UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Managing Transmission Line Ratings	**)**	**Docket No. RM20-16-000**
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COMMENTS OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION IN RESPONSE TO NOTICE OF PROPOSED RULEMAKING

The North American Electric Reliability Corporation ("NERC") hereby provides comments on the Notice of Proposed Rulemaking ("NOPR") regarding transmission line ratings issued by the Federal Energy Regulatory Commission ("FERC" or "Commission") in this proceeding on November 19, 2020.[1] NERC is the Commission-certified electric reliability organization ("ERO") responsible for the development and enforcement of mandatory Reliability Standards.[2]

In the NOPR, the Commission proposes, pursuant to section 206 of the Federal Power Act, to reform the *pro forma* Open Access Transmission Tariff ("OATT") and the Commission's regulations to "improve the accuracy and transparency of transmission line ratings."[3] In providing relevant background, the Commission refers to several currently effective Reliability Standards

[1] Notice of Proposed Rulemaking, *Managing Transmission Line Ratings*, 173 FERC ¶ 61,165 (2020) [hereinafter the NOPR].

[2] The Commission certified NERC as the ERO in 2006. *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61,062 (2006), *order on reh'g and compliance*, 117 FERC ¶ 61,126 (2006), *order on compliance*, 118 FERC ¶ 61,030 (2007), *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).

[3] NOPR at P 1.

relevant to transmission line rating and available transfer capability calculations and methodologies, including the MOD A Reliability Standards approved by the Commission in Order No. 729 and which have since been proposed for retirement,[4] and Reliability Standard FAC-008-3 (Facility Ratings).[5] NERC submits these comments to provide additional considerations with respect to the potential interactions between the Commission's market-related proposals and the Reliability Standards and the need for close and careful coordination in line ratings to avoid negative impacts on the reliability of the Bulk-Power System. NERC respectfully requests that the Commission consider these comments in issuing a final rule in this proceeding.

I. NOTICES AND COMMUNICATIONS

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

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[4] *See* NOPR at PP 13-14. The MOD A Reliability Standards proposed for retirement are: MOD-001-1a (Available Transmission System Capability), MOD-004-1 (Capacity Benefit Margin), MOD-008-1 (Transmission Reliability Margin Calculation Methodology), MOD-028-2 (Area Interchange Methodology), MOD-029-2a (Rated System Path Methodology), and MOD-030-3 (Flowgate Methodology).

[5] *See* NOPR at P 15. Since the issuance of the NOPR, NERC has submitted a new version of the FAC-008 Reliability Standard to the Commission for approval. This new version proposes to retire Requirement R7 of the currently effective standard. *See Petition of NERC for Approval of Proposed Reliability Standard FAC-008-5 – Facility Ratings*, Docket No. RD21-4-000 (Feb. 19, 2021). Relevant to the Commission's discussion in P 114, NERC is no longer proposing to retire Requirement R8 of the currently effective standard following the Commission's remand of proposed Reliability Standard FAC-008-4 in Order No. 873. *See Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards under the NERC Standards Efficiency Review*, Order No. 873, 172 FERC ¶ 61,225 (2020). Reliability Standard FAC-008 Requirement R8 provides that the Transmission Owner shall provide requested Facility Ratings information to its associated Reliability Coordinators, Planning Coordinators, Transmission Planners, Transmission Owners and Transmission Operators. The Transmission Service Provider is not a specified requesting entity under this requirement.

II. SUMMARY OF NOPR PROPOSALS

In the NOPR, the Commission proposes, pursuant to section 206 of the Federal Power Act, to reform the *pro forma* OATT and the Commission's regulations to "improve the accuracy and transparency of transmission line ratings."[6] Specifically, the Commission proposes to require the use of ambient-adjusted line ratings ("AARs")[7] when evaluating shorter-term requests for transmission service (i.e. ten days or less), and the use of seasonal adjusted ratings for longer-term requests (i.e. more than ten days).[8] The Commission proposes to require technical changes that may facilitate greater use of dynamic line ratings in independent system operator ("ISO") and regional transmission organization ("RTO") markets.[9] The Commission also proposes to require transmission owners to share their transmission line ratings and methodologies with other transmission owners and the market monitor of their respective ISO or RTO, if applicable.[10] In addition to these proposals, the Commission seeks comment on: (i) whether transmission line ratings and transmission line rating methodologies should be shared with other transmission providers, upon request;[11] and (ii) whether to require transmission providers to implement unique emergency ratings that would be used during post-contingency operations.[12]

The Commission states these proposals are needed because "the current use of seasonal and static assumptions results in transmission line ratings that do not accurately represent the

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6 NOPR at P 1.

