

Standards Authorization Request Form

When completed, email this form to:

Valerie.Agnew@nerc.net

For questions about this form or for assistance in completing the form, call Valerie Agnew at 404-446-2566.

NERC welcomes suggestions for improving the reliability of the Bulk-Power System through improved Reliability Standards. Please use this form to submit your proposal for a new NERC Reliability Standard or a revision to an existing standard.

Request to propose a new or a revision to a Reliability Standard

Proposed Project Number and Name	Project 2010-05.2 – Special Protection Systems (Phase 2 of Protection Systems)		
Proposed Project Purpose:	Revise NERC Glossary of Terms definition: Special Protection System (SPS) Revise SPS-related Reliability Standards		
Date Submitted:	02/12/2014		
SAR Requester Information			
Name:	Al McMeekin		
Organization:	NERC		
Telephone:	404-446-9675	E-mail:	Al.McMeekin@nerc.net
SAR Type (Check as many as applicable)			
<input checked="" type="checkbox"/> New Standard	<input checked="" 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?):

The existing NERC Glossary of Terms definition for a Special Protection System (SPS) or, as used in the Western Interconnection, a Remedial Action Scheme (RAS), lacks the clarity and specificity necessary for consistent identification and classification of protection schemes as SPS or RAS across the eight NERC Regions, leading to inconsistent application of the related NERC Reliability Standards.

In FERC Order No. 693 (dated March 16, 2007), the Commission identified three of the SPS-related ~~standards~~ Reliability Standards (PRC-012-0, PRC-013-0, and PRC-014-0) as fill-in-the-blank standards because they are applicable to the Regional Reliability Organizations (RROs). Consequently, the Commission did not approve or remand them, rendering them neither mandatory nor enforceable.

This project also addresses, in part, four recommendations related to identification and coordination of SPS from the joint FERC-NERC inquiry of the September 2011 Southwest Blackout Event.

NOTE: Detailed information is included in the NERC Planning Committee report “Special Protection Systems (SPS) and Remedial Action Schemes (RAS): Assessment of Definition, Regional Practices, and Application of Related Standards” Revision 0.1 – April 2013.

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

- 1) Establish a definition of an SPS or RAS that provides the specificity needed to consistently identify and classify protection schemes as SPS or RAS across all eight NERC Regions, thereby promoting the consistent application of the NERC Reliability Standards related to SPS.
- 2) Correct the applicability of the NERC Reliability Standards related to SPS/RAS by assigning responsibilities to the specific users, owners, and operators of the Bulk-Power System rather than the RROs.
- 3) Develop continent-wide standards to address all aspects of SPS/RAS, including but not limited to, the:
 - planning, coordination, and design of SPS/RAS,
 - review, assessment, and documentation of SPS/RAS,
 - operational considerations for monitoring, status notification, and response to failures,
 - analysis of SPS/RAS operations, and defining and reporting of SPS/RAS misoperations,
 - testing of SPS/RAS, and maintenance of any non-protection system components used ~~in SPS~~.

SAR Information

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

Successful implementation of a modified ~~SPS~~ definition ~~and~~ for an SPS/RAS, with the revised SPS ~~standards~~ /RAS-related Reliability Standards will improve Bulk-Power System reliability by providing continent-wide consistency in the identification and classification of SPS or RAS, and by promoting the consistent application of ~~NERC~~ the related Reliability Standards ~~related to SPS~~.

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

The project will develop a revised definition of SPS or RAS, as well as ~~standards~~ revise the NERC Reliability Standards that address the:

- review of new or modified SPS/RAS,
- annual assessments of SPS/RAS in transmission planning studies,
- periodic comprehensive SPS/RAS assessments,
- analysis and reporting of SPS/RAS misoperations,
- maintenance, testing and operational aspects of SPS/RAS.

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 SDT will revise the definition of SPS/RAS to provide the clarity and specificity necessary for consistent identification and classification of protection schemes as SPS ~~or~~ /RAS across the eight NERC Regions.

The SDT will revise or retire the six existing SPS ~~standards~~ /RAS-related Reliability Standards:

- PRC-012-0 Special Protection System Review Procedure
- PRC-013-0 Special Protection System Database
- PRC-014-0 Special Protection System Assessment
- PRC-015-0 Special Protection System ~~data~~ Data and Documentation
- PRC-016-0.1 Special Protection System Misoperations
- PRC-017-0 Special Protection System Maintenance and Testing

SAR Information

The SDT will correct the applicability in PRC-012-0, PRC-013-0, and PRC-014-0 by assigning the requirements to the specific users, owners, and operators of the ~~bulk power system~~ Bulk Power System.

