Questions #3 and #4.
No
FMPA believes there are recommendations not addressed in the Redline that are listed in the SAR Information. They are the following and should be noted somehow in the Redline: 1.) Bullet #6, Modify the VSL and VRF Matrices to conform to NERC Guidelines 2.) Bullet #9, Add Time Horizons to each Requirement

FMPA has the following additional recommendations/comments: 1.) The following terms, used in the NUC-001 Standard, should be considered as new defined terms for the NERC Glossary of Terms used in Reliability Standards: a. The term "Protective Relay Setpoints" used several times in the Standard should be clarified since identified as a subset of a "Protection System". 2.) The SAR does not list "Nuclear Plant Generator Operators" (NPGOs) as part of the applicable Reliability Functions, however, is clearly listed in Section 4. Applicability of the NUC-001-2 Standard. 3.) The Reliability and Market Interface Principles No. 5 should also be checked, as applicable, for this SAR since Requirement R9.4 of NUC-001-2 addresses communications. 4.) The Five-year Review identified changes within the NUC-001-2 Redline in Section E, Regional Differences; however, Regional Variances was marked as N/A in the SAR. FMPA believes that there should be something in the SAR to address the Canadian (CANDU) Nuclear Power Plant design basis which coincide with the changes made to NUC-001-2 and address Canadian jurisdictional differences.

Individual

Chris de Graffenried

Consolidated Edison Co. of NY, Inc.

No

See reply to Question 4

See reply to Question 4

No

See reply to Question 4

We are concerned that material changes in the NUC-001 Standard requirements could lead to continent-wide revisions of the individual plant Nuclear Plant Interface Requirements (NPIR) agreements. Knowing that there is FERC action underway to retire Requirement 9.1, we recommend leaving this Standard essentially as is. Two minor changes recommended are: • R7. Change "(e.g., protective setpoints)" to "(including protective setpoints)". • R8. Change "(e.g., relay setpoints)" to "(including relay setpoints)".

Group

Southern Company: Southern Company Services, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation; Southern Company Generation and Energy Marketing

Marcus Pelt

Individual

Andrew Z. Puztai

American Transmission Company, LLC

Agree

ATC supports and agrees with the "MRO NERC Standards Review Forum (NSRF)" comments that were submitted.

Individual

Tammy Porter

Oncor Electric Delivery

Yes

Yes

Yes

Consideration of Comments

Project 2012-13 Nuclear Plant Interface Coordination

The Project 2012-13 Five-Year Review Team (FYRT) thanks all commenters who submitted comments on the draft Five-Year Review Recommendation on NUC-001-2. The draft recommendation was posted for a 45-day comment period from July 26, 2013 through September 9, 2013. Stakeholders were asked to provide feedback on the draft recommendation and associated documents through a special electronic comment form. There were 25 sets of responses, including comments from approximately 98 different people from approximately 75 companies representing 9 of the 10 Industry Segments as shown in the table on the following pages.

All comments submitted may be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Mark Lauby, at 404-446-2560 or at mark.lauby@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.¹

¹ The appeals process is in the Standard Processes Manual: http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf

Index to Questions, Comments, and Responses

- 1. Do you agree with this recommendation? If not, please explain specifically what aspects of the recommendation you disagree with..... 9
- 2. Do you agree that NUC-001-2 should be revised? 12
- 3. A draft SAR and redline of NUC-001-2 showing the proposed recommended revisions to the Requirements of NUC-001-2 have been posted with the Nuclear Plant Interface Coordination (Project 2012-13) Five-Year Review Team (FYRT) Draft Recommendation. If you agree that NUC-001-2 should be revised, do you agree that the redlined NUC-001-2 standard posted with the SAR is an effective and reasonable implementation of that recommendation? Please note that if the recommendation to revise NUC-001-2 is made in the final recommendation and accepted by the Standards Committee, any changes will be made through the formal standards development process..... 15
- 4. If you have any other comments on the Five-Year Review Recommendation to Revise or the SAR that you have not already mentioned above, please provide them here: 18

