AGENCY: Federal Energy Regulatory Commission

ACTION: Final Rule.

SUMMARY: On November 17, 2009, the North American Electric Reliability Corporation (NERC) submitted a petition requesting approval of NERC’s interpretation of Requirement R1.3.10 of Commission-approved transmission planning Reliability Standard TPL-002-0 (System Performance Following Loss of a Single Bulk Electric System Element). In a March 2010 Notice of Proposed Rulemaking (NOPR), the Commission proposed to reject NERC’s proposed interpretation, and instead proposed an alternative interpretation of Requirement R1.3.10 of Reliability Standard TPL-002-0. As a result of the comments received in response to the proposal, the Commission declines to adopt the NOPR proposal and approves NERC’s proposed interpretation. In addition, as proposed by several commenters, the Commission directs NERC and Commission staff to initiate a process to identify any reliability issues, as discussed below.

EFFECTIVE DATE: This rule will become effective 30 days after publication in the Federal Register.

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SUPPLEMENTARY INFORMATION:
1. On November 17, 2009, the North American Electric Reliability Corporation (NERC) submitted a petition requesting approval of NERC’s interpretation of Requirement R1.3.10 of Commission-approved transmission planning Reliability Standard TPL-002-0 (System Performance Following Loss of a Single Bulk Electric System Element). In a March 2010 Notice of Proposed Rulemaking (NOPR), the Commission proposed to reject NERC’s proposed interpretation, and instead proposed an alternative interpretation of Requirement R1.3.10 of Reliability Standard TPL-002-0. As a result of the comments received in response to the proposal, the Commission declines to adopt the NOPR proposal and approves NERC’s proposed interpretation of Requirement R1.3.10 of Reliability Standard TPL-002-0. In addition, as proposed by

1 Interpretation of Transmission Planning Reliability Standards, 75 FR 14386 (March 25, 2010), FERC Stats. & Regs. ¶ 32,655 (2010).
several commenters, the Commission directs NERC and Commission staff to initiate a process to identify any reliability issues, as discussed below.

I. **Background**

2. Section 215 of the Federal Power Act (FPA) requires a Commission-certified Electric Reliability Organization (ERO) to develop mandatory and enforceable Reliability Standards, which are subject to Commission review and approval.² Specifically, 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.³ Once approved, the Reliability Standards may be enforced by the ERO, subject to Commission oversight, or by the Commission independently.⁴

3. Pursuant to section 215 of the FPA, the Commission established a process to select and certify an ERO,⁵ and subsequently certified NERC.⁶ On April 4, 2006, NERC

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³ *Id.* 824o(d)(2).

⁴ *Id.* 824o(e)(3).


submitted to the Commission a petition seeking approval of 107 proposed Reliability Standards. On March 16, 2007, the Commission issued a final rule, Order No. 693, approving 83 of the 107 Reliability Standards, including transmission planning Reliability Standards TPL-001-0 through TPL-004-0. In addition, pursuant to section 215(d)(5) of the FPA, the Commission directed NERC to develop modifications to 56 of the 83 approved Reliability Standards, including TPL-002-0.

4. NERC’s Rules of Procedure provide that a person that is “directly and materially affected” by Bulk-Power System reliability may request an interpretation of a Reliability Standard. In response, the ERO will assemble a team with relevant expertise to address the requested interpretation and also form a ballot pool. NERC’s Rules of Procedure provide that, within 45 days, the team will draft an interpretation of the reliability standard and submit it to the ballot pool. If approved by the ballot pool and subsequently by the NERC Board of Trustees, the interpretation is appended to the Reliability Standard and filed with the applicable regulatory authorities for approval.

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8 16 U.S.C. 824o(d)(5).

9 Order No. 693, FERC Stats & Regs. ¶ 31,242 at P 1797.

II. Transmission Planning Reliability Standards

5. Each of the TPL Reliability Standards, TPL-001-0 through TPL-004-0, requires the planning authorities and transmission planners (planner) to provide a “valid assessment” that would “ensure that reliable systems are developed that meet specified performance requirements” both in the near-term (years one through five) and in the longer-term (years six through ten, or as needed). For each of these TPL Reliability Standards, entities must adequately assess a range of operating conditions on their systems and plan to meet certain performance criteria that the TPL Reliability Standards specify for each of four classes of contingencies.\textsuperscript{11} The principles that planners must apply to the design of the assessment and of the supporting studies are set forth in the Requirements of the specific TPL Reliability Standard.