7 The Commission proposes to define an ambient-adjusted line rating, or AAR, as a transmission line rating that: (1) applies to a time period of not greater than one hour; (2) reflects an up-to-date forecast of ambient air temperature across the time period to which the rating applies; and (3) is calculated at least each hour, if not more frequently. *See* NOPR at P 3 n. 3 (*citing* proposed 18 CFR 35.28(b)(10)).

8 NOPR at PP 3, 87.

9 NOPR at PP 5, 82.

10 NOPR at PP 7, 125.

11 NOPR at PP 7, 88.

12 NOPR at PP 6, 111-113.

transfer capability of the transmission system," resulting in resulting in restricted flows and increased congestion costs where such capacity is understated, and potential reliability and safety problems where such capacity is overstated.[13] The Commission also proposes to require additional sharing of transmission line ratings and associated methodologies to avoid having inaccurate ratings which can result in unjust and unreasonable rates.[14]

III. COMMENTS

NERC appreciates the opportunity to provide comments in this proceeding. NERC previously provided comments on the reliability and security aspects of AARs under discussion in the technical conference proceeding and does not duplicate those comments here.[15] NERC reiterates that the reliability of the system depends upon the proper coordination of transmission line ratings, and that special attention must be paid to reliability considerations in the implementation of any market-related reforms adopted by the Commission in this proceeding and the potential interactions with the performance required by currently effective Reliability Standards. As the Commission observes in the NOPR, "Transmission line ratings in reliability models are used to determine operating limits and can affect transmission system operator action, such as curtailment, interruption, or redispatch decisions."[16]

In particular, NERC believes that careful attention must be paid to the reliability aspects of the Commission's proposal to require use of AARs when evaluating requests for near-term transmission service. In the NOPR, the Commission proposes as follows:

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13 NOPR at P 2; *see also* NOPR at PP 38-42.

14 *See* NOPR at P 47.

15 *See Comments of NERC in Response to Notice Inviting Post-Technical Conference Comments*, Docket No. AD19-15-000 (Nov. 1, 2019) and Remarks of Howard L. Gugel, *Managing Transmission Line Ratings Technical Conference,* Docket No. AD19-15-000 (Sep. 10, 2019).

16 NOPR at P 19.

> We propose to require transmission providers to use AARs as the relevant transmission line ratings when (1) evaluating requests for near-term point-to-point transmission service, (2) responding to requests for information on the availability of potential near-term point-to-point transmission service (including requests for A[vailable] T[ransfer] C[apability] or other information related to potential service), and (3) posting ATC or other information related to near-term point-to-point transmission service to…their OASIS site.[17]

The Commission further states:

> We also propose to require that transmission providers use AARs as the relevant transmission line ratings when determining whether to curtail or interrupt point-to-point transmission service (under section 14.7 of the *pro forma* OATT) if such curtailment or interruption is both necessary because of a reduction in transmission capability anticipated to occur (start and end) within the next 10 days. For determining the necessity of curtailment or interruption of point-to-point transmission service in other (beyond 10 days) situations, we propose to require transmission providers to use seasonal line ratings as the relevant transmission line ratings.[18]

Under the NERC Reliability Standards, Facility Ratings,[19] to include transmission line ratings, are important inputs to System Operating Limit methodologies. See, for example, Reliability Standards FAC-010-3 (System Operating Limits Methodology for the Planning Horizon), FAC-011-3 (System Operating Limits Methodology for the Operations Horizon), and FAC-014-2 (Establish and Communicate System Operating Limits). The reliability of the system

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[17] NOPR at P 87. The NERC Glossary defines ATC, or Available Transfer Capability, as "A measure of the transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses. It is defined as Total Transfer Capability less Existing Transmission Commitments (including retail customer service), less a Capacity Benefit Margin, less a Transmission Reliability Margin, plus Postbacks, plus counterflows."
NERC Glossary, available at https://www.energy.gov/sites/prod/files/2017/09/f36/NERC%20Glossary.pdf. *See also* NOPR at P 9 n. 10.

[18] NOPR at P 89.

