



FERC Order No. 881 Compliance

Incorporation of Ambient Adjusted Line Ratings

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Proposed Effective Date: TBD

- On December 16, 2021, the Federal Energy Regulatory Commission (“Commission”) issued Order No. 881, its Final Rule on Managing Transmission Line Ratings
- The Final Rule was the result of November 19, 2020 NOPR examining both Ambient Adjusted Ratings (AARs) and Dynamic Line Ratings (DLRs)
 - DLRs deferred for further investigation in AD22-5, comments for which are due in April
- Compliance filings due July 12, 2022; implementation by July 12, 2025
 - Requires the calculation and use of AARs, for all transmission lines (minus certain exceptions, discussed below), based on language in new *pro forma* “Attachment M” to the OATT
 - Requires ISO to be able to accept electronic updates to line ratings at least hourly
 - Includes transparency requirements
- At this meeting, ISO-NE will present an overview of the requirements and responsibilities under the Order and discuss the expected scope and timing for compliance

ORDER NO. 881 REQUIREMENTS

Line Rating Methodologies and Uses



Order No. 881 Requirements

- Rating Types/Methodologies
 - Normal, Emergency, and Seasonal Ratings must now include an ambient temperature component
- Normal Ratings
 - Must be based on AARs, defined as:
 - Applying to a time period not greater than one-hour
 - Reflecting an up to date ambient air temperature forecast for the period for which the rating applies
 - Forecast data should be incorporated into AAR calculations as close to real time as reasonably possible
 - Reflecting a day v. night component to account for solar heating
 - Day temperature of 45F, night temperature of 45F maybe result in different ratings given lack of solar insolation
 - Being calculated hourly
 - “[T]ransmission owners, not transmission providers, are responsible for calculating transmission line ratings.” P 140

Order No. 881 Requirements, Contd.

- Normal Ratings
 - Uses of AARs
 - Hourly AARs must be used by Transmission Providers when evaluating Transmission Service requests within the next 10 days
 - Not applicable in ISO-NE markets as explained in NOPR comments
 - May be applicable under Schedules 18, 20A and 21 depending on services offered
 - Day-Ahead and Real-Time for RTO/ISO Markets
- Exceptions
 - Allowed where the TO determines that the rating of a transmission line is not affected by ambient air temperatures
 - E.g. where: 1) transfer capability of the limiting conductors and/or limiting transmission equipment is not dependent on ambient air temperatures; or 2) transfer capability is limited by system voltage or stability
 - May include underground cables, lines with a RAS
 - Exceptions must be posted by the TOs to OASIS



Order No. 881 Requirements, Contd.

- Emergency Ratings
 - Defined in the Order as “a transmission line rating that reflects operation for a specified, finite period, rather than reflecting continuous operation.” P 293
 - An emergency rating must be a uniquely determined rating (though not necessarily higher than the normal rating)
 - May assume acceptable loss of equipment life or other physical or safety limitations for the equipment involved.
 - Must incorporate an adjustment for ambient air temperature and for daytime/nighttime solar heating, consistent with the AAR requirements for normal ratings
 - Transmission owners “will have discretion to determine the procedure used to calculate emergency ratings, so long as they do so in accordance with good utility practice and the other requirements in pro forma OATT Attachment M.” P 295

Order No. 881 Requirements, Contd.

- Seasonal Ratings
 - In order to respond to issues identified in regions with no seasonal ratings, or seasonal ratings that are not uniquely determined, the Commission chose to establish new seasonal rating requirements, which include ratings:
 - For no fewer than four seasons
 - Based on the underlying AARs for normal operations



Order No. 881 Requirements, Contd.

- ISO/RTO Capabilities
 - RTOs/ISOs are required to allow transmission owners to electronically update transmission line ratings at least hourly, with such data submitted by transmission owners directly into the RTO's/ISO's EMS through SCADA or similar systems. P 255
 - The “rule requires that electronic transmission line rating data be submitted by transmission owners directly into an RTO's/ISO's EMS through SCADA *or similar communication systems*. We clarify that other electronic systems, such as Inter- Control Center Communication Protocol, can be used to comply with this requirement, and RTOs/ISOs may propose to use such systems on compliance.” P 179
- ISO is working to determine the scope of work involved with establishing this capability and the communication pathway for such ratings



Order No. 881 Requirements, Contd.

- Transparency
 - Upon request, Transmission Providers are required to share ratings with other Transmission Providers. Transmission Providers are required to maintain a ratings database on OASIS accessible by all parties with OASIS access
 - TOs responsible for maintaining static/seasonal rating databases
 - ISO responsible for maintain database of ratings as used in the Day-Ahead and Real-Time markets, including alternate ratings as applicable
 - Ratings must be shared with the respective Market Monitor in RTO/ISO regions



COMPLIANCE AND IMPLEMENTATION



Compliance

- Compliance v. Implementation
 - While interrelated, the Compliance proposal is what will be in front of the TC over the next two months
 - ISO has not identified any necessary Tariff changes beyond addition of Attachment Q for purposes of its compliance proposal
 - ISO Tariff already contains Attachments M, N, O, and P
- Compliance Proposal
 - Inclusion of new Attachment Q, modified for New England Markets
 - ISO-NE provides RNS and Through or Out Service (TOUT) as Transmission Service
 - Internal flows associated with TOUT are exempt from the Order
 - Application to Day-Ahead and Real-Time Markets
 - Schedules 18, 20A, 21 for Cross Sound, Schedule 20A Providers and Local Service Providers respectively, to the extent determined necessary by those parties
 - Initial Attachment Q will be reviewed in April
 - ISO intends to work with other affected parties in advance of TC

Implementation

- Implementation
 - Proposals required to take effect in July 2025
 - Will involve changes to Governing Documents, including: Planning Procedures and Operating Procedures
 - Full scope of documents being identified by ISO
 - Will be reviewed through respective stