

I. NOTICES AND COMMUNICATIONS

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

Lauren Perotti
Senior Counsel
North American Electric Reliability
Corporation
1325 G Street, N.W.
Suite 600
Washington, D.C. 20005
202-400-3000
lauren.perotti@nerc.net

Howard Gugel
Vice President of Engineering and
Standards
North American Electric Reliability
Corporation
3353 Peachtree Road, N.E.
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560
howard.gugel@nerc.net

II. NERC COMMENTS

In this submission, NERC provides comments on the following Questions from the Notice:

- Question 1: Discussion of Possible Requirement for Transmission Owners to Implement Ambient Adjusted Ratings (“AARs”)
- Question 4: Discussion of Transparency of Transmission Line Rating Methodologies
- Question 5: Review and Audit Procedures for Transmission Line Rating Practices
- Question 6: NERC Reliability Standards

As requested in the Notice, NERC does not duplicate the content of the written remarks of Howard Gugel, NERC Vice President of Engineering and Standards, previously submitted in this proceeding.³ NERC’s comments are organized by question below.

³ Remarks of Howard L. Gugel, *Managing Transmission Line Ratings Technical Conference*, Docket No. AD19-15-000 (Sep. 10, 2019).

A. Question 1: Discussion of Possible Requirement for Transmission Owners to Implement AARs

NERC provides the following comments on Question 1.a in the Notice:⁴

Should transmission owners be required to implement [ambient-adjusted ratings]? If so, to which lines would the requirement apply? What criteria (e.g., congestion, facility age) and process would be used to determine to which lines the requirement would apply? What would be the benefits or drawbacks to such a requirement?

Under the FAC-008 Reliability Standard, entities that have the technical capability to implement AARs are not prohibited from doing so, so long as they can demonstrate the same level of rigor in the development and consistent usage of their facility ratings methodology. NERC does not believe there is a global reliability benefit to requiring transmission owners to implement AARs. AARs may improve efficiency of existing and new lines, but do not necessarily increase the reliability of those lines. Further, implementing AARs requires transmission owners to agree to changes in ratings on a frequent basis. In NERC's experience, line rating discrepancies have caused significant confusion and undesirable impacts on real-time operations. These, and other considerations highlighted in Mr. Gugel's remarks,⁵ should be considered prior to implementing any mandatory requirement to implement AARs.

B. Question 4: Discussion of Transparency of Transmission Line Ratings

NERC provides the following comments on Question 4.a of the Notice:⁶

Should transmission owners' transmission line rating methodology be made more transparent? If so, how and how much additional transparency? Should underlying assumptions be made available? Should transmission line ratings be made more transparent? If so, how? For both transmission line rating methodologies and resulting ratings, who should have access to such information?

⁴ See Notice at 1.

⁵ See *supra* n.3 at 2-3.

⁶ Notice at 3.

NERC does not believe there is a reliability benefit to increasing the transparency of transmission line rating methodologies, such as through a mandatory Reliability Standard requirement. Previously, the FAC-008 Reliability Standard required transmission operators to submit their rating methodologies to their reliability coordinators and other affected entities, including transmission operators, transmission planners, and planning coordinators, for inspection and technical review (Reliability Standard FAC-008-3 Requirement R4), and to respond in writing to any comments provided on the methodology (Requirement R5). Transmission operators were not required to modify their methodologies following the review process. In 2013, NERC requested the retirement of Requirements R4 and R5 on the basis that the requirements were administrative, provided no benefit to reliability, and had the potential to implicate commercially sensitive issues. FERC approved the proposed retirements in Order No. 788.⁷

NERC also provides Comments on Question 4.b of the Notice:⁸

Should transmission owners or other entities (e.g., NERC regional entities or RTOs/ISOs) be required to develop a database to document each transmission facility's most limiting element? Should limiting elements consider first and second contingency operating conditions? Please describe the burden associated with reporting and maintaining such a database. Who should have access to such a database and what levels of confidentiality protections would need to exist for such a limiting elements database?

Under Reliability Standard FAC-008-3 Requirement R6, transmission owners and applicable generator owners are required to develop and maintain facility ratings for each facility, which are based on identifying the most limiting elements. Other Reliability Standards

⁷ *Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, Order No. 788, 145 FERC ¶ 61,147 (2013).

⁸ Notice at 3.

(see Reliability Standards IRO-010-2 and TOP-003-3) allow the Reliability Coordinator, Transmission Operator, and Balancing Authority to request information as necessary to support its operational planning and real-time functions.⁹ As the data on most limiting elements is already made available to the affected entities as needed to support planning and operations, NERC does not see any reliability benefit to requiring additional distribution, or centralization, of the data.

