

## Standards Authorization Request Form

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-001-2.1 (Project 2012-13)		
Date Submitted:	October 1, 2013		
SAR Requester Information			
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SAR Type (Check as many as applicable)			
<input type="checkbox"/>	New Standard	<input type="checkbox"/>	Withdrawal of existing Standard
<input checked="" type="checkbox"/>	Revision to existing Standard	<input type="checkbox"/>	Urgent Action

SAR Information
Industry Need (What is the industry problem this request is trying to solve?):
<p>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-001-2.1 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.</p>
Purpose or Goal (How does this request propose to address the problem described above?):
<p>This SAR proposes revising NUC-001-2.1 in line with the recommendations of the NUC Five-Year Review Team as described in the <i>Five-Year Review Recommendation to Revise NUC-001-2.1</i>, (Attachment 1).</p>

SAR Information

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 the Effective Date section to account for jurisdictional differences in the Canadian provinces. 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. The team also recommends revising the Regional Differences section 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, and to revise the definition of "NPLR" to remove the potential conflict with a NERC Glossary of Terms definition. Finally, the team also recommends several errata type changes throughout the standard, as identified in the *Five-Year Review Recommendation to Revise NUC-001-2.1*.

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-001-2.1 in accordance with the recommendations made by the Five-Year Review Team in the *Five-Year Review Recommendation to Revise NUC-001-2.1*,

## SAR Information

(Attachment 1), and consistent with industry consensus to make additional standard revisions to the extent such consensus develops.

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-001-2.1* 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. The term Canadian Nuclear Power Plant Licensing Requirements (CNPLR) is defined in the proposed revision to the standard as a means to differentiate the unique licensing requirements of the Canadian Nuclear Power Plants from those of the U.S. NPPs.
- 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.
- Add Time Horizons to each requirement.

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.

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 checked="" 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

Related Standards	
Standard No.	Explanation

Related SARs – N/A	
SAR ID	Explanation

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

Regional Variances – N/A

SERC	
SPP	
WECC	
	The FYRT proposed a definition change in section E. Regional Differences to eliminate a potential unintended conflict with a NERC Glossary term.