

137 FERC ¶ 61,123
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;
Philip D. Moeller, John R. Norris,
and Cheryl A. LaFleur.

North American Electric Reliability Corporation

Docket No. RD11-10-000

ORDER APPROVING RELIABILITY STANDARD

(Issued November 17, 2011)

1. The North American Electric Reliability Corporation (NERC) filed a petition requesting approval, pursuant to section 215(d)(1) of the Federal Power Act (FPA) and section 39.5 of the Commission's regulations,¹ of Reliability Standard FAC-008-3 (Facility Ratings), the associated Violation Risk Factors (VRF) and Violation Severity Levels (VSL), and retirement of Reliability Standards FAC-008-1 (Facility Ratings Methodology) and FAC-009-1 (Establish and Communicate Facility Ratings). Reliability Standard FAC-008-3 presents clear, measurable, and enforceable Requirements that obligate transmission owners and generator owners to develop facility ratings methodologies for its facilities. Reliability Standard FAC-008-3 combines currently effective standards FAC-008-1 and FAC-009-1 into a single standard.

2. As discussed in this order, we approve Reliability Standard FAC-008-3 and the retirement of FAC-008-1 and FAC-009-1. We also approve the associated VRFs with one modification, and approve the associated VSLs. The new Reliability Standard, FAC-008-3 will be effective, and Reliability Standards FAC-008-1 and FAC-009-1 will be retired on the first day of the first calendar quarter that is twelve months after issuance of this order, as requested by NERC.

I. Background

A. EPAAct 2005 and Mandatory Reliability Standards

3. Section 215 of the FPA requires a Commission-certified Electric Reliability Organization (ERO) to develop mandatory and enforceable Reliability Standards, which

¹ 16 U.S.C. § 824o(d)(2) (2006) and 18 C.F.R. § 39.5 (2011).

provide for the reliable operation of the Bulk-Power System, subject to Commission review and approval.² Section 215(d)(2) of the FPA states that the Commission may approve, by rule or order, a proposed Reliability Standard or modification to a Reliability Standard if it determines that the Reliability Standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest. Once approved, the Reliability Standards may be enforced by the ERO, subject to Commission oversight, or by the Commission independently.³ On February 3, 2006, the Commission issued Order No. 672 to implement the requirements of section 215 of the FPA governing electric reliability.⁴ In July 2006, the Commission certified NERC as the ERO.⁵

4. On March 16, 2007, the Commission issued Order No. 693 approving 83 Reliability Standards proposed by NERC, including Reliability Standard FAC-008-1.⁶ In Order No. 693, the Commission also directed the ERO to modify Reliability Standard FAC-008-1 to: (1) document underlying assumptions and methods used to determine normal and emergency facility ratings; (2) develop facility ratings consistent with industry standards developed through an open, transparent and validated process, and (3) for each facility, identify the limiting component and, for critical facilities, the resulting increase in rating if that component is no longer limiting.⁷

² 16 U.S.C. § 824o(d)(2) (2006).

³ *See id.* § 824o(e)(3).

⁴ *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, FERC Stats. & Regs. ¶ 31,204, *order on reh'g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

⁵ *North American Electric Reliability Corp.*, 116 FERC ¶ 61,062, *order on reh'g and compliance*, 117 FERC ¶ 61,126 (2006), *order on compliance*, 118 FERC ¶ 61,030, *order on clarification and reh'g*, 119 FERC ¶ 61,046 (2007), *aff'd sub nom. Alcoa Inc. v. FERC*, 564 F.3d 1342 (D.C. Cir. 2009).

⁶ *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, FERC Stats. & Regs. ¶ 31,242, at P 736, *order on reh'g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

⁷ Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 771.