Group/Individual	Commenter	Organization	Registered Ballot Body Segment																		
			1	2	3	4	5	6	7	8	9	10									
12. Scott Nickels	Rochester Public Utilities	MRO	4																		
13. Terry Harbour	MidAmerican Energy	MRO	1, 3, 5, 6																		
14. Tom Breene	Wisconsin Public Service	MRO	3, 4, 5, 6																		
15. Tony Eddleman	Nebraska Public Power District	MRO	1, 3, 5																		
2.	Group	Guy Zito	Northeast Power Coordinating Council																	X	
Additional Member Additional Organization Region Segment Selection																					
1.	Alan Adamson	New York State Reliability Council, LLC	NPCC	10																	
2.	Greg Campoli	New York Independent System Operator	NPCC	2																	
3.	Ben Wu	Orange and Rockland Utilities	NPCC	1																	
4.	Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10																	
5.	Mike Garton	Dominion Resources Services, Inc.	NPCC	5																	
6.	Kathleen Goodman	ISO - New England	NPCC	2																	
7.	Michael Jones	National Grid	NPCC	1																	
8.	Mark Kenny	Northeast Utilities	NPCC	1																	
9.	David Kiguel	Hydro One Networks Inc.	NPCC	1																	
10.	Christina Koncz	PSEG Power LLC	NPCC	5																	
11.	Helen Lainis	Independent Electricity System Operator	NPCC	2																	
12.	Michael Lombardi	Northeast Power Coordinating Council	NPCC	10																	
13.	Randy MacDonald	New Brunswick Power Transmission	NPCC	9																	
14.	Bruce Metruck	New York Power Authority	NPCC	6																	
15.	Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5																	
16.	Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10																	
17.	Rogert Pellegrini	The United Illuminating Company	NPCC	1																	
18.	Brian Robinson	Utility Services	NPCC	8																	
19.	Brian Shanahan	National Grid	NPCC	1																	
20.	Wayne Sipperly	New York Power Authority	NPCC	5																	
21.	Donald Weaver	New Brunswick System Operator	NPCC	2																	
3.	Group	Ben Engelby	ACES Standards Collaborators																	X	
Additional Member Additional Organization Region Segment Selection																					
1.	Alisha Anker	Prairie Power, Inc.	SERC	3																	
4.	Group	Patrick Brown	NAGF Standards Review Team																		X
Additional Member Additional Organization Region Segment Selection																					
1.	Allen Schriver	NextEra Energy Resources		5																	

Group/Individual	Commenter	Organization	Registered Ballot Body Segment																	
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2. Steve Berger	PPL Susquehanna, LLC		5																	
3. Terry Crawley	Southern Company Generation		5																	
4. Pamela Dautel	IPR-GDF Suez Generation NA		5																	
5. Dan Duff	Liberty Electric Power		5																	
6. Gary Kruempel	MidAmerican Energy Company		5																	
7. Katie Legates	American Electric Power		5																	
8. Don Lock	PPL Generation, LLC		5																	
9. Joe O'Brien	NIPSCO		5																	
10. Chris Schaeffer	Duke Energy		5																	
11. Dana Showalter	E.ON Climate & Renewables		5																	
12. William Shultz	Southern Company		5																	
13. Mark Young	Tenaska, Inc		5																	
5.	Group	Stuart Goza	SERC OC Review Group	X		X		X	X											
Additional Member Additional Organization Region Segment Selection																				
1.	Michael Lowman	Duke Energy	SERC	1, 3, 5, 6																
2.	James D Porter	TVA	SERC	1, 3, 5, 6																
3.	Jennifer R Weber	TVA	SERC	1, 3, 5, 6																
4.	James Case	Entergy	SERC	1, 3, 6																
6.	Group	Mike Garton	Dominion	X		X		X	X											
Additional Member Additional Organization Region Segment Selection																				
1.	Louis Slade	Dominion Resources Services, Inc.	RFC	5, 6																
2.	Randi Heise	Dominion Resources Services, Inc.	MRO	6																
3.	Connie Lowe	Dominion Resources Services, Inc.	NPCC	5, 6																
4.	Michael Crowley	Virginia Electric and Power Company	SERC	1, 3, 5, 6																
7.	Group	Kathleen Black	DTE Electric			X	X	X												
Additional Member Additional Organization Region Segment Selection																				
1.	Kent Kujala	NERC Compliance	RFC	3																
2.	Daniel Herring	NERC Training & Standards Development	RFC	4																
3.	Al Eizans	Regulated Marketing	RFC	5																
4.	Karie Barczak	NERC Compliance	RFC																	
5.	Joseph Staniak	OPE	RFC																	
6.	Barbara Holland	SOC	RFC																	
8.	Group	Michael Lowman	Duke Energy	X		X		X	X											