C. Question 5: Review and Audit Procedures for Transmission Line Rating Practices

NERC provides the following comments on Question 5.a in the Notice:¹⁰

Are the current review and audit procedures for transmission line ratings sufficient to ensure that such transmission line ratings are consistent with the methodology set forth by the transmission owner under FAC-008?

NERC believes that the current review and audit procedures for transmission line ratings are sufficient to ensure that such ratings are consistent with the transmission owner's methodology under Reliability Standard FAC-008-3. The regional entities have made adjustments to their audit approaches in recent years, which appear to be effective. The approach of the ERO Enterprise toward risk-based monitoring has increased the focus on entity controls. Experience in recent years has suggested that, generally, registered entities with strong controls and change management procedures have more accurate ratings. Entities that have not taken

⁹ Presently, Reliability Standard FAC-008-3 requires transmission owners and applicable generators to provide facility ratings and the identity of the most limiting equipment of the facilities upon request or as scheduled. In 2019, NERC submitted proposed Reliability Standard FAC-008-4 for Commission approval. Proposed Reliability Standard FAC-008-4 would retire this requirement (R8), as well as Requirement R7, on the grounds that the information necessary for planning and operations may be obtained through Reliability Standards IRO-010-2, TOP-003-3, and Reliability Standard MOD-032-1. NERC's petition is currently pending. See *Petition of the NERC for Approval of Revised and Retired Reliability Standards under the NERC Standards Efficiency Review*, Docket No. RM19-17-000 at 27-28 (Jun. 7, 2019).

¹⁰ Notice at 3.

meaningful steps to develop strong controls, focus on change management, or validate field conditions with facility ratings databases have been the most prone to discrepancies. To aid in the development of more accurate facility ratings, NERC has endorsed implementation guidance for Reliability Standard FAC-008-3, which includes examples of recommended internal controls for developing accurate facility ratings.¹¹

Given the importance of accurate facility ratings to the reliable operation of the bulk power system, NERC plans to continue its education and outreach activities. NERC is coordinating with the North American Transmission Forum on facility ratings and is planning to conduct a joint outreach activity in early 2020.

NERC also provides comments on Questions 5.b through 5.d of the Notice as follows:¹²

What entities currently review or audit transmission line rating methodologies, assumptions, and values? What standards or criteria do these entities use in their reviews?

For NERC Reliability Standards, the Regional Entities review and audit facility rating methodologies, assumptions, and values in accordance with the standards.

What changes, if any, should be made to the review and audit procedures for transmission line ratings?

NERC does not believe any changes are needed to the review and audit procedures of the ERO Enterprise at this time.

What, if any, changes to information and document retention with respect to transmission line ratings might be needed?

¹¹ Midwest Reliability Organization Standard Application Guide: FAC-008-3 (version 1.1, Mar. 21, 2017) at Appendix A, available on NERC's ERO Endorsed Implementation Guidance page at <https://www.nerc.com/pa/comp/guidance/EROEndorsedImplementationGuidance/FAC-008-3%20Standard%20Application%20Guide.pdf>.

¹² Notice at 3.

NERC does not believe any specific changes are needed to information and document retention with respect to its standards at this time.

D. Question 6: NERC Reliability Standards

NERC provides the following comments on Question 6 of the Notice:

Are there security concerns associated with implementing AARs and [Dynamic Line Ratings] with respect to communicating line ratings and field measurements?

As highlighted in Mr. Gugel's written remarks,¹³ any communication and control channels used for AARs and DLRs would need to be cyber secure. Adulterating real-time facility ratings information could degrade the situational awareness of system operators, potentially affecting the reliable operation of the bulk power system. The information gathered could adversely impact the reliable operation of the bulk electric system within 15 minutes of the activation or exercise of the compromise. If that is the case, entities may be required to apply the protections of the CIP Reliability Standards to the equipment associated with these AAR and DLR systems.

¹³ See *supra* n.3 at 3.

III. CONCLUSION

NERC respectfully requests that these comments be accepted for consideration.

Respectfully submitted,

/s/ Lauren A. Perotti

Lauren A. Perotti
Senior Counsel
North American Electric Reliability Corporation
1325 G Street, N.W., Suite 600
Washington, D.C. 20005
(202) 400-3000
(202) 644-8099 – facsimile
lauren.perotti@nerc.net

*Counsel for the North American Electric
Reliability Corporation*

Date: November 1, 2019

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 1st day of November, 2019.

/s/ Lauren A. Perotti

Lauren A. Perotti

*Counsel for the North American Electric
Reliability Corporation*