
**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

NOTICE OF PROPOSED RULEMAKING) Docket No. RM08-16-000
INTERPRETATIONS OF FREQUENCY)
RESPONSE AND BIAS AND VOLTAGE)
AND REACTIVE CONTROL)
RELIABILITY STANDARDS)

**COMMENTS OF THE
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION
ON THE NOTICE OF PROPOSED RULEMAKING FOR INTERPRETATIONS OF
SPECIFIC REQUIREMENTS OF FREQUENCY RESPONSE AND BIAS AND
VOLTAGE AND REACTIVE CONTROL RELIABILITY STANDARDS**

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I. INTRODUCTION

The North American Electric Reliability Corporation (“NERC”)¹ is pleased to provide these comments in response to the Notice of Proposed Rulemaking (“NOPR”).² NERC commends the Federal Energy Regulatory Commission (“FERC” or the “Commission”) on its determination to approve the proposed interpretation to Requirements R2 and R5 of BAL-003-0 in accordance with Section 215(d)(1) of the Federal Power Act (“FPA”)³ and Section 39.5 of the Commission’s regulations.⁴ NERC also appreciates the Commission’s comments regarding the interpretation of Requirement R4 of VAR-001-1 and recommends the Commission reconsider its proposal to remand the interpretation based on the information contained in this filing,

The comments that NERC is submitting in this filing respond to questions posed by the Commission in the NOPR.

¹ The Federal Energy Regulatory Commission (“FERC” or “Commission”) certified NERC Corporation as the electric reliability organization (“ERO”) in its order issued July 20, 2006 in Docket No. RR06-1-000. 116 FERC ¶ 61,062 (July 20, 2006).

² *Electric Reliability Organization Interpretations of Specific Requirements of Frequency Response and Bias and Voltage and Reactive Control Reliability Standards*, (“NOPR”), 125 FERC ¶ 61,204 (2008).

³ 16 U.S.C. 824o.

⁴ 18 C.F.R. § 39.5 (2006). See NOPR at P 1.

II. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to:

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III. BACKGROUND

a. Regulatory Framework

By enacting the Energy Policy Act of 2005,⁵ Congress entrusted the Commission with the duties of approving and enforcing rules to ensure the reliability of the Nation's bulk power system, and with the duties of certifying an electric reliability organization ("ERO") that would be charged with developing and enforcing mandatory reliability standards, subject to Commission approval. Section 215 states that all users, owners and operators of the bulk power system in the United States will be subject to Commission approved reliability standards.

b. Basis for Approval of Interpretations to Reliability Standards

Section 39.5(a) of the Commission's regulations requires the ERO to file with the

⁵ Energy Policy Act of 2005, Pub. L. No. 109-58, Title XII, Subtitle A, 119 Stat. 594, 941 (2005) (to be codified at 16 U.S.C. § 824o).

Commission for its approval each reliability standard that the ERO proposes to become mandatory and enforceable in the United States, and each modification to a reliability standard that the ERO proposes to be made effective. The Commission has the regulatory responsibility to approve standards that protect the reliability of the bulk power system. In discharging its responsibility to review, approve, and enforce mandatory reliability standards, the Commission is authorized to approve those proposed standards that meet the criteria detailed by Congress:

The Commission may approve, by rule or order, a proposed reliability standard or modification to a reliability standard if it determines that the standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest.⁶

While these formal interpretations do not represent new or modified reliability standard requirements, they do provide formal instruction with regard to the intent and in some cases application of the requirements that will guide compliance to them. In this regard, NERC commends the Commission for proposing to approve the interpretation to Requirements R2 and R5 in BAL-003-0. Further, as discussed below, NERC recommends the Commission reconsider its NOPR proposal to remand the interpretation to Requirement R4 in VAR-001-1, and approve the interpretation as filed.

c. Reliability Standards Development Procedure

All persons who are directly or materially affected by the reliability of the North American bulk power system are permitted to request an interpretation of a reliability standard, as discussed in NERC's *Reliability Standards Development Procedure*. When requested, NERC will assemble a team with the relevant expertise to address the interpretation request and, within 45 days, present a formal interpretation for industry ballot. If approved by the ballot pool and the NERC Board of Trustees, the interpretation is appended to the reliability standard and filed for approval by the Commission and regulatory authorities in Canada to be made effective when

⁶ Section 215(d)(2) of the FPA, to be codified at 16 U.S.C. § 824o(d)(2) (2000).

approved. When the affected reliability standard is next revised using the reliability standards development process, the interpretation will then be incorporated into the reliability standard.

The formal interpretations addressed by the Commission NOPR were developed and approved by industry stakeholders using NERC's *Reliability Standards Development Procedure*. The NERC Board of Trustees also has approved them.