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9.	Group	Frank Gaffney	Florida Municipal Power Agency	X		X	X	X	X																																			
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5. Cairo Vanegas	Fort Pierce Utility Authority	FRCC	4																																									
6. Randy Hahn	Ocala Utility Services	FRCC	3																																									
7. Stanley RZad	Keys Energy Services	FRCC	3																																									
10.	Group	Marcus Pelt	Southern Company: Southern Company Services, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation; Southern Company Generation and Energy Marketing	X		X		X	X																																			
No additional members added																																												
11.	Individual	Silvia Parada Mitchell	NextEra Energy																																									
12.	Individual	Winnie Holden	PSEG	X		X		X	X																																			
13.	Individual	Thomas Foltz	American Electric Power	X		X		X	X																																			
14.	Individual	Michael Falvo	Independent Electricity System Operator		X																																							
15.	Individual	RoLynda Shumpert	South Carolina Electric and Gas	X		X		X	X																																			
16.	Individual	RoLynda Shumpert	South Carolina Electric and Gas	X		X		X	X																																			
17.	Individual	Tiffany Lake	Westar Energy	X		X		X	X																																			
18.	Individual	John Bee	Exelon and its' affiliates	X		X		X																																				

Group/Individual		Commenter	Organization	Registered Ballot Body Segment										
				1	2	3	4	5	6	7	8	9	10	
19.	Individual	Oliver Burke	Entergy Services, Inc.	X										
20.	Individual	Andrew Gallo	City of Austin dba Austin Energy	X		X	X	X	X					
21.	Individual	David Thorne	Pepco Holdings Inc	X		X								
22.	Individual	Kathleen Goodman	ISO New England Inc.		X									
23.	Individual	Chris de Graffenried	Consolidated Edison Co. of NY, Inc.	X		X		X	X					
24.	Individual	Andrew Z. Pusztai	American Transmission Company, LLC	X										

If you support the comments submitted by another entity and would like to indicate you agree with their comments, please select "agree" below and enter the entity's name in the comment section (please provide the name of the organization, trade association, group, or committee, rather than the name of the individual submitter).

Summary Consideration:

Organization	Agree	Supporting Comments of "Entity Name"
South Carolina Electric and Gas	Agree	The SERC OC Standards Working Group
South Carolina Electric and Gas	Agree	SERC OC Standards Working Group
Entergy Services, Inc.	Agree	SERC OC Review Group comments.
ISO New England Inc.	Agree	NPCC RSC
American Transmission Company, LLC	Agree	ATC supports and agrees with the "MRO NERC Standards Review Forum (NSRF)" comments that were submitted.

1. Do you agree with this recommendation? If not, please explain specifically what aspects of the recommendation you disagree with.

Summary Consideration: The FYRT notes that most commenters agree with the FYRT’s recommendation to revise NUC-001-2, but that several commenters expressed specific concerns about that recommendation. Also, several comments in response to Question 1 are duplicated in response to Questions 2, 3, and 4, and several commenters raise substantively the same concerns. Therefore, the FYRT’s consideration of all comments are addressed in this section, with duplicate comments treated as a single issue in our response.

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Organization	Yes or No	Question 1 Comment
ACES Standards Collaborators	No	We agree with the Five Year Review team that there are areas that could be refined within NUC-001. However, we question the format of Requirement R9, in particular using sub-requirements. The proposed redline text states that some of these elements may not apply, and therefore, each section should not be a sub-requirement.
Consolidated Edison Co. of NY, Inc.	No	See reply to Question 4
MRO NERC Stanrds Review Forum	Yes	Yes, the NSRF agrees with the overall recommendation to “REVISE” NUC-001-2 Standard, however, it does not appear the changes proposed are properly reflected and coordinated between the three applicable documents, (1) Five-Year Review Recommendation to Revise NUC-001-2, (2) the SAR and (3) Redlined version of NUC-001-2. Examples of these are in responses to Questions #3 and #4 of the Comment Form.
NAGF Standards Review Team	Yes	1. We agree with proposed revisions to the standard, especially revision #3. We

