

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 a revision to a NERC's Reliability Standard.

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

Title of Proposed Standard:	Generator Operation for Maintaining Network Voltage Schedules
Date Submitted:	January 13, 2012
<u>Date Revised:</u>	<u>April 11, 2012</u>

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?):
This SAR proposes to modify VAR-002-1b, R1 to address an ambiguity in the standard.
Purpose or Goal (How does this request propose to address the problem described above?):
N/A
Identify the Objectives of the proposed standard's requirements (What specific reliability deliverables are required to achieve the goal?):
N/A

SAR Information

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

This SAR proposes to modify VAR-002-1b, R1 to address an ambiguity in the 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.)

Requirement R1 of VAR-002-1.1b states the following:

R1. The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the Generator Operator has notified the Transmission Operator.

NERC received a request to interpret this requirement. The requester stated:

“During startup and shutdown of a generator, it is industry practice to have a generator’s AVR in the manual mode. Due to the instabilities associated with the changes in the field during these times, it is more reliable to have an operator control the generator than the AVR. Further, an AVR’s response is slower and more unreliable when the field current is low, which is the case during start up and shut down. Both the BA and TOP realize that during start up and shut down the real and reactive power from that generator cannot be counted upon for system stability.

Some regions have taken the stance that during start up and shut down of a generator, it is reasonable to assume that the AVR is in manual and that it will be switched to automatic once stable. This would not require contacting the TOP to state that the AVR is in manual for this time period. Other regions have taken the approach that all status changes of the AVR from automatic, regardless of industry practice and stability, needs to be communicated to the TOP.

Constellation is seeking clarification of Requirement R1 as to whether or not a communication must be conducted between a GOP and a TOP during start up or shut down of a generator, when

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the unit is not stable and is not counted upon for real or reactive power by the BA and TOP at that time.

Constellation has found two issues caused by the lack of clarity/incorrect interpretation of this standard:

1. There is not a consistent view across the regions with regard to this requirement. Such inconsistencies are contrary to the intent of NERC's CMEP and can expose entities to inconsistent evaluations. A procedure may be compliant in one region and may not be in another.
2. Requiring a GOP to communicate that the AVR is in manual during start up/shutdown is an unnecessary distraction at a time when the unit is unstable. A generator operator already communicates to the TOP that the unit is being started up or shutting down. Adding another communication imposes a redundant task when the generator operator is focused on controlling the unit and ensuring the reliability of the BES."

The Standards Committee approved the use of a "rapid modification" approach to clarify the requirement in question directly in lieu of a formal interpretation. The Interpretation Team is proposing the attached modification to the standard in lieu of an Interpretation. The redline standard includes the FERC approved VRFs and VSLs for this standard.

The drafting team posted its revised standard for a parallel comment and ballot period that ended March 23, 2012. The standard achieved a high quorum (87%), but only achieved a 63% weighted approval. Several stakeholders voted against the proposed modifications based, not on the modifications made, but on Requirement R2 and its associated VSLs. Stakeholders identified that the VSLs for Requirement R2 imply that the Transmission Operator will give the Generator Operator a voltage or reactive schedule that is a definitive number rather than an acceptable range, and such an interpretation is not practical.

The drafting team considered these comments and recommends modifying Requirement R2 and

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its associated VSLs to clarify that Transmission Operator must give the Generator Operator a voltage or reactive schedule as a “range” of acceptable values.

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 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).
<input type="checkbox"/> Transmission Owner	Owns and maintains transmission facilities.
<input type="checkbox"/> Transmission	Ensures the real-time operating reliability of the transmission assets

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Reliability Functions	
Operator	within a Transmission Operator Area.
<input 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.
<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 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.

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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

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Related SARs	

Regional Variances	
Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
RFC	
SERC	
SPP	
WECC	