NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

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 a revision to a NERC's Reliability Standard.

Request to propose a new or a revision to a Reliability Standard			
Title of Proposed Standard:	Voltage and Reactive Control; Generator Operation for Maintaining Network Voltage Schedules		
Date Submitted:	July 18, 2013		
SAR Requester Information			
Name:	Soo Jin Kim		
Organization:	NERC		
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SAR Type (Check as many as applicable)			
☐ New Standard ☒ Revision to existing Standard		☐ Withdrawal of existing Standard ☐ Urgent Action	

SAR Information
Industry Need (What is the industry problem this request is trying to solve?):
Resolve FERC directives from FERC Order No. 693 and improve upon the existing VAR standards.
Purpose or Goal (How does this request propose to address the problem described above?):
The pro forma standard consolidates the reliability components of the existing VAR-001 standard, adds new requirements to address FERC's directives in Order No. 693, and provides a non-compliance window in VAR-002 notification requirements.

SAR Information
Identify the Objectives of the proposed standard's requirements (What specific reliability deliverables are required to achieve the goal?):
The objectives are to address the outstanding directives from FERC Order 693 and added a non-compliance window for when a GOP must notifiy a TOP when a unit is deviating from a voltage schedule.
Brief Description (Provide a paragraph that describes the scope of this standard action.)

• The drafting team will answer the outstanding VAR directives from FERC Order No. 693. The VAR-001 directives are summarized from P 1880 of Order No. 693 as:
  ○ Expand the applicability to include reliability coordinators and LSEs;
  ○ Include detailed and definitive requirements on "established limits" and "sufficient reactive resources" and identify acceptable margins above the voltage instability points;
  ○ Include Requirements to perform voltage stability analysis periodically, using online techniques where commercially available and offline techniques where online techniques are not available, to assist real-time operations, for areas susceptible to voltage instability;
  ○ Include controllable load among the reactive resources to satisfy reactive Requirements; and
  ○ Address the power factor range at the interface between LSEs and the transmission grid.
• The VAR-002 directive is to simply consider adding more detail around what would constitute an incident of non-compliance for a Generator.
• The drafting team will also modify the VAR-002 standard in order to address some of the numerous notifications that are required by the currently enforceable standard.

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.)
Detailed description of this project can be found in the Attachment (pro forma VAR standards) and White Paper of this SAR submittal package.

Reliability Functions

Reliability Functions	
The Standard will Apply to the Following Functions (Check each one that applies.)	
☐ 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.
☒ 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.
☐ 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.
☐ Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
☐ Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
☐ Resource Planner	Develops a >one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.
☐ Transmission Planner	Develops a >one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.
☐ Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
☐ Transmission Owner	Owns and maintains transmission facilities.
☒ Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
☐ Distribution Provider	Delivers electrical energy to the End-use customer.
☒ Generator Owner	Owns and maintains generation facilities.
☒ Generator Operator	Operates generation unit(s) to provide real and reactive power.
☐ Purchasing-Selling	Purchases or sells energy, capacity, and necessary reliability-related

Reliability Functions		
	Entity	services as required.
☐	Market Operator	Interface point for reliability functions with commercial functions.
☐	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).	
☒	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 security 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.
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	Yes

Reliability and Market Interface Principles	
access commercially non-sensitive information that is required for compliance with reliability standards.	

Related Standards	
Standard No.	Explanation
VAR-001- 3	Voltage and Reactive Control
VAR-002-2b	Generator Operation for Maintaining Network Voltage Schedules

Related SARs	
SAR ID	Explanation
Project 2008-01	Voltage and Reactive Planning and Control

Regional Variances	
Region	Explanation
ERCOT	None
FRCC	None
MRO	None

Regional Variances	
NPCC	None
RFC	None
SERC	None
SPP	None
WECC	VAR-001-3 WECC variance is retained.