Organization	Yes or No	Question 1 Comment
		<p>believe that “Protection Systems” should be omitted from R7 and R8. The intent of the NUC-001 standards was not to tie in PRC-005 compliance obligations of maintenance and testing of Relays, CTs & PTs, D.C. Circuitry, Communication Devices and Batteries, but instead was to coordinate major changes to overall protection systems and protection system settings for those systems that could possibly impact the protection system interface at the GO/TO interconnection.2. We also agree with proposed change #4. The proposal of revising R9 to clarify that all the agreements do not have to discuss each element of R9 is helpful for nuclear generators that have multiple agreements with transmission entities. This proposed revision may also be helpful for any GO/GOP’s that have obligations in agreements that are necessary to meet a sub-requirement of NUC-001 R9 to meet an NPIR with nuclear generators or transmission entities. This allows the agreement to cover only what is applicable to the specific entity and removes the responsibility to document unnecessary elements of R9 in cases where the entity involved in the agreement does not perform all the functions required of R9. For example, an agreement between the blackstart facility and the associated NPGO and/or TO could be required documentation necessary to meet R9.2.2 if the blackstart facility is identified as a facility necessary for meeting an NPIR. This blackstart facility would not be required to include in the agreement documentation of other R9 subrequirements such as R9.4.1, provision of communication between the NPGO and Transmission Entities, if it had been established that the NPGO will communicate with the TO and not directly with the blackstart generator. Therefore the amendment to the standard would allow agreements to meet the NPIR to be limited to only the relevant R9 subrequirements of the applicable entity. Currently, the standard is written ambiguously and an auditor could interpret that all R9 requirements must be included in an agreement regardless if the entity is required or even cable to perform the function as stated in R9.</p>
Florida Municipal Power Agency	Yes	<p>Yes, FMPA agrees with the overall recommendation to “REVISE” NUC-001-2 Standard, however, it does not appear the changes proposed are properly reflected and coordinated between the three applicable documents, (1) Five-Year Review</p>

Organization	Yes or No	Question 1 Comment
		Recommendation to Revise NUC-001-2, (2) the SAR and (3) Redlined version of NUC-001-2. Examples of these are in responses to Questions #2-4 of the Comment Form.
Northeast Power Coordinating Council	Yes	
SERC OC Review Group	Yes	
Dominion	Yes	
DTE Electric	Yes	
Duke Energy	Yes	
PSEG	Yes	
American Electric Power	Yes	
Independent Electricity System Operator	Yes	
Westar Energy	Yes	
Exelon and its' affiliates	Yes	
City of Austin dba Austin Energy	Yes	
Pepco Holdings Inc	Yes	

2. Do you agree that NUC-001-2 should be revised?

Summary Consideration:

Organization	Yes or No	Question 2 Comment
Organization	Question 2	Question 2 Comments:
MRO NERC Standards Review Forum	Yes	Yes, however, the NSRF is concerned that the Redlined copy of NUC-001-2 does not reflect all the changes being addressed in the Five-Year Review Recommendation to Revise NUC-001-2 document nor in the SAR. (For details, see response to Questions #3 and #4.
ACES Standards Collaborators	Yes	We generally agree with the proposed revisions. However, we would like the Five Year Review Team to consider the "Standards Independent Experts Review Project," which stated that the NUC standards were considered to be "steady state" with high content and quality scores. With this feedback, we recommend that this project receive a low priority ranking if it is determined that these proposed revisions meet the threshold of creating a new standards development project.
NAGF Standards Review Team	Yes	Given the compliance uncertainties now that "Protection Systems" is a formalized definition in NERC's glossary intended for PRC-005 maintenance and testing intervals, it is necessary to exclude the use of this term from the standard. The NUC-001 standard would allow for PRC-005 standard creep and could find nuclear generators and transmission owners in double jeopardy under the standards NUC-001 R7, R8 and PRC-005 for any "Protection System" related potential violations.