B. NERC Filing

5. On June 15, 2011, NERC filed a petition requesting approval of Reliability Standard FAC-008-3, the associated VRFs and VSLs for this Reliability Standard, and retirement of Reliability Standards FAC-008-1 and FAC-009-1. NERC states that it developed Reliability Standard FAC-008-3 using the NERC Reliability Standards Development Procedure, and further states that FAC-008-3 addresses all three Commission directives from Order No. 693. Proposed Reliability Standard FAC-008-3 was approved by the NERC Board of Trustees.

6. NERC states that FAC-008-3 addresses the important reliability goal of improving uniformity and transparency in the facility ratings process. NERC avers that the Reliability Standard presents clear, measurable, and enforceable requirements that each transmission owner develop facility ratings methodologies for its facilities, which are essential for the determination of system operating limits.⁸ NERC further states that FAC-008-3 requires transmission owners and generator owners to document underlying assumptions and methods used to determine normal and emergency facility ratings. NERC maintains that this added transparency will allow customers, regulators and other affected users, owners, and operators of the Bulk-Power System to understand how facility owners set facility ratings through differing methods that provide equivalent results. NERC notes that FAC-008-3 requires transmission owners and generator owners to make their facility ratings documentation and methodologies available for inspection and technical review, thereby contributing to the important reliability goal of improving uniformity and transparency in the facility ratings process.

7. NERC describes each of the eight FAC-008-3 Requirements as follows.⁹

- Requirement R1 establishes the documentation requirements placed upon a generator owner for determining the facility ratings of its solely and jointly owned generator facility(ies).

⁸ NERC defines System Operating Limits as “The value (such as MW, MVar, Amperes, Frequency or Volts) that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria. System Operating Limits are based upon certain operating criteria.” *Glossary of Terms Used in NERC Reliability Standards* at 42, updated Aug. 4, 2011, available at: http://www.nerc.com/files/Glossary_of_Terms_2011August4.pdf (NERC Glossary) (examples of the operating criteria omitted).

⁹ NERC Petition at 18-20.

- Requirement R2 requires each generator owner to have a documented methodology for determining facility ratings of its solely and jointly owned equipment connected between the location specified in Requirement R1 and the point of interconnection with the transmission owner.
- Requirement R3 requires each transmission owner to have documented methodology for determining facility ratings (Facility Ratings Methodology) of its solely and jointly owned Facilities.
- Requirement R4, which is carried over from Requirement R2 of the currently-effective FAC-008-1 standard, requires each entity to make its documentation and methodology available to other reliability entities for inspection and technical review.
- Requirement R5 revises the currently-effective FAC-008-1, Requirement R3, and requires generator owners and transmission owners that receive comments from another entity as a result of that entity's technical review of a transmission owner's facility ratings methodology or generator owner's documentation for determining its facility ratings and its facility rating methodology, to respond to the commenting entity within 45 calendar days of receipt of those comments. The response must indicate whether a change will be made to the facility ratings methodology and, if no change will be made, the reasons for that decision.
- Requirement R6 carries forward currently-effective FAC-009-1, Requirement R1, and requires that the generator owner and transmission owner also establish facility ratings for their solely and jointly owned facilities that are consistent with the associated facility rating methodology or documentation for determining their facility ratings.
- Requirement R7 provides that the ratings must be provided to other entities as specified in the requirements.
- Requirement R8 requires the identification and documentation of the limiting component for all facilities and the increase in rating if that component were no longer the limiting component, i.e., the rating for the second most limiting component, for facilities associated with an

Interconnection Reliability Operating Limit,¹⁰ a limitation of Total Transfer Capability, an impediment to generator deliverability, or an impediment to service to a major load center.

- Requirement R8 requires entities to provide information to requesting entities regarding their facilities. Sub-requirement R8.1 requires an entity to provide the identity of the most limiting equipment of a facility as well as the facility rating to requesting entities. Sub-requirement R8.2 requires the identity of the next most limiting equipment of a facility as well as the thermal rating of that equipment.

