

Standards Authorization Request Form

When completed, 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 a revision to a NERC's Reliability Standard.

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

Title of Proposed Standard(s):	Modifications to TOP and IRO Standards		
Date Submitted:	January 6, 2016		
SAR Requester Information			
Name:	Ryan Stewart		
Organization:	NERC		
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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

Purpose (Describe what the standard action will achieve in support of Bulk Electric System reliability.):

The goal of this project is to address the Federal Energy Regulatory Commission (Commission) directives contained in [Order 817](#) by modifying **TOP-001-3 - Transmission Operations** and **IRO-002-4 - Reliability Coordination: Monitoring and Analysis** or by developing an equally efficient and effective alternative.

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

On November 19, 2015, the Commission issued Order 817 approving nine revised or new TOP and IRO Reliability Standards from [Project 2014-03](#) that addressed previously-identified reliability issues and concerns. In approving the standards, the Commission also directed development of modifications to TOP and IRO standards to address the following additional reliability concerns:

- **Monitoring non-Bulk Electric System facilities.** The Commission noted that "in some instances the absence of real-time monitoring of non-BES facilities by the transmission operator within

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and outside its TOP area as necessary for determining SOL exceedances in proposed TOP-001-3, Requirement R10 creates a reliability gap." (P.35)

- **Redundancy and Diverse Routing of Data Exchange Capabilities.** The Commission determined that, with respect to data exchange capabilities, the TOP and IRO standards requirements for Reliability Coordinators (RCs), Transmission Operators (TOPs), and Balancing Authorities (BAs) "do not clearly address redundancy and diverse routing so that registered entities will unambiguously recognize that they have an obligation to address redundancy and diverse routing as part of their TOP and IRO compliance obligations." (P. 47)
- **Testing of the Alternate or Less Frequently Used Data Exchange Capability.** The Commission determined that existing requirements do not establish a clear obligation for RCs, TOPs, and BAs to test alternative data exchange capabilities (P. 51).

Per Order 817, revised Reliability Standards addressing these issues must be filed for approval within 18 months of the order effective date.

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

The Standards Drafting Team (SDT) shall develop modifications to TOP and IRO standards that address Commission directives from Order 817. The work will include development of Violation Risk Factors, Violation Severity Levels, and an Implementation Plan for the modified standards within the deadline established by the Commission in Order 817.

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 shall address each of the Order 817 directives by developing modifications to requirements in TOP-001-3 and IRO-002-4, or the SDT shall develop an equally efficient and effective alternative. To address concerns identified in Order 817, the Commission directed the following:

- *Revise Reliability Standard TOP-001-3, Requirement R10 to require real-time monitoring of non-BES facilities. [The Commission] believes this is best accomplished by adopting language similar to Reliability Standard IRO-002-4, Requirement R3, which requires reliability coordinators to monitor non-bulk electric system facilities to the extent necessary. NERC can develop an equally efficient and effective alternative that addresses our concerns. (P. 35)*
- *Modify Reliability Standards TOP-001-3, Requirements R19 and R20 to include the requirement that the data exchange capabilities of the transmission operators and balancing authorities require redundancy and diverse routing. In addition, [the Commission directs] NERC to clarify that "redundant infrastructure" for system monitoring in Reliability Standards IRO-002-4, Requirement R4 is equivalent to redundant and diversely routed data exchange capabilities. (P. 47)*

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- *Develop a modification to the TOP and IRO standards that addresses a data exchange capability testing framework for the data exchange capabilities used in the primary control centers to test the alternate or less frequently used data exchange capabilities of the reliability coordinator, transmission operator and balancing authority. [The Commission believes] that the structure of Reliability Standard COM-001-2, Requirement R9 could be a model for use in the TOP and IRO Standards. (P. 51)*

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 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 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).

Reliability Functions	
<input 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 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 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 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.

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
IRO-002-4	Includes requirements for RC data exchange capabilities and monitoring systems
TOP-001-3	Includes requirements for TOP Real-time monitoring, and for TOP and BA data exchange capabilities

Related SARs

SAR ID	Explanation

Regional Variances

Region	Explanation
FRCC	
MRO	

Regional Variances

NPCC	
RF	
SERC	
SPP RE	
Texas RE	
WECC	