The SDT will combine appropriate requirements from PRC-012-0, PRC-013-0, PRC-014-0, PRC-015-0, PRC-016-0.1, and PRC-~~015~~017-0 into one or more Reliability Standard-(s). The new standard(s) will provide specific requirements for:

- review of new or modified SPS/RAS;
- annual assessments of SPS/RAS in transmission planning studies;
- periodic comprehensive SPS/RAS assessments;
- design of SPS;/RAS;
- operations and misoperations;
- maintenance and testing of SPS/RAS; and
- maintenance and testing of non-Protection System components used in SPS/RAS; and
- coordination of SPS/RAS with other SPS/RAS, UFLS, UVLS, and Protection Systems.

Due to the significant difference between Protection Systems and SPS, the subject of SPS misoperation is not addressed in the revision of Reliability Standard PRC-004. This SDT will develop a definition for SPS/RAS misoperation and revise PRC-016-0.1. The new Reliability Standard will provide specific requirements for the analysis of SPS operations and reporting of SPS misoperations.

The SDT will address the complexity of maintaining and testing SPS, as well as the maintenance and testing of non-Protection System components used in SPS in a Reliability Standard. -This SDT will coordinate with the PRC-005-4 SDT to prevent any overlaps or gaps in coverage.

The SDT also will consider operational considerations for monitoring, status notification, and response to failures of SPS/RAS; and, if necessary, modify other related standards.

The SDT will retire requirements that are administrative in nature that are not necessary for reliability of the Bulk-Power System, or that are superseded by other requirements; i.e., the new Reliability Standards will qualify as steady-state.

No market interface impacts are anticipated.

Reliability Functions

The Standard will Apply to the Following Functions (Check each one that applies.)

<input type="checkbox"/> Regional Reliability Organization	Conducts the regional activities related to planning and operations, and coordinates activities of Responsible Entities to secure the reliability of the Bulk Electric System within the region and adjacent regions.
<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 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.

Reliability Functions	
<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.
<input 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 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 checked="" type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.
<input 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

Reliability and Market Interface Principles	
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
IRO-005-3.1a	The SDT may decide not to change this standard, but the SDT should keep the standard in mind since it contains potentially overlapping requirements.
PRC-001-1.1	The SDT may decide not to change this standard, but the SDT should keep the standard in mind since it contains potentially overlapping requirements.
PRC-005-2	The SDT may decide not to change this standard, or subsequently approved versions, but the SDT should keep the standard in mind to avoid any gaps or overlap between this standard and PRC-017-1.
<u>PRC-010-1</u>	<u>The SDT may adjust the definition of Special Protection System to include centrally-controlled undervoltage-based load shedding or exclude UVLS Programs.</u>
<u>CIP-002, CIP-003, CIP-004, CIP-005, CIP-006 CIP-007, CIP-008, CIP-009, CIP-010 CIP-011, EOP-004, FAC-010, FAC-011, IRO-005, IRO-014, MOD-029, MOD-030, NUC-001, PRC-001, PRC-004-WECC, PRC-005, PRC-006, PRC-012, PRC-013, PRC-014,</u>	<u>The SDT will review all current standards that include the term SPS or RAS to ensure the modified term and definition are congruent.</u>

Related Standards

[PRC-015, PRC-016, PRC-017, PRC-020, PRC-021, PRC-023, PRC-024, PRC-025, TOP-005, TPL-001, TPL-002, TPL-003, TPL-004; NERC Glossary of Terms: Special Protection System, Remedial Action Scheme; WECC Regional Term: Dependability-Based Misoperation, WECC Regional Term: Functionally Equivalent RAS, WECC Regional Term: Security-Based Misoperation](#)

Related SARs

SAR-IDProject	Explanation
Project 2008-02 – Undervoltage Load Shedding	The UVLSSDT is recommending that Project 2010-05.2 – Special Protection Systems adjust the definition of Special Protection System to include centrally-controlled undervoltage-based load shedding or exclude UVLS Programs.

Related Standards

Related Standards	

Regional Variances	
Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
RFC	
SERC	
SPP	
WECC	<u>Communicate recommended changes to Regional Reliability Standard PRC-004-WECC-1, regional criteria PRC-(012 through 014)-WECC-CRT-2, and PRC-013 RAS Reporting Template; or, if necessary, incorporate a regional variance in the NERC Reliability Standards developed by this project. All changes to any WECC standards and documents will be coordinated with WECC.</u>