8. NERC states that proposed Reliability Standard FAC-008-3 addresses the three directives in Order No. 693 related to FAC-008-1. In response to the first directive, that the Reliability Standard document underlying assumptions and methods used to determine normal and emergency facility ratings, FAC-008-3 requires transmission owners and generator owners to document underlying assumptions and methods used to determine normal and emergency facility ratings. NERC notes this added transparency will allow customers, regulators, and other affected users, owners, and operators of the Bulk-Power System to understand how facility owners set facility ratings through differing methods that provide equivalent results. Additionally, NERC states FAC-008-3 requires transmission owners and generator owners to make their facility ratings documentation and methodologies available for inspection and technical review, which will improve uniformity and transparency in the facility ratings process.

9. In response to the second Order No. 693 directive that facility ratings be developed consistent with industry standards developed through an open, transparent, and validated process, proposed Reliability Standard FAC-008-3 requires that the methodology used to establish the facility ratings of the equipment that comprises the facilities be consistent with at least: (1) ratings provided by equipment manufacturers or obtained from equipment manufacturer specifications such as nameplate rating; (2) one or more industry standards developed through an open process such as the Institute of Electrical and Electronic Engineers (IEEE) or International Council on Large Electric Systems (CIGRE); or (3) a practice that has been verified by testing, performance history, or engineering analysis. NERC states that these requirements will ensure that a

¹⁰ NERC defines Interconnection Reliability Operating Limit as “A System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading Outages that adversely impact the reliability of the Bulk Electric System.” *NERC Glossary* at 24.

methodology chosen by a facility owner is consistent with industry standards developed through an open, transparent, and validated process.

10. Finally, to address the third Order No. 693 directive, that for each facility, the limiting component be identified and, for critical facilities, the resulting increase in rating if that component is no longer limiting, FAC-008-1 is modified to require transmission owners and generator owners to calculate the increase in rating if the first-limiting element is removed only for those facilities for which thermal ratings cause: (1) an Interconnection Reliability Operating Limit; (2) a limitation of Total Transfer Capability; (3) an impediment to generation deliverability; or (4) an impediment to service to major cities or load pockets. NERC states that the standard drafting team interpreted this directive to allow reliability entities to take rating information and prepare operating plans or planning assessments prior to real-time, which could allow for better situational awareness and improved reliability of the bulk electric system.

11. The proposed effective date for mandatory compliance with proposed Reliability Standard FAC-008-3 is the first day of the first calendar quarter that is twelve months following the effective date of Commission approval. NERC states that this effective date will allow applicable entities adequate time to develop the documentation and other evidence necessary to exhibit compliance with the standard.

12. Finally, NERC states that proposed Reliability Standard FAC-008-3 includes clear and understandable consequences for a violation by assigning a VRF and VSL to each main requirement. With respect to the VSL assignments for FAC-008-3, for each Requirement in FAC-008-3, NERC carried forward the approved VSLs from the corresponding Requirements in FAC-008-1 and FAC-009-1.

13. With respect to the VRF assignments for FAC-008-3, NERC assigned a VRF to each main Requirement. The VRFs assigned to Requirements R4 through R8 are carried forward from the approved VRFs for the corresponding Requirements from Reliability Standards FAC-008-1 and FAC-009-1. Requirements R1 through R3 of FAC-008-3, correspond to Requirement R1 of currently effective Reliability Standard FAC-008-1. NERC developed VRFs for proposed FAC-008-3, Requirements R1 through R3 that vary from the currently approved VRFs assigned to FAC-008-1, Requirement 1 and its sub-requirements. NERC states that FAC-008-3, Requirements R1 and R2, which apply to generator owners and radial facilities only are planning-related requirements, are administrative in nature and, if violated, would not under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. Accordingly, NERC proposes these two Requirements be assigned a VRF of "Lower." FAC-008-3, Requirement 3 which pertains to transmission owners, is assigned a VRF of "Medium" consistent with the existing approved VRF for Sub-requirements R1.1 through R1.2.2 of FAC-008-1.

