UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Managing Transmission Line Ratings Docket No. AD19-15-000

NOTICE INVITING POST-TECHNICAL CONFERENCE COMMENTS

(October 2, 2019)

On September 10 and September 11, 2019, Federal Energy Regulatory Commission (Commission) staff convened a technical conference to discuss what transmission line ratings and related practices might constitute best practices, and what, if any, Commission action in these areas might be appropriate.

All interested persons are invited to file initial and reply post-technical workshop comments on any or all of the questions listed in the attachment to this Notice. Commenters may also respond to the questions outlined in the September 4, 2019 supplemental notice of technical conference.[1] Commenters need not answer all of the questions. Commenters should organize responses consistent with the structure of the attached questions. Commenters are also invited to reference material previously filed in this docket, including technical workshop transcripts, but are encouraged to avoid repetition or replication of previous material. Initial comments must be submitted on or before 30 days from the date of this notice. Reply comments must be submitted on or before 15 days after the deadline to submit initial comments.

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[1] Available at https://www.ferc.gov/CalendarFiles/20190904173327-AD19-15-000supplTC.pdf

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Post-Technical Conference Questions for Comment

Commenters may respond to the questions outlined in the September 4, 2019 supplemental notice of technical conference.[2] In addition, based on discussions during the Managing Transmission Line Ratings technical conference, Staff developed the following questions to better understand whether Commission action might be appropriate. To guide discussion, ambient-adjusted ratings (AAR) are defined as ratings that are adjusted daily, hourly, or more frequently and account for ambient air temperatures. Dynamic line ratings (DLRs) are defined as line ratings that are adjusted hourly or more frequently and account for local weather conditions (e.g., ambient temperature, wind, precipitation, solar irradiation) and/or account for conductor parameters (conductor temperature, tension, sag, clearance), typically as measured by local sensors.

1. Discussion of a Possible Requirement for Transmission Owners to Implement AARs

a. Should transmission owners be required to implement AARs? 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?

b. If AARs are required, should they be required for modeling in both the day-ahead and real-time markets?

c. What type of forecasting (e.g., how frequently, how granularly, and of what variables) is needed to incorporate AARs and DLRs into both real-time and day-ahead markets? If forecasts submitted in day-ahead markets differ from the real-time rating, how should the difference be treated by the transmission system operator? Who is liable if forecasted ratings are wrong?

d. Aside from ambient air temperature, are there other ambient conditions that can be forecasted or calculated without need for local sensors that should be considered in AARs? Should maximum possible solar irradiance intensity (conservatively calculated or forecast assuming no cloud cover) be included in calculation of any required AARs? Are there any instances where wind can be conservatively forecast without local sensors, such that wind should be considered in AARs for such lines?

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[2] Available at https://www.ferc.gov/CalendarFiles/20190904173327-AD19-15-000supplTC.pdf

2. Reducing Barriers to DLRs

a. Can RTOs/ISOs currently accept and use a DLR data stream from a transmission owner in both real-time and day-ahead markets? Can transmission owners outside of RTO/ISOs currently automatically implement a DLR data stream in operations? Are there limits on what type and amount of data can be received and incorporated into dispatch? Would a transmission owner's or RTO/ISO's implementation of AARs be sufficient to also implement DLRs? If not, what additional changes would be necessary and how feasible are such changes?

b. Would a requirement for transmission owners or other entities (e.g., RTOs/ISOs) to study the cost effectiveness of DLRs on their most congested lines be appropriate? If so, what metrics for congestion (e.g., congestion cost, hours of congestion) would be appropriate for determining the most congested lines?

3. AARs/DLRs in Available Transmission Capacity (ATC) Calculations

a. In the non-RTO/ISO regions, a transmission owner's use of AARs could affect ATC for transmission customers. ATC could also be affected at RTO/ISO seams. Given the importance of ATC calculations, should AARs/DLRs be incorporated into the determination of ATC? Specifically:

   i. At what times in advance of transmission reservation and/or scheduling deadlines should ATC made possible through AARs/DLRs be made available to point-to-point and network customers?

   ii. Should AARs/DLRs affect when network customers (and the transmission provider's own resources) are subjected to redispatch, load shedding, and/or curtailments under sections 30.5 and 33 of the pro forma open access transmission tariff (OATT)?

   iii. Would any revisions be needed to section 30.5, section 33, or Attachment C of the pro forma OATT to accommodate a requirement to implement AARs or voluntary implementation of DLRs? Are there any other sections of the pro forma OATT that would be relevant to or affected by AAR/DLR implementation?

4. Discussion of Transparency of Transmission Line Rating Methodologies

Currently, some transmission line rating methodology information is made available through certain transmission expansion processes or voluntarily on certain transmission owners' websites. Transmission line rating methodologies are also sometimes provided

in annual FERC Form 715 part 4 filings. Lastly, some RTO/ISOs post actual facility ratings on their open access same-time information system (OASIS) pages. However, there appear to be concerns about the inaccessibility of transmission line rating methodologies and resulting ratings.

a. 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?

b. 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?

c. If a transmission system operator contacts a transmission owner to request an ad hoc increase in transmission line ratings above static or seasonal ratings, should information about the request be publicly posted? If so, where, when, and how often should such information be posted?

5. Review and Audit Procedures for Transmission Line Rating Practices

a. 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?

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

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

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

e. Where should any non-reliability criteria (e.g., economic) for transmission line ratings be established (e.g., regulations, tariff, policy statement)? What should

these criteria be, and how would the Commission ensure that such criteria for transmission line ratings are consistent with reliability criteria?

f. In implementing DLR, is there any data verification necessary from devices that measure DLR by the transmission system operators or transmission owners? If so, what data and why?

6. NERC Reliability Standards

a. Are there security concerns associated with implementing AARs and DLRs with respect to communicating line ratings and field measurements?