6. Table I, which is incorporated into each of the TPL Reliability Standards, sets forth the different types of contingencies that planners must study in conjunction with critical system conditions. The performance that must be met before and after experiencing those contingencies is also defined in the Table I, including reliably meeting all projected customer demand and firm transfers for Category B contingencies.

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\textsuperscript{11} Reliability Standards TPL-001-0 through TPL-004-0 each includes the same Table I, titled “Transmission System Standards – Normal and Emergency Conditions,” which identifies the classes of contingencies as Category A through Category D. Reliability Standard TPL-002-0 addresses Category B contingencies.
7. Requirement R1 of Reliability Standard TPL-002-0 states:

R1. The Planning Authority and Transmission Planner shall each demonstrate through a valid assessment that its portion of the interconnected transmission system is planned such that the Network can be operated to supply projected customer demands and projected Firm (non-recallable reserved) Transmission Services, at all demand levels over the range of forecast system demands, under the contingency conditions as defined in Category B.\[^{12}\] To be valid, the Planning Authority and Transmission Planner assessments shall:

8. Requirement R1 proceeds with sub-Requirements R1.1 through R1.5, which provide the criteria that must be met to qualify the assessment directed by Requirement R1 as valid. In particular, Requirement R1.3 mandates that the assessment shall be supported by a current or past study and/or system simulation testing that addresses each of the following categories, showing system performance following Category B. The specific elements selected (from each of the following categories) for inclusion in these studies and simulations shall be acceptable to the associated Regional Reliability Organization(s).

\[^{12}\] Category B contingencies are defined in Table I of the Reliability Standard.
Further, Requirement R1.3.10 requires the planner to

[i]nclude the effects of existing and planned protection systems,

including any backup or redundant systems.

III. NERC Proposed Interpretation

9. In the NERC Petition, NERC explained that it received a request from PacifiCorp for an interpretation of Reliability Standard TPL-002-0, Requirement R1.3.10, addressing three specific questions. The PacifiCorp questions and NERC interpretations were as follows:

**Question 1**: Does TPL-002-0 R1.3.10 require that all elements that are expected to be removed from service through normal operation of the protection systems be removed in simulations?

**Response 1**: TPL-002-0 requires that System studies or simulations be made to assess the impact of single Contingency operation with Normal Clearing. TPL-002-0, R1.3.10 does require that all elements expected to be removed from service through normal operations of the Protection Systems be removed in simulations.

**Question 2**: Is a Category B disturbance limited to faults with [N]ormal [C]learing where the protection system operates as designed in the time expected with proper functioning of the protection system(s) or do Category B disturbances extend to protection system misoperations and failures?
Response 2: This standard does not require an assessment of the Transmission System performance due to a Protection System failure or Protection System misoperation. Protection System failure or Protection System misoperation is addressed in TPL-003-0 — System Performance following Loss of Two or More Bulk Electric System Elements (Category C) and TPL-004-0 — System Performance Following Extreme Events Resulting in the Loss of Two or More Bulk Electric System (BES) Elements (Category D).

Question 3: Does TPL-002-0, R1.3.10 require that planning for Category B [C]ontingencies assume a [C]ontingency that results in something other than a [N]ormal [C]learing event even though the TPL-002-0 Table I - Category B matrix uses the phrase "SLG or 3-Phase Fault, with Normal Clearing?"

Response 3: TPL-002-0, R1.3.10 does not require simulating anything other than Normal Clearing when assessing the impact of a Single Line Ground (SLG) or 3-Phase (3Ø) Fault on the performance of the Transmission System.\(^{13}\)

\(^{13}\) NERC Petition at 10. In support for its request for an interpretation, PacifiCorp states that “[i]f TPL-002-0, R1.3.10 requires that planning for Category B Contingencies must assume failure or misoperation of all existing and planned protection systems, protection system failures previously identified as Category C [ ] Contingencies or Category D [ ] Contingencies would now become Category B Contingencies ....” Id. at Appendix A at 1-2.
10. In support of its request for approval, NERC stated that the proposed interpretation directly supports the reliability purpose of TPL-002-0 because it clarifies what is required for the “System simulations” cited in the main requirement without expanding the reach of the standard.\textsuperscript{14} NERC maintained that the proposed interpretation clearly identifies what needs to be done – that all elements expected to be removed from service through normal operation of the protection system must be removed in simulations and that only normal clearing is required in the simulations. NERC stated that the proposed interpretation clearly distinguishes that misoperations and failures of the protection system are not part of Reliability Standard TPL-002-0, but are addressed in other standards. NERC stated that the interpretation will result in ensuring that an adequate level of reliability for the Bulk-Power System will be achieved and maintained by providing clarity and certainty in support of the objective.