II. Notice of Filing and Comments

14. Notice of NERC's Filing was published in the *Federal Register*, 76 Fed. Reg. 53,119 (2011), with interventions and protests due on or before September 16, 2011. American Municipal Power, Inc. filed a motion to intervene. International Transmission Company d/b/a/ ITC*Transmission*, Michigan Electric Transmission Company, LLC, ITC Midwest LLC, and ITC Great Plains, LLC (ITC Companies) filed comments but did not seek to intervene in this proceeding.

III. Discussion

15. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2011), the timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

16. We approve Reliability Standard FAC-008-3 as just, reasonable, not unduly discriminatory or preferential, and in the public interest. We believe that the modifications are an improvement to the currently-effective Reliability Standard and adequately address the Commission's directives set forth in Order No. 693 that NERC develop certain modifications to FAC-008-1.¹¹ In several instances, NERC developed alternative approaches to address the concerns articulated in Order No. 693. As discussed below, we find that the proposed Reliability Standard, FAC-008-3 adequately addresses the Commission's Order No. 693 directives by providing equally effective and efficient approaches. Below, we discuss three aspects of NERC's filing: (1) normal and emergency ratings; (2) methodology options for developing facility ratings; and (3) requests for facility ratings data.

A. Normal Rating and Emergency Rating Glossary Terms

17. In Order No. 693, the Commission directed the ERO to submit a modification to FAC-008-1 "that requires transmission and generation facility owners to document underlying assumptions and methods used to determine normal and emergency facility ratings."¹² NERC states that this directive is addressed in Requirements R2.4.2 and R3.4.2 of FAC-008-3,¹³ each of which requires that, in developing a documented rating methodology, "the scope of Ratings addressed shall include, as a minimum, both Normal

¹¹ See Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 771.

¹² *Id.* P 739.

¹³ NERC Petition at 10.

and Emergency Ratings.”¹⁴ We find that the above provisions adequately address the Commission’s directive in Order No. 693. Further, the language of Requirements R2.4.2 and R3.4.2 of FAC-008-3 is beneficial because it makes clear that applicable entities must develop documented methods for calculating normal ratings and, separately, emergency ratings; a distinction that may have been somewhat blurred in the past.

B. Methodology Options for Specific Types of Equipment

18. NERC states in its petition that proposed FAC-008-3, Requirement R3.1 achieves the Commission’s Order No. 693 directive that *facility ratings* be based on a “methodology chosen by a facility owner be consistent with industry standards developed through an open process such as IEEE or CIGRE.”¹⁵ A facility rating is determined by the individual equipment rating of the most limiting element that comprises that facility.¹⁶ Requirement R3.1 provides:

The methodology used to establish the Ratings of the equipment that comprises the Facility shall be consistent with at least one of the following:

- Ratings provided by equipment manufacturers or obtained from equipment manufacturer specifications such as nameplate rating.

¹⁴ NERC defines Normal Rating as “[t]he rating as defined by the equipment owner that specifies the level of electrical loading, usually expressed in megawatts (MW) or other appropriate units that a system, facility, or element can support or withstand through the daily demand cycles without loss of equipment life.” NERC defines Emergency Rating as “[t]he rating as defined by the equipment owner that specifies the level of electrical loading or output, usually expressed in megawatts (MW) or Mvar or other appropriate units, that a system, facility, or element can support, produce, or withstand for a finite period. The rating assumes acceptable loss of equipment life or other physical or safety limitations for the equipment involved.” *NERC Glossary* at 17 and 28.

¹⁵ Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 742.

¹⁶ See FAC-008-3, Requirement R3.3. Requirement R3.3 provides that the transmission owner’s documented methodology for determining facility ratings must include a statement that “a Facility Rating shall respect the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility.”

- One or more industry standards developed through an open process such as Institute of Electrical and Electronics Engineers (IEEE) or International Council on Large Electric Systems (CIGRE).
- A practice that has been verified by testing, performance history or engineering analysis.

