

Interpretation of NERC Standard VAR-001-1 — Voltage and Reactive Control, Requirement R4

Request for Interpretation received from Dynegy on October 11, 2007:

The current wording of VAR-001-1 Requirement 4 does not impose any explicit obligations on the Transmission Operator other than to provide the Generator Operator with a voltage or reactive power output schedule and an associated tolerance band.

- 1. Is the Transmission Operator implicitly required to have a technical basis for specifying the voltage or reactive power and associated tolerance band?*
- 2. Is the Transmission Operator implicitly required to issue a voltage or reactive power schedule and associated tolerance band that is reasonable and practical for the Generator Operator to maintain?*
- 3. What measure should be used to determine if the Transmission Operator has issued a technically based, reasonable and practical to maintain voltage or reactive power schedule and associated tolerance band?*

VAR-001-1

R4. Each Transmission Operator shall specify a voltage or Reactive Power schedule¹ at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each generator. The Transmission Operator shall provide the voltage or Reactive Power schedule to the associated Generator Operator and direct the Generator Operator to comply with the schedule in automatic voltage control mode (AVR in service and controlling voltage).

¹ The voltage schedule is a target voltage to be maintained within a tolerance band during a specified period.

Interpretation provided by members of the Phase III & IV Standard Drafting Team on October 30, 2007:

NERC Reliability Standard VAR-001-1 is only comprised of stated requirements and associated compliance elements. The requirements have been developed in a fair and open process, balloted and accepted by FERC for compliance review. Any “implicit” requirement would be based on subjective interpretation and viewpoint and therefore cannot be objectively measured and enforced. Any attempt at “interpreting an implicit requirement” would effectively be adding a new requirement to the standard. This can only be done through the SAR process.

Since there are no requirements in VAR-001-1 to issue a “technically based, reasonable and practical to maintain voltage or reactive power schedule and associated tolerance band”, there are no measures or associated compliance elements in the standard.

The standard only requires that “Each Transmission Operator shall specify a voltage or Reactive Power schedule ...” and that “The Transmission Operator shall provide the voltage or Reactive Power schedule to the associated Generator Operator and direct the Generator Operator to comply with the

schedule...”. Also, Measure 1 and the associated compliance elements follow accordingly by stating that “The Transmission Operator shall have evidence it provided a voltage or Reactive Power schedule ...”

VAR-002-1 — Generator Operation for Maintaining Network Voltage Schedules

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.

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.

R2.2. When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.

¹ When a Generator is operating in manual control, reactive power capability may change based on stability considerations and this will lead to a change in the associated Facility Ratings.

Requirement 2 and Requirement 2.2 of VAR-002-1 relate somewhat to questions #2 and 3. R2 states that “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.” R2.2 goes on to state “When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.”