

## Standards Authorization Request Form

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

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 Standard:	Project 2015-10 Single Points of Failure TPL-001 SPCS and SAMS recommendations in response to FERC Order No. 754 (TPL-001-4)		
Date Submitted:	October 05, 2015		
SAR Requester Information			
Name:	Philip B. Winston, PE and John M Simonelli		
Organization:	Southern Company and ISO New England, Inc., respectively.		
Telephone:	404-608-5989--primary	E-mail:	pbwinsto@southernco.com--primary
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 Standards	<input type="checkbox"/>	Urgent Action

### SAR Information

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

Modifications have been identified to Reliability Standard TPL-001-4 based on the following:

Item 1: The System Protection and Control Subcommittee (SPCS) and the System Modeling and Analysis Subcommittee (SAMS) conducted a comprehensive assessment of the study of protection system single points of failure in response to FERC Order No. 754, including analysis of data from the NERC Section

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1600 Request for Data or Information. The assessment confirms the existence of a reliability risk associated with single points of failure in protection systems that warrants further action.

As such, regarding single points of failure in protection systems, the SPCS and the SAMS make the following recommendations for modifying NERC Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements) through the NERC standards development process identified in the NERC Rules of Procedure:

- For Table 1 – Steady State & Stability Performance Planning Events, Category P5:
  - Replace “relay” with “component of a Protection System,” and
  - Add superscript “13” to reference footnote 13 for the replaced term under the “Category” column.
- For Table 1 – Steady State & Stability Performance Extreme Events, under the Stability column, No. 2:
  - Remove the phrase “or a relay failure<sup>13</sup>” from items a, b, c, and d to create distinct events only for stuck breakers.
  - Append four new events for the same items a, b, c, and d in the above bulleted item to create distinct events replacing “a relay failure<sup>13</sup>” with “a component failure of a Protection System<sup>13</sup>.”
- Replace footnote 13 in TPL-001-4 with, “The components from the definition of “Protection System” for the purposes of this standard include (1) protective relays that respond to electrical quantities, (2) single-station DC supply that is not monitored for both low voltage and open circuit, with alarms centrally monitored (i.e., reported within 24 hours of detecting an abnormal condition to a location where corrective action can be initiated), and (3) DC control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.”<sup>1</sup>
- Modify TPL-001-4 (Part 4.5) so that extreme event assessments must include evaluation of the three-phase faults with the described component failures of a Protection System<sup>13</sup> that produce the more severe system impacts. For example, add a new second sentence that reads “[t]he list shall consider each of the extreme events in Table 1 – Steady State & Stability Performance Extreme Events; Stability column item number 2.”

<sup>1</sup> See Order 754 (NERC website) Requests for Clarifications and Responses ([http://www.nerc.com/pa/Stand/Order%20754%20DL/Order\\_754-Requests\\_for\\_Clarification\\_and\\_Responses\\_July2013.pdf](http://www.nerc.com/pa/Stand/Order%20754%20DL/Order_754-Requests_for_Clarification_and_Responses_July2013.pdf)).

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Item 2: In addition, on October 17, 2013 the Commission issued Order No. 786, which included two directives related to TPL-001-4. The two directives are as follows:

- Paragraph 40 directs NERC to modify Reliability Standard TPL-001-4 to address the concern that the six-month threshold could exclude planned maintenance outages of significant facilities from future planning assessments
- Paragraph 89 directs NERC to consider a similar spare equipment strategy for stability analysis upon the next review cycle of Reliability Standard TPL-001-4.”

Item 3: Further, references to MOD-010 and MOD 012 in Requirement R1 would need to be replaced with MOD-032 due to July 2016 retirement of those standards.

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

The ~~primary~~ goal of this SAR is to:

1. Consider the ~~appoint a Standard Drafting Team (SDT) to address~~ recommendations for modifying NERC Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements) as identified in the SPCS and SAMS report titled “Order No. 754 Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request”;
2. Address the two FERC directives from Order No. 786; and
3. Update the references to the MOD Reliability Standards in TPL-001.

.”

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

Provide clear, unambiguous requirements and Results-based Reliability Standards that will: (1) reflect ~~condiseration of standards to address~~ the recommendations for modifying NERC Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements) identified in the SPCS and SAMS report titled “Order No. 754 Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request;” (ii) address the two FERC directives from Order No. 786 citd above; and (iii) and update the references to the MOD Reliability Standards cited in TPL-001. .-”

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

The SDT shall consider the recommendations for modifying NERC Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements) identified in the SPCS and SAMS report titled “Order No. 754 Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request”, address the two FERC directives, update the references to the MOD Standards,” and revise standards, requirements, attachments, Violation Risk Factors, Violation Severity Levels, and

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implementation plans as appropriate. The SDT shall consider retirements to requirements under Paragraph 81 criteria. In addition, the SDT shall work with compliance on an accompanying RSAW to address each of the standard's requirements and measures.

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 SDTs execution of this SAR requires the SDT to ~~consider~~address the recommendations for modifying NERC Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements) identified in the SPCS and SAMS report titled "Order No. 754 Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request." ~~This The SDTs execution of this SAR would, in addition, consider retirements to requirements under Paragraph 81 criteria. The SPCS and SAMS report titled "Order No. 754 Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request"~~ is incorporated ~~in~~ its entirety into this SAR, so as not to unnecessarily repeat or paraphrase the substance of the report.

In addition, the SDTs execution of this SAR would consider retirements to requirements under Paragraph 81 criteria.

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 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 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 type="checkbox"/> Transmission Owner	Owns and maintains transmission facilities.

Reliability Functions	
<input type="checkbox"/> Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
<input type="checkbox"/> Distribution Provider	Delivers electrical energy to the End-use customer.
<input type="checkbox"/> Generator Owner	Owns and maintains generation facilities.
<input 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.
<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 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 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 type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.

Reliability and Market Interface Principles	
Does the proposed Standard comply with all of the following Market Interface Principles?	Enter (yes/no)
1. A reliability standard shall not give any market participant an unfair competitive advantage.	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	
SAR ID	Explanation
N/A	N/A

## Regional Variances

Region	Explanation
ERCOT	N/A
FRCC	N/A
MRO	N/A
NPCC	N/A
RFC	N/A
SERC	N/A
SPP	N/A
WECC	N/A