The Commission believes that Requirement R3 adequately satisfies the Commission's directive in Order No. 693, however, there is one potential application of the new provision that is worthy of discussion. In particular, Requirement R3 allows an applicable entity to determine equipment ratings using manufacturer nameplate ratings, which ratings reflect the manufacturer's design conditions. With regard to the option of using nameplate ratings for setting an equipment rating under Requirement R3.1, the Commission notes that the ERO issued a recommendation to consider actual field conditions when determining facility ratings for transmission facilities in its October 7, 2010 Alert titled "Consideration of Actual Field Conditions in Determination of Facility Ratings."¹⁷ This Alert recommends that recipients review their current facility ratings methodology for their solely and jointly owned transmission lines to verify that the methodology used to determine facility ratings is based on actual field conditions. The Alert further recommends that entities should determine if their facility ratings methodology will produce appropriate ratings, even when considering differences between design and actual field conditions.

C. Request for Facility Ratings Data

19. In their comments, the ITC Companies raise a concern regarding Sub-requirement R8.1, which requires transmission owners and certain generator owners to provide facility ratings and the identity of the most limiting equipment of the facilities, "as scheduled by the requesting entities." The ITC Companies believe the language "as scheduled by the requesting entities" is too open-ended such that there could be repeated and frequent requests for this data. The ITC Companies state this could result in burdensome "nuisance" data requests. The ITC Companies propose revising Sub-requirement R8.1 to make the schedule for ratings requests be mutually agreed between requester and the transmission owner or generator owner rather than solely the requester's schedule.

20. The Commission notes that the phrase "as scheduled by the requesting entities" is virtually identical to language in Requirement R2 of currently effective Reliability

¹⁷ The October 7, 2010 Alert is *available on-line at*:
http://www.nerc.com/fileUploads/File/Events%20Analysis/Ratings_Recommendation_to_Industry_20100929Final.pdf.

Standard FAC-009-1,¹⁸ which requires transmission owners and generator owners to provide facility ratings “as scheduled by such requesting entities.” Requirement R2 of FAC-009-1 has been in effect since October 2006,¹⁹ and the Commission is not aware that the use of similar language in FAC-009-1, Requirement 2 has been a source of concern for applicable entities.²⁰ Thus, we are not persuaded by ITC Companies’ pleading that FAC-008-3, Sub-requirement R8.1 will result in an unreasonable or unmanageable number of requests for facility ratings or the identity of limiting equipment.

21. Based on the foregoing, the Commission finds that Reliability Standard FAC-008-3 is just, reasonable, not unduly discriminatory or preferential, and in the public interest. Accordingly, the Commission approves Reliability Standard FAC-008-3. As requested by NERC, Reliability Standard FAC-008-3 will be effective on the first day of the first calendar quarter twelve months following the date of this order. Concurrent with the effective date of FAC-008-3, Reliability Standards FAC-008-1 and FAC-009-1 shall retire.

D. VRFs and VSLs

22. The Commission also finds that the VSLs assigned to the Reliability Standard FAC-008-3 Requirements are consistent with the Commission’s established guidelines

¹⁸ FAC-009-1, Requirement 2 provides:

R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), and Transmission Operator(s) as scheduled by such requesting entities.

¹⁹ Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 773-774.

²⁰ Based on the development record for FAC-008-3 provided by NERC, it does not appear that the ITC Companies or any other stakeholder raised this issue during the comment periods. The ITC Companies cast affirmative votes to approve FAC-008-3, without comment, in both the initial ballot (April 21, 2011 to May 2, 2011) and the recirculation ballot (May 12, 2011 to May 23, 2011). See NERC Petition, Exhibit E at 845 and 1010.

for review of proposed VSLs.²¹ With respect to the VRF assignments, the Commission approves NERC's proposed VRF designations for FAC-008-3, subject to one modification discussed below.