Organization	Yes or No	Question 2 Comment
Duke Energy	Yes	Duke Energy agrees with the changes made by the 5-year Review Team.
Florida Municipal Power Agency	Yes	Yes, however FMPA is concerned that the Redlined copy of NUC-001-2 does not reflect all the changes being addressed in the Five-Year Review Recommendation to Revise NUC-001-2 document nor in the SAR. (For details, see response to Questions #3 and #4.
NextEra Energy	Yes	NextEra generally agrees with the revisions to NUC-001-2; however, NextEra does not find that there is an immediate need to make the changes, which are minor, and, therefore, requests that any SAR or proposed revisions to NUC-001-2 be given a low priority in the Standards development process.
Northeast Power Coordinating Council	Yes	
SERC OC Review Group	Yes	
Dominion	Yes	
DTE Electric	Yes	
PSEG	Yes	
American Electric Power	Yes	
Westar Energy	Yes	
Exelon and its' affiliates	Yes	
City of Austin dba Austin Energy	Yes	

Organization	Yes or No	Question 2 Comment
Pepco Holdings Inc	Yes	
Independent Electricity System Operator		We do not feel strongly one way or the other since many of the proposed changes are intended to add clarity without much material impact on the intent of the standard or compliance implications other than the removal of the term “Protection Systems” from R7 and R8. We can support a revision at this time via the usual standard development process or the Errata process, or to simply keep it the same with a declaration that the standard has been reviewed and found to be valid and appropriate for another 5 years or when changes occur that warrant a revision.
Consolidated Edison Co. of NY, Inc.		See reply to Question 4

3. A draft SAR and redline of NUC-001-2 showing the proposed recommended revisions to the Requirements of NUC-001-2 have been posted with the Nuclear Plant Interface Coordination (Project 2012-13) Five-Year Review Team (FYRT) Draft Recommendation. If you agree that NUC-001-2 should be revised, do you agree that the redlined NUC-001-2 standard posted with the SAR is an effective and reasonable implementation of that recommendation? Please note that if the recommendation to revise NUC-001-2 is made in the final recommendation and accepted by the Standards Committee, any changes will be made through the formal standards development process.

Summary Consideration:

Organization	Yes or No	Question 3 Comment
MRO NERC Standards Review Forum	No	We believe there are recommendations not addressed in the Redline that are listed in the SAR Information. They are the following and should be noted somehow in the Redline:1.) Bullet #6, Modify the VSL and VRF Matrices to conform to NERC Guidelines2.) Bullet #9, Add Time Horizons to each RequirementIncluded within NUC-001-2 Section E is a definition of Nuclear Plant Licensing Requirements (NPLR) which is also defined in the NERC Glossary of Terms Used in Reliability Standards. The two do not match nor do we believe that NPLR needs to be defined within the Standard. Note - Five-Year Review Recommendation to Revise NUC-001-2, Additional Questions Considered by the FYRT, addresses Clarity (No. 2) which lists several improvements. Under this, Item #5 recommends inserting “affecting the NPIRs” to R9.4.1, which is currently just “affecting NPIRs”. Need to make the two match.Note - Five-Year Review Recommendation to Revise NUC-001-2 , Additional Questions Considered by the FYRT, addresses Compliance Elements (No. 4) which recommends inserting “actual and proposed” before the text.....changes to Nuclear Plant Design in Measures 7 and 8, as used for R7 and R8, respectively. These changes are not shown in the Redline copy of NUC-001-2.
Florida Municipal Power Agency	No	FMPA believes there are recommendations not addressed in the Redline that are

Organization	Yes or No	Question 3 Comment
		listed in the SAR Information. They are the following and should be noted somehow in the Redline:1.) Bullet #6, Modify the VSL and VRF Matrices to conform to NERC Guidelines2.) Bullet #9, Add Time Horizons to each Requirement
Consolidated Edison Co. of NY, Inc.	No	See reply to Question 4
ACES Standards Collaborators	Yes	The SAR and the redlined standard provide a reasonable approach to the revision. As stated earlier, if it is determined that NUC-001 should be revised, we recommend this project receive a low priority based on the Industry Expert Review report that concluded that the NUC standards are considered to be “steady state” with high content and quality scores.
Dominion	Yes	M5, M7 and M8 need to be updated to reflect changes made in R5, R7 and R8.
Independent Electricity System Operator	Yes	We generally support the marked changes. It is comforting to know that “any changes will be made through the formal standards development process” as this is important that standard changes be managed by the established formal process.
Northeast Power Coordinating Council	Yes	
NAGF Standards Review Team	Yes	
SERC OC Review Group	Yes	
DTE Electric	Yes	
Duke Energy	Yes	
PSEG	Yes	