[19] The NERC Glossary defines Facility Ratings as "The maximum or minimum voltage, current, frequency, or real or reactive power flow through a facility that does not violate the applicable equipment rating of any equipment comprising the facility."

depends on operating the system within its limits, as mandated by the Transmission Operations ("TOP") and Interconnection Reliability Operations and Coordination ("IRO") Reliability Standards. Under Reliability Standard FAC-008-3, Transmission Owners and Generator Owners shall develop Facility Ratings in accordance with a documented Facility Ratings Methodology.

The FAC-008 standard presently requires ambient conditions to be considered in setting Facility Ratings. Operating the system according to System Operating Limits that are artificially low due to incorrect or overly conservative ratings can be harmful to reliability, in that it may dictate system actions to put the Bulk-Power System in an abnormal configuration when it is not necessary. NERC's Reliability Standards would not preclude the use of AARs in developing more accurate line ratings.

NERC, however, believes there may be issues with respect to the implementation of the Commission's NOPR proposals in the broader reliability framework of planning and operating around System Operating Limits that would require careful attention. For example, the NOPR proposes that curtailment decisions use AARs as the relevant transmission line ratings. NERC believes that additional clarity on the application of this proposal in the reliability context may be appreciated, as curtailment may be dictated by Real-time Analysis based on any number of factors influencing System Operating Limits. Other factors may also be critical in such decisions, such as planned outages, generator ramp times, daily load curves, and variable renewable resources.

In issuing a Final Rule in this proceeding, NERC requests that the Commission consider the following:

- whether adjacent ISOs/RTOs would be required to coordinate ambient-adjusted temperature implementation methods since, in some cases, the ambient temperatures used or the methodology could differ on tie lines;
- what would happen if there is disagreement among the entities receiving ratings or methodologies (e.g., would market considerations supersede reliability considerations?);

- when using AARs when evaluating requests for near term point to point transmission service, which temperature set will be used? Use of the expected high temperature for the time period may potentially limit use, while use of the expected low temperature could expose the grid to reliability risk. Should additional information on the setting of AARs should be addressed in the methodology?;

- how variations in both the ambient forecast and load forecast when using "values for each of the 240 hours in the next 10 days for each of their transmission lines"[20] to grant "firm" point-to-point service would be addressed;

- how entities should reconcile AARs used for planning and operations functions and whether Real-time Analysis could be used to adjust these sometimes complex calculations, including calculations for ATC and System Operating Limits; and

- any considerations for implementing the Commission's AAR proposals across long lines that span multiple climates.

Additionally, NERC believes there is the potential for confusion regarding implementation of the Commission's proposal and currently effective MOD A Reliability Standards that should be addressed. Reliability Standard MOD-001-1a (Available Transmission System Capability) Requirement R6 specifies that Total Transfer Capability and Total Flowgate Capability shall be calculated using assumptions no more limiting than those used in planning of operations for the corresponding time period studied.[21] Reliability Standard MOD-001-1a Requirement R9 provides that each Transmission Service Provider shall provide certain data to requesting entities to use in their ATC or AFC calculations, including Facility Ratings data.

Should the Commission adopt its proposal to require AAR be used in the calculation of ATC, there could be confusion between those calculations and the Facility Ratings that are used

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20 *See* NOPR at P 95.

21 Reliability Standard MOD-001-1a Requirement R6 provides:

> When calculating Total Transfer Capability (TTC) or Total Flowgate Capability (TFC) the Transmission Operator shall use assumptions no more limiting than those used in the planning of operations for the corresponding time period studied, providing such planning of operations has been performed for that time period.

for Transmission Operator operations planning around System Operating Limits and Interconnection Reliability Operating Limits. As noted in the NOPR, the Commission has proposed to retire the MOD A Reliability Standards, including MOD-001-1a, pending action on the successor North American Energy Standards Board ("NAESB") business practice standards.[22] NERC believes that the potential confusion described above with respect to these standards can be avoided through the timing of the Commission's actions in the respective proceedings. Nevertheless, the need for careful coordination in line ratings remains to ensure that there are no negative reliability impacts to the Bulk-Power System.

IV. CONCLUSION

NERC respectfully requests that the Commission accept these comments for consideration.

Respectfully submitted,

/s/ Lauren A. Perotti

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Date: March 22, 2021

[22] *See* NOPR at P 14.

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 22nd day of March, 2021.

/s/ Lauren A. Perotti

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Counsel for the North American Electric Reliability Corporation