23. The Commission agrees that the VRFs assigned to FAC-008-3, Requirements R4 through R8 are carried forward from and match the approved VRFs for the corresponding Requirements from Reliability Standards FAC-008-1 and FAC-009-1.²² However, as NERC explained in its filing, while Requirements R1 through R3 of FAC-008-3 correspond to Requirement R1 of currently effective Reliability Standard FAC-008-1, they do not directly align. Thus, NERC developed VRFs for proposed FAC-008-3, Requirements R1 through R3 that vary from the currently approved VRFs assigned to FAC-008-1, Requirement 1 and its sub-requirements. NERC proposes to assign Requirements R1 and R2 a VRF of "Lower," and to assign Requirement 3 a VRF of "Medium."

24. We agree with the "Lower" VRF for Requirement R1 and the "Medium" VRF for Requirement R3. However, we reject NERC's proposed "Lower" VRF for FAC-008-3, Requirement R2. Unlike FAC-008-3, Requirement R1, which applies, generally, to generator facilities behind the main step up transformer,²³ Requirement R2 applies to radial feed facilities which are more likely than "behind-the-transformer" generator facilities to directly affect the electric state of the bulk electric system. Further, while Requirement R1 is a documentation-only requirement, Requirement R2 imposes more than documentation requirements. Specifically, Requirement R2 mandates the provision of the underlying assumptions and methods used to determine the equipment ratings (Sub-requirement R2.2) and the process for determining the equipment rating (Sub-requirement R2.4). Thus, Requirement R2 while a planning requirement is not merely administrative in nature. It therefore falls outside of NERC's definition of "Lower Risk Requirements," which defines a "Lower" Requirement as one that is "administrative in

²¹ See *North American Electric Reliability Corp.*, 123 FERC ¶ 61,284, at P 20-35, *order on reh'g & compliance*, 125 FERC ¶ 61,212 (2008) (VSL Guidance Order).

²² See *North American Electric Reliability Corp.*, 119 FERC ¶ 61,145, *order on reh'g*, 120 FERC ¶ 61,145, at P 8-13 (2007) (VRF Guidance Order).

²³ Specifically, Requirement R1 applies to generator facilities up to the low side terminals of the main step up transformer if the generator owner does not own the main step up transformer, and the high side terminals of the main step up transformer if the generator owner owns the main step up transformer.

nature.”²⁴ The Commission’s VRF guidelines require consistency with NERC’s definition of the VRF level. Accordingly, the Commission directs the ERO to modify the VRF assignment for FAC-008-3, Requirement R2 to “medium” and to submit the modification in a compliance filing within 60 days from the date this order issues.

The Commission orders:

(A) Reliability Standard FAC-008-3, the assigned VSLs, and the implementation plan proposed by NERC are approved, as discussed in this order.

(B) Reliability Standards FAC-008-1 and FAC-009-1 shall be retired upon the effective date of Reliability Standard FAC-008-3, as discussed in the body of this order.

(C) The VRF assignments for Reliability Standard FAC-008-3, Requirements R1, and R3 through R8 are approved. The Commission directs the ERO to modify the VRF for Requirement R2 as discussed in this order.

²⁴ The approved NERC definition for a “lower” VRF designation is as follows:

Lower Risk Requirement: is administrative in nature and (a) is a requirement that, if violated, would not be expected to affect the electrical state or capability of the Bulk-Power System, or the ability to effectively monitor and control the Bulk-Power System; or (b) is a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to affect the electrical state or capability of the Bulk-Power System, or the ability to effectively monitor, control, or restore the Bulk-Power System.

See North American Electric Reliability Corporation, 119 FERC ¶ 61,145, at P 9, order on compliance, 121 FERC ¶ 61,179, at P 2 and Appendix A (2007).

(D) NERC is directed to file a compliance filing within 60 days of the date of this order, as discussed in the body of this order.

By the Commission. Commissioner Spitzer is not participating.

(S E A L)

Kimberly D. Bose,
Secretary.