Organization	Yes or No	Question 3 Comment
American Electric Power	Yes	
Westar Energy	Yes	
Exelon and its' affiliates	Yes	
City of Austin dba Austin Energy	Yes	
Peppo Holdings Inc	Yes	

4. If you have any other comments on the Five-Year Review Recommendation to Revise or the SAR that you have not already mentioned above, please provide them here:

Summary Consideration:

Organization	Question 4 Comment
Florida Municipal Power Agency	<p>FMPA has the following additional recommendations/comments:1.) The following terms, used in the NUC-001 Standard, should be considered as new defined terms for the NERC Glossary of Terms used in Reliability Standards:a. The term “Protective Relay Setpoints” used several times in the Standard should be clarified since identified as a subset of a “Protection System”.2.) The SAR does not list “Nuclear Plant Generator Operators” (NPGOs) as part of the applicable Reliability Functions, however, is clearly listed in Section 4. Applicability of the NUC-001-2 Standard.3.) The Reliability and Market Interface Principles No. 5 should also be checked, as applicable, for this SAR since Requirement R9.4 of NUC-001-2 addresses communications.4.) The Five-year Review identified changes within the NUC-001-2 Redline in Section E, Regional Differences; however, Regional Variances was marked as N/A in the SAR. FMPA believes that there should be something in the SAR to address the Canadian (CANDU) Nuclear Power Plant design basis which coincide with the changes made to NUC-001-2 and address Canadian jurisdictional differences.</p>
Dominion	<p>Five-Year Review Recommendation; Page 4, Question 4; the comment to Question 4 is in conflict with the answer, “Yes”. The comment supports a “NO” response based on the comments provided. Dominion believes that the formatting of this standard does require a change in order to include the text of the Measure subsequent to the text of the related Requirement. Better alignment between Requirement and Measure is needed for R5/M5; specifically R5 ...”operate the nuclear plant to meet the NPIRs” and M5 ...”operated consistent with the Agreements...”Better alignment between Requirement and Measure is needed for R7/M7; specifically R7 ...”ability of the electric system to meet the NPIRs” and M7 ...”ability of the Transmission Entities to meet the NPIRs”Better alignment between Requirement and Measure is needed for R8/M8; Specifically R8 ...”ability of the electric</p>

Organization	Question 4 Comment
	system to meet the NPIR” and M8 ...”ability of the Nuclear Plant Generator Operator to meet the NPIRs”While the proposed red-line seeks to remedy Version 2.1 errata change (i.e. Capitalization of Protection System) Dominion agrees with the SAR suggestion to “make errata changes where warranted,” provided that such errata change does not change the intent of the standard as was previously done with Version 2.1.
ACES Standards Collaborators	(1) We believe the proposed changes to R7 and R8 (deleting lowercase “protection systems” and adding “protective setpoints” and “relay setpoints”) creates ambiguity and confusion. What is the drafting team trying distinguish by using different terms such as relay setpoint and protective setpoint? This proposed revision may create additional confusion. We suggest using the same example for both requirements, adding clarity for each example, or leaving the requirements as currently worded.(2) Thank you for the opportunity to comment.
City of Austin dba Austin Energy	Austin Energy (AE) believes the response to Q4 in the NUC Five-Year Review Recommendation should be “No” to match the narrative response provided to that question.
Duke Energy	Duke Energy believes that the term “electric systems” should be changed to Bulk Electric System (BES) to better align this standard and requirements with the NERC Glossary of Terms. However, if this is not the proper definition, we seek clarification from the 5-year Review Team on the term “electric systems” used in NUC-001.NUC-001 should address coordination, between the Nuclear Plant Generator Operator and the applicable Transmission Entities, of power system design & operation required to support nuclear site emergency preparedness/response. Transmission entities need to ensure they are not doing things that purposely disable facilities relied on to mitigate site events.
DTE Electric	No additional comments
MRO NERC Standards Review Forum	Please consider the following additional recommendations/comments:1.) The following terms, used in the NUC-001 Standard, should be considered as new defined terms for the NERC Glossary of Terms used in Reliability Standards:a. The term “electric system” is used numerous times throughout the Standard and not defined.b. The term “Protective Relay Setpoints” used several times in the Standard should be defined since identified as a subset of a “Protection System”.2.) The SAR does not list “Nuclear Plant Generator Operators” (NPGOs) as part of the applicable Reliability Functions, however, is clearly listed in Section 4. Applicability of the NUC-001-2 Standard.3.) The Reliability and Market Interface Principles