IV. Commission NOPR

11. The Commission proposed to reject NERC’s proposed interpretation and proposed an alternative interpretation. The Commission’s proposed interpretation would have required modeling of the non-operation of non-redundant primary protection systems to be in compliance with Requirement R1.3.10 of Reliability Standard TPL-002-0. In the NOPR, the Commission stated that a planner would perform an assessment of its portion of the interconnected transmission system through computer modeling and simulations,

\textsuperscript{14} Id. at 11.
in which the planner first creates base cases. Using these base cases as a starting point, the planner then assesses the performance of the system and tests the base cases by subjecting them to various Category B Contingencies outlined in Table I with normal clearing. The Commission’s proposed interpretation would have found that Requirement R1.3.10 of TPL-002-0 requires planners to study, in their system assessments, the non-operation of non-redundant primary protection systems in order to ascertain whether and how reliance on the as-designed backup or redundant protection systems affects reliability.\footnote{Interpretation of Transmission Planning Reliability Standards, FERC Stats. & Regs. ¶ 32,655, at P 15 (2010).}

12. The Commission proposed that its interpretation of R1.3.10 of Reliability Standard TPL-002-0 would apply prospectively from the effective date of any Final Rule and no entity will be subject to financial penalties for having operated in a manner inconsistent with this proposed interpretation prior to the effective date of any Final Rule.

V. Comments

13. Twenty-seven entities provided comments on the Commission’s proposed interpretation.\footnote{A list of commenters is provided in Appendix 1.} Almost uniformly, comments support NERC’s proposed interpretation.\footnote{Commenters including NERC, Trade Associations (Edison Electric Institute, American Public Power Association, National Rural Electric Cooperative Association, Electric Power Supply Association, Transmission Access Policy Study Group, and Canadian Electricity Association), Florida Reliability Coordinating Council and others}
protection system is not studied under TPL-002-0, but rather under TPL-003-0 and TPL-004-0 as an unplanned event with delayed clearing. Commenters contend that only planned protection system outages (maintenance outages) should be addressed under TPL-002-0. In addition, commenters assert that the Commission’s interpretation would require the installation of fully redundant protection systems at an estimated cost of $24 billion and require significant construction efforts spanning 10 to 20 years.

Commenters contend that TPL-002-0 relates to Normal Clearing and not Delayed Clearing in which a protection system failure has occurred or fails to operate.

indicate support for NERC’s interpretation of Requirement R1.3.10 of TPL-002-0. In contrast, the International Transmission Companies (ITC) commented that the Commission’s proposal “establishes an additional level of good utility practice” and “is a reasonable and rational approach to evaluate system consequences, under Requirement R1.3.10 of TPL-002-0, regarding element outages and clearing times associated with non-operation of the primary protection system.” However, given the corrective actions that would be required to comply with the Commission’s proposal, ITC requests that the Commission allow an appropriate amount of time for compliance.

18 See, e.g., NERC comments at 7-8; Trade Association Comments at 19-23.

19 Planned outages are modeled as one of the base case conditions (categories) and studied to achieve the performance requirements of Category B (single contingencies), Table I. Protection system failures are addressed by performance requirements of Category C (two or more contingencies) and misoperations are addressed by Category D (extreme events).

20 Requirement R.1.3.12 of TPL-002-0 requires the planner to consider the planned (including maintenance) outage of protection systems at demand levels for which such outages are performed.

21 See Trade Associations comments at 31-34.
14. NERC explains that the pre-2007 voluntary transmission planning standard was broken into four mandatory Version 0 Standards linked by the performance categories of Table I. Thus, according to NERC, some continuity was lost and, as a result, sub-requirements such as Requirement R1.3.10 that appear in TPL-002-0 through TPL-004-0 have very limited applicability in the context of TPL-002-0. NERC explains that Requirement R1.3.10 of TPL-002-0 is a valid requirement for judging system performance, but only in those cases where the system is being studied to determine its ability to perform when a given primary protection system or one of its components is out of service for maintenance (Requirement R1.3.12).

