

Project 2011-INT-02 - Interpretation of VAR-002 for Constellation

Mapping Document

Mapping

Translation of VAR-002-1.1b - Generator Operation for Maintaining Network Voltage Schedules into VAR-002-2b - Generator Operation for Maintaining Network Voltage Schedules.

Standard: VAR-002-2b		
Requirement in Approved Standard	Translation to New Standard or Other Action	Proposed language in VAR-002-2b - Generator Operation for Maintaining Network Voltage Schedules
<p>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.</p>	<p>Revised to address Interpretation Request.</p>	<p>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 of one of the following: <i>[Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]</i></p> <ul style="list-style-type: none"> That the <u>generator unit</u> is being operated in start-up¹ or shutdown² mode, pursuant to a <u>Real-time communication or a procedure that was</u> previously provided to the

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		<p>Transmission Operator; or-</p> <ul style="list-style-type: none"> That the unit is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown. <p><u>¹ Start-up is deemed to have ended when the generator is ramped up to its minimum continuously sustainable load and the generator is prepared for continuous operation.</u></p> <p><u>² Shutdown is deemed to begin when the generator is ramped down to its minimum continuously sustainable load and the generator is prepared to go offline.</u></p>
<p>R2. Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output (within applicable Facility Ratings¹) as directed by the Transmission Operator. [Violation Risk Factor: Medium] [Time Horizon:</p>	<p>Revised to address expanded scope approved by the SC April 11, 2012.</p>	<p>R2. Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output-schedule³ (within applicable Facility Ratings⁴), as directed by the Transmission Operator. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]</p> <p>R2.1. When a generator’s automatic voltage regulator is out of service, the Generator Operator shall use an alternative method to control the generator voltage and reactive</p>

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<p>Real-time Operations]</p> <p>R2.1. When a generator’s automatic voltage regulator is out of service, the Generator Operator shall use an alternative method to control the generator voltage and reactive output to meet the voltage or Reactive Power schedule directed by the Transmission Operator.</p> <p>R2.2. When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.</p>		<p>output to meet the voltage or Reactive Power schedule directed by the Transmission Operator.</p> <p>R2.2. When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.</p> <p>³ <u>The voltage or Reactive Power schedule is a target value communicated by the Transmission Operator to the Generator Operator establishing a tolerance band within which the target value is to be maintained during a specified period.</u></p> <p>⁴ <u>When a Generator is operating in manual control, Reactive Power capability may change based on stability considerations, and this may lead to a change in the associated Facility Ratings.</u></p>
	All other	R2. Unless exempted by the Transmission Operator, each

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	<p>requirements remain unchanged, with the exception of the addition of Time Horizons and previously-approved Violation Risk Factors and Violation Severity Levels.</p>	<p>Generator Operator shall maintain the generator voltage or Reactive Power output (within applicable Facility Ratings³) as directed by the Transmission Operator. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]</p> <p>R2.1.— When a generator’s automatic voltage regulator is out of service, the Generator Operator shall use an alternative method to control the generator voltage and reactive output to meet the voltage or Reactive Power schedule directed by the Transmission Operator.</p> <p>R2.2.— When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.</p> <p>R3. Each Generator Operator shall notify its associated Transmission Operator as soon as practical, but within 30 minutes of any of the following: [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]</p> <p>R3.1. A status or capability change on any generator Reactive Power resource, including the status of each automatic voltage regulator and power system stabilizer and the expected duration of the change in status or capability.</p> <p>R3.2. A status or capability change on any other Reactive Power resources under the Generator Operator’s control and the expected duration of the change in status or capability.</p>

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		<p>R4. The Generator Owner shall provide the following to its associated Transmission Operator and Transmission Planner within 30 calendar days of a request. [Violation Risk Factor: Lower] [Time Horizon: Real-time Operations]</p> <p>R4.1. For generator step-up transformers and auxiliary transformers with primary voltages equal to or greater than the generator terminal voltage:</p> <p>R4.1.1. Tap settings.</p> <p>R4.1.2. Available fixed tap ranges.</p> <p>R4.1.3. Impedance data.</p> <p>R4.1.4. The +/- voltage range with step-change in % for load-tap changing transformers.</p> <p>R5. After consultation with the Transmission Operator regarding necessary step-up transformer tap changes, the Generator Owner shall ensure that transformer tap positions are changed according to the specifications provided by the Transmission Operator, unless such action would violate safety, an equipment rating, a regulatory requirement, or a statutory requirement. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]</p> <p>R5.1. If the Generator Operator can't comply with the</p>

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		Transmission Operator's specifications, the Generator Operator shall notify the Transmission Operator and shall provide the technical justification.