IV. DISCUSSIONS OF MAJOR ISSUES OUTLINED IN THE NOPR

a. Proposal to Approve Interpretation to Requirement R2 and R5 in BAL-003-0

NERC supports the Commission's proposal to approve the interpretation of Requirements R2 and R5 of BAL-003-0 and encourages the Commission to carry its proposed action forward in its final rule.

b. Proposal to Remand Interpretation to Requirement R4 in VAR-001-1

NERC disagrees with the Commission's proposal to remand the interpretation of Requirement R4 VAR-001-1 and encourages the Commission to modify its proposed action accordingly in its final rule. The proposed interpretation of Requirement R4 states: "Each Transmission Operator shall specify a voltage or Reactive Power schedule⁷ 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)."⁸ In the NOPR, the Commission proposed to remand the interpretation because "[t]he Commission disagrees with

⁷ The voltage schedule is a target voltage to be maintained within a tolerance band during a specified period.

⁸ NOPR at P 21.

the interpretation's suggestion that there is no requirement that a voltage schedule have a sound technical basis.”⁹

NERC believes there is a fundamental difference in the Commission's generalized view on the Reliability Standards offered in its NOPR comments and NERC's focus on the specific language in Requirement R4 in VAR-001-1 that is the subject of the interpretation request. First, NERC agrees with the Commission's statement in the NOPR that “all Reliability Standards must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve this goal.”¹⁰ By virtue of the Commission's approval of VAR-001-1 in Order No. 693, VAR-001-1 met this criteria and NERC agrees. The stated purpose of VAR-001-1 is “[t]o ensure that voltage levels, reactive flows, and reactive resources are monitored, controlled, and maintained within limits in real time to protect equipment and the reliable operation of the Interconnection.”¹¹ Each of the twelve requirements in VAR-001-1 contributes to meeting the stated objective of the standard. Collectively, the combination of requirements provides a technically sound method to achieve that goal. In this regard, while Requirement R4 by itself does not explicitly require the Transmission Operator to provide a Generator Operator a voltage schedule that is technically based, reasonable, and practical to implement, the compendium of other requirements in VAR-001-1 establish this obligation, such that, as a whole, the VAR-001-1 is technically sound. Stated simply, Requirement R4 conveys a voltage or reactive schedule that is informed technically by other requirements in the Reliability Standard. However, because the interpretation request focused exclusively on Requirement R4, NERC appropriately focused its interpretation on the language in Requirement R4 alone, although NERC did note, in this filing,

⁹ NOPR at P 30.

¹⁰ *Id.*

¹¹ *North American Electric Reliability Corporation*, “Petition of the North American Electric Reliability Corporation for Approval of Formal Interpretations to Reliability Standards,” Docket No. RM08-16-000 at 10 (July 28, 2008).

that other requirements served to set the technical foundation for Requirement R4. Therefore, it is on this basis that NERC believes that the approval of the interpretation to Requirement R4 is justified.

Importantly, NERC does not argue that VAR-001-1 requires a technical basis for Transmission Operators in developing the voltage or reactive schedule provided to Generator Operators. NERC emphasizes that while Requirement R4 does not require the technical foundation; other requirements in VAR-001-1 do require the technical basis to be established. Specifically, Requirements R2 and R8 - R12 of VAR-001-1 obligate the Transmission Operator to have a defensible technical basis to achieve the reliability objective of the standard. Therefore, NERC disagrees with the Commission's proposed language in paragraph 31 of the NOPR that "NERC's proposed interpretation, however, implies that the voltage schedules provided under VAR-001-1, Requirement R4 need not have any technical basis, and thus need not be reasonable and practical."¹²

Requirements R2 and R8 through R12 state:

R2. Each Transmission Operator shall acquire sufficient reactive resources within its area to protect the voltage levels under normal and Contingency conditions. This includes the Transmission Operator's share of the reactive requirements of interconnecting transmission circuits.

R8. Each Transmission Operator shall operate or direct the operation of capacitive and inductive reactive resources within its area – including reactive generation scheduling; transmission line and reactive resource switching; and, if necessary, load shedding – to maintain system and Interconnection voltages within established limits.

R9. Each Transmission Operator shall maintain reactive resources to support its voltage under first Contingency conditions.

R9.1. Each Transmission Operator shall disperse and locate the reactive resources so that the resources can be applied effectively and quickly when Contingencies occur.

¹² NOPR at P 31.

R10. Each Transmission Operator shall correct IROL or SOL violations resulting from reactive resource deficiencies (IROL violations must be corrected within 30 minutes) and complete the required IROL or SOL violation reporting.

R11. After consultation with the Generator Owner regarding necessary step-up transformer tap changes, the Transmission Operator shall provide documentation to the Generator Owner specifying the required tap changes, a timeframe for making the changes, and technical justification for these changes.

R12. The Transmission Operator shall direct corrective action, including load reduction, necessary to prevent voltage collapse when reactive resources are insufficient.

Requirement R2 discusses reactive sufficiency under normal and contingency conditions.