A. Supplemental Comments

15. The Trade Associations submitted supplemental comments, with additional comments in support filed by NERC. The Trade Associations reiterate their request that the Commission approve, without change, NERC’s proposed interpretation of Reliability Standard TPL-002-0 Requirement R1.3.10. The Trade Associations also state that, based on outreach meetings with Commission staff, there may be a system protection issue that merits further exploration by technical experts. Thus, the Trade Associations suggest that the Commission take the following two actions. First, instruct Commission Reliability Staff to meet with NERC and its appropriate subject matter experts to: (a) explore Staff’s concerns and identify whether there is a further system protection issue warranting additional actions, and (b) if so, define the issue’s scope and assess its importance. The Trade Associations state such exchange of views among technical experts would be intended to facilitate the subject matter experts’ ability to recommend appropriate actions.
within NERC. Second, direct NERC to submit an informational filing within six months to explain its view as to whether there is a further system protection issue that needs to be addressed and if so, what forum and process should be used to address that issue and what priority it should be accorded relative to other reliability initiatives planned by NERC. 22

16. NERC supports the Trade Associations’ proposal to give NERC, Commission staff, and technical experts the opportunity to further examine whether there may be a potential system protection issue that needs to be addressed. NERC states that it would make an informational filing with the Commission regarding whether there is a further system protection issue that needs to be addressed and if so, what forum and process should be used to address that issue and what priority it should be accorded relative to other reliability initiatives planned by NERC.

17. NERC requests that the Commission approve the proposed interpretation of Reliability Standard TPL-002-0 Requirement R1.3.10, as filed.

VI. Discussion

18. In the NOPR, the Commission proposed to find that Reliability Standard TPL-002-0, Requirement R1.3.10 requires the study of the non-operation of non-redundant primary protection systems. Based on the comments received, the Commission accepts NERC’s interpretation of TPL-002-0, Requirement R1.3.10, that finds that the

22 Trade Associations Supplemental Comments at 3 (footnote omitted).
requirement does not require the study of non-operation of non-redundant primary protection systems. Because we find NERC’s proposed interpretation to be just and reasonable, we, therefore, decline to adopt the NOPR proposal.

19. We agree with the Trade Associations that there may be a system protection issue that merits further exploration by technical experts. The comments received in response to the Commission’s NOPR and Commission staff outreach discussions indicate that there may have been a misunderstanding that the Commission’s proposed interpretation would have established a full redundancy requirement for all primary protection systems. The Commission clarifies that it did not intend to require full redundancy. Rather, the Commission believes that there is an issue concerning the study of the non-operation of non-redundant primary protection systems; e.g., the study of a single point of failure on protection systems. The Commission agrees with commenters that this issue does not have to be addressed in TPL-002-0, Requirement R1.3.10.

20. Accordingly, consistent with the supplemental comments of the Trade Associations, we direct Commission staff to meet with NERC and its appropriate subject matter experts to explore this reliability concern, including where it can best be addressed, and identify any additional actions necessary to address the matter. Further, we direct NERC to make an informational filing within six months of the date of the issuance of this Final Rule explaining whether there is a further system protection issue that needs to be addressed and, if so, what forum and process should be used to address
that issue and what priority it should be accorded relative to other reliability initiatives planned by NERC.  

VII. Information Collection Statement

21. The Office of Management and Budget (OMB) regulations require that OMB approve certain reporting and recordkeeping (collections of information) imposed by an agency. The information contained here is also subject to review under section 3507(d) of the Paperwork Reduction Act of 1995.

22. As stated above, the Commission previously approved, in Order No. 693, the Reliability Standard that is the subject of the current Final Rule. This Final Rule accepts an interpretation of the currently approved Reliability Standard and does not change this standard. The interpretation of the current Reliability Standard at issue in this final rule is not expected to change the reporting burden or the information collection requirements. The informational filing required of NERC is part of currently active collection FERC-725 and does not require additional approval by OMB.

23. We will submit this final rule to OMB for informational purposes only.

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23 This filing requirement has been approved by the Office of Management and Budget under FERC-725, OMB Control No. 1902-0225. This filing does not change the existing burden or reporting requirements imposed on NERC under FERC-725.

24 5 CFR 1320.11.

25 44 U.S.C. 3507(d).

26 See supra n.23.
24. Interested persons may obtain information on the reporting requirements by contacting the following: Federal Energy Regulatory Commission, 888 First Street, NE Washington, DC 20426 [Attention: Ellen Brown, Office of the Executive Director, e-mail: data.clearance@ferc.gov, phone: (202) 502-8663, or fax: (202) 273-0873].