Organization	Question 4 Comment
	<p>No. 5 should also be checked, as applicable, within the SAR since Requirement R9.4 of NUC-001-2 clearly addresses communications.4.) The Five-year Review identified changes within the NUC-001-2 Redline in Section E, Regional Differences; however, Regional Variances was marked as N/A in the SAR. We believe that there should be something in the SAR to address the Canadian (CANDU) Nuclear Power Plant design basis which coincide with the changes made to NUC-001-2 and address Canadian jurisdictional differences.</p>
<p>SERC OC Review Group</p>	<p>SAR: We recommend consideration of adding “Resource Planner” to the “Reliability Functions” section due to the importance of area generation in providing offsite power. The 5YR Review Team is requested to review to ensure that there are no redundant standards. An example may be EOP-005-2, R1.2 and NUC-001-2, R9.3.5. NUC-001-2: We recommend the 5YR Review Team consider removing R9.4.5 as training is already covered in PER-005 standard. Further, the group recommends that M5, M7 & M8 should be updated to reflect the changes to the requirements. Additionally, we recommend the 5YR Review Team review to ensure that the NPLR definition in the standard is consistent with the Glossary. The comments expressed herein represent a consensus of the views of the above named members of the SERC OC Review Group only and should not be construed as the position of the SERC Reliability Corporation, or its board or its officers.</p>
<p>Independent Electricity System Operator</p>	<p>This is perhaps preemptive or premature but there are draft standards recently posted that propose effective dates and implementation plan that may conflict with the Ontario regulation with respect to making NERC standards effective in Ontario. We therefore kindly remind the SDT to ensure that in the Effective Dates Section of the standard, as well as in the implementation plan, to clearly state that: In those jurisdictions where regulatory approval is required, this standard shall become effective on the xxx day of the yyy calendar quarter after applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities. In those jurisdictions where no regulatory approval is required, this standard shall become effective on the xxx day of the yyy calendar quarter after Board of Trustees approval.</p>
<p>Consolidated Edison Co. of NY, Inc.</p>	<p>We are concerned that material changes in the NUC-001 Standard requirements could lead to continent-wide revisions of the individual plant Nuclear Plant Interface Requirements (NPIR) agreements. Knowing that there is FERC action underway to retire Requirement 9.1,</p>

Organization	Question 4 Comment
	<p>we recommend leaving this Standard essentially as is. Two minor changes recommended are:</p> <ul style="list-style-type: none"> o R7. Change “(e.g., protective setpoints)” to “(including protective setpoints)”. o R8. Change “(e.g., relay setpoints)” to “(including relay setpoints)”.
Exelon and its' affiliates	<p>While reviewing the Draft, Exelon feels that R9 needs to be reworded. The requirement is applicable to NPGO and applicable Transmission Entities but the comment regarding “...the Agreements, in aggregate, must address all R9 elements.” Is something that Transmission Entities cannot control or implement. Exelon believes if the wording really applies only to the NPGO as they have the “Agreements, in aggregate”, not the Transmission Entities. Either make the “..in aggregate” statement separate and only applicable to the NPGO or state that the Transmission Entities will approve the Agreement with NPGO that includes applicable R9 items.</p>

END OF REPORT

NERC Email List Policy

NERC provides email lists, or “listservs,” to NERC committees, groups, and teams to facilitate sharing information about NERC activities; including balloting, committee, working group, and drafting team work, with interested parties. All emails sent to NERC listserv addresses must be limited to topics that are directly relevant to the listserv group’s assigned scope of work. NERC reserves the right to apply administrative restrictions to any listserv or its participants, without advance notice, to ensure that the resource is used in accordance with this and other NERC policies.