Requirement R8 requires the Transmission Operator to operate reactive resources up to, and including, load shedding to maintain voltages within limits. Requirement R9 specifically identifies the need to locate and maintain reactive support under first contingency conditions. Requirement R10 addresses limit violations, including interconnection reliability operating limits (“IROLs”), resulting from insufficient reactive support. Requirement R11 requires interaction with the Generator Operator to properly set generator step-up transformer tap settings to optimize the ability to actively utilize unit reactive output and to maintain reserves in concert with other transmission system level reactive resources. Finally, Requirement R12 directs the Transmission Operator to take preemptive action to prevent voltage collapse. In sum, this set of requirements directs the Transmission Operator to understand the dynamics of its footprint such that voltage sufficiency and stability are maintained under normal and contingency conditions. In order to maintain the system within limits in real-time and to avoid voltage collapse in the operating time horizons (operations planning, next day, real-time, *etc.*), the Transmission Operator must have the ability to study the system on a first contingency basis and position the voltage and reactive profile of the system appropriately, including the voltage and reactive output schedules provided to Generator Operators. Further, the Transmission Operator monitors the

transmission system and can provide valuable insight into reactive “weak spots” where additional reactive support would be beneficial to help it achieve the performance expectations outlined in VAR-001-1.

Additionally, in the long-term and seasonal planning horizons, it is necessary for that the Transmission Planner to analyze the transmission system to ensure it performs in accordance with Table 1 of the TPL-001 through TPL-004 series of Reliability Standards. These performance expectations include maintaining stability and keeping the system within both thermal and voltage limits. If the transmission planning analysis indicates that these expectations cannot be met, the Transmission Planner is obligated to provide a written summary of the plan to remedy the deficiency that would likely include system enhancements to improve the reactive profile of the system. In addition, utilities must ensure they can meet their voltage obligations on their distribution systems to satisfy relevant state-level obligations and must proactively analyze their anticipated system voltage and reactive profiles to meet this expectation. This analysis often results in the need to locate and install reactive resources at the distribution level that, while not under the direct control of the Transmission Operator, play a vital role in supporting voltages on the transmission system. This transmission and distribution level analysis also may assist in determining the proper transmission and generator transformer step-up tap settings to optimize voltage and reactive performance for an upcoming period. Thus, this analysis helps the Transmission Operator satisfy Requirement R11.

Therefore, in order to meet the intent of Requirements R2, R9.1 and R11 in particular, technical study in the long-range and seasonal horizons provided by the Transmission Planner coupled with analysis and feedback provided by the Transmission Operator in the operating horizons is needed. This combination provides the technical foundation that results in the

determination of a voltage schedule to be maintained at buses across the transmission system, that includes generator buses in real-time to ensure the system can be operated within limits in normal and contingency conditions.

Lastly, in the NOPR discussion, the Commission raises concern that the interpretation suggests that the standard does not require a sound engineering basis to establish voltage schedules and reflects on the interpretation language to support its assertion. Upon consideration of the interpretation, NERC agrees that the interpretation states:

[s]ince 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 ‘[e]ach Transmission Operator shall specify a voltage or Reactive Power schedule’ and that ‘[t]he 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....’¹³

However, NERC reiterates that the interpretation request refers to the language in Requirement R4. Therefore, the interpretation language would benefit from more specificity in stating that Requirement R4 in the standard does not explicitly require a technically-based, reasonable, and practical voltage schedule, and not the entire VAR-001-1 standard. As NERC has shown herein this is clearly not the case.

For these reasons, NERC believes the interpretation of Requirement R4 is appropriate given the context of the other requirements in VAR-001-1 and in better understanding the role that R4 has in contributing to the reliability objective of the standard. Requirements R2 and R8 through R12 require the Transmission Operator to establish the technical foundation that then manifests itself in a voltage or reactive output schedule that the Transmission Operator provides to the Generator Operator. Hence, there must be a technical basis for the voltage of reactive

¹³ Petition at 11.

output schedule mandated in Requirement R4 but one that is not explicit in the language of the Requirement R4 itself; rather, the need for technical support is provided the in other requirements in VAR-001-1, that collectively serve to achieve the reliability objective of the VAR-001-1 reliability standard. However, because the Dynegy interpretation request is narrowly focused on the language in Requirement R4 itself, the interpretation properly addresses the request.

On this basis, NERC requests the Commission to reconsider its proposed action to remand the interpretation to Requirement R4 of VAR-001-1 and approve it as filed based on the discussion herein.

V. CONCLUSION

NERC respectfully requests that the Commission adopt a final rule consistent with the comments set forth herein.

Respectfully submitted,

/s/ Rebecca J. Michael

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CERTIFICATE OF SERVICE

I hereby certify that I have served a copy of the foregoing document upon all parties listed on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 7th day of January, 2009.

/s/ Rebecca J. Michael

Rebecca J. Michael

*Attorney for North American Electric
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