VIII. Environmental Analysis

25. The Commission is required to prepare an Environmental Assessment or an Environmental Impact Statement for any action that may have a significant adverse effect on the human environment. The Commission has categorically excluded certain actions from this requirement as not having a significant effect on the human environment. Included in the exclusion are rules that are clarifying, corrective, or procedural or that do not substantially change the effect of the regulations being amended. The actions proposed herein fall within this categorical exclusion in the Commission’s regulations.

IX. Regulatory Flexibility Act

26. The Regulatory Flexibility Act of 1980 (RFA) generally requires a description and analysis of final rules that will have significant economic impact on a substantial number of small entities. The RFA mandates consideration of regulatory alternatives that

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accomplish the stated objectives of a proposed rule and that minimize any significant economic impact on a substantial number of small entities. The Small Business Administration’s (SBA) Office of Size Standards develops the numerical definition of a small business.\textsuperscript{30} The SBA has established a size standard for electric utilities, stating that a firm is small if, including its affiliates, it is primarily engaged in the transmission, generation and/or distribution of electric energy for sale and its total electric output for the preceding twelve months did not exceed four million megawatt hours.\textsuperscript{31} The RFA is not implicated by this Final Rule because the interpretation accepted herein does not modify the existing burden or reporting requirements. With no changes to the Reliability Standard as approved, the Commission certifies that this Final Rule will not have a significant economic impact on a substantial number of small entities.

\textbf{X. Document Availability}

27. In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the Internet through FERC's Home Page (http://www.ferc.gov) and in FERC's Public Reference Room during normal business hours (8:30 a.m. to 5:00 p.m. Eastern time) at 888 First Street, NE, Room 2A, Washington DC 20426.

\textsuperscript{30} 13 CFR 121.201.

\textsuperscript{31} Id. n.1.
28. From FERC's Home Page on the Internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number excluding the last three digits of this document in the docket number field.

29. User assistance is available for eLibrary and the FERC’s website during normal business hours from FERC Online Support at (202) 502-6652 (toll free at 1-866-208-3676) or email at ferconlinesupport@ferc.gov, or the Public Reference Room at (202) 502-8371, TTY (202) 502-8659. E-mail the Public Reference Room at public.referenceroom@ferc.gov.

XI. Effective Date and Congressional Notification

30. This final rule is effective 30 days from publication in Federal Register. The Commission has determined, with the concurrence of the Administrator of the Office of Information and Regulatory Affairs of OMB that this rule is not a “major rule” as defined in section 351 of the Small Business Regulatory Enforcement Fairness Act of 1996.

List of subjects in 18 CFR Part 40

Applicability
Mandatory Reliability Standards
Availability of Reliability Standards

By the Commission.

(S E A L )

Kimberly D. Bose,
Secretary.
Appendix 1
List of Commenters

American Transmission Company LLC
Avista Corporation
Black Hills Power, Inc.
Bonneville Power Administration
Constellation Energy Group, Inc.\textsuperscript{32}
Department of Interior, Office of Environmental Policy and Compliance
Entergy Services, Inc.
Exelon Corporation
Florida Reliability Coordinating Council
Independent Electricity System Operator and Hydro One Networks
International Transmission Company\textsuperscript{33}
ISO/RTO Council
Kansas City Power & Light Company, KCP&L Greater Missouri Operations Company
Manitoba Hydro
Modesto Irrigation District
National Grid
New England States Committee on Electricity
North American Electric Reliability Corporation
Pacific Gas and Electric Company
Public Power Council\textsuperscript{34}

\textsuperscript{32} Baltimore Gas & Electric Company, Constellation Energy Commodities Group, Inc., Constellation Energy Control and Dispatch, LLC, Constellation NewEnergy, Inc., and Constellation Power Source Generation, Inc., and Constellation Energy Nuclear Group, LLC.

\textsuperscript{33} ITCTransmission, Michigan Electric Transmission Company, LLC, ITC Midwest LLC, and ITC Great Plains, LLC.

List of Commenters Continued

Reliability First Corporation
San Diego Gas & Electric Company
Southern Company Services, Inc.\(^{35}\)
Trade Associations\(^{36}\)
Tampa Electric Company
Virginia Electric and Power Company, doing business as Dominion Virginia Power
Wisconsin Electric Power Company


\(^{36}\) The Trade Association includes the Edison Electric Institute, the American Public Power Association, Canadian Electricity Association, the National Rural Electric Cooperative Association, the Transmission Access Policy Study Group, and the Electric Power Supply Association.