Prohibited activities include using NERC-provided listservs for any price-fixing, division of markets, and/or other anti-competitive behavior.¹ Recipients and participants on NERC listservs may not utilize NERC listservs for their own private purposes. This may include announcements of a personal nature, sharing of files or attachments not directly relevant to the listserv group’s scope of responsibilities, and/or communication of personal views or opinions, unless those views are provided to advance the work of the listserv’s group. Use of NERC’s listservs is further subject to NERC’s Participant Conduct Policy for the Standards Development Process.

- *Updated April 2013*

¹ Please see NERC’s Antitrust Compliance Guidelines for more information about prohibited antitrust and anti-competitive behavior or practices. This policy is available at <http://www.nerc.com/commondocs.php?cd=2>

Standards Development Process Participant Conduct Policy

I. General

To ensure that the standards development process is conducted in a responsible, timely and efficient manner, it is essential to maintain a professional and constructive work environment for all participants. Participants include, but are not limited to, members of the standard drafting team and observers.

Consistent with the NERC Rules of Procedure and the NERC Standard Processes Manual, participation in NERC's Reliability Standards development balloting and approval processes is open to all entities materially affected by NERC's Reliability Standards. In order to ensure the standards development process remains open and to facilitate the development of reliability standards in a timely manner, NERC has adopted the following Participant Conduct Policy for all participants in the standards development process.

II. Participant Conduct Policy

All participants in the standards development process must conduct themselves in a professional manner at all times. This policy includes in-person conduct and any communication, electronic or otherwise, made as a participant in the standards development process. Examples of unprofessional conduct include, but are not limited to, verbal altercations, use of abusive language, personal attacks or derogatory statements made against or directed at another participant, and frequent or patterned interruptions that disrupt the efficient conduct of a meeting or teleconference.

III. Reasonable Restrictions in Participation

If a participant does not comply with the Participant Conduct Policy, certain reasonable restrictions on participation in the standards development process may be imposed as described below.

If a NERC Standards Developer determines, by his or her own observation or by complaint of another participant, that a participant's behavior is disruptive to the orderly conduct of a meeting in progress, the NERC Standards Developer may remove the participant from a meeting. Removal by the NERC Standards Developer is limited solely to the meeting in progress and does not extend to any future meeting. Before a participant may be asked to leave the meeting, the NERC Standards Developer must first remind the participant of the obligation to conduct himself or herself in a professional manner and provide an opportunity for the participant to comply. If a participant is requested to leave a meeting by a NERC Standards Developer, the participant must cooperate fully with the request.

Similarly, if a NERC Standards Developer determines, by his or her own observation or by complaint of another participant, that a participant's behavior is disruptive to the orderly conduct of a

teleconference in progress, the NERC Standards Developer may request the participant to leave the teleconference. Removal by the NERC Standards Developer is limited solely to the teleconference in progress and does not extend to any future teleconference. Before a participant may be asked to leave the teleconference, the NERC Standards Developer must first remind the participant of the obligation to conduct himself or herself in a professional manner and provide an opportunity for the participant to comply. If a participant is requested to leave a teleconference by a NERC Standards Developer, the participant must cooperate fully with the request. Alternatively, the NERC Standards Developer may choose to terminate the teleconference.

At any time, the NERC Director of Standards, or a designee, may impose a restriction on a participant from one or more future meetings or teleconferences, a restriction on the use of any NERC-administered list server or other communication list, or such other restriction as may be reasonably necessary to maintain the orderly conduct of the standards development process. Restrictions imposed by the Director of Standards, or a designee, must be approved by the NERC General Counsel, or a designee, prior to implementation to ensure that the restriction is not unreasonable. Once approved, the restriction is binding on the participant. A restricted participant may request removal of the restriction by submitting a request in writing to the Director of Standards. The restriction will be removed at the reasonable discretion of the Director of Standards or a designee.

Any participant who has concerns about NERC's Participant Conduct Policy may contact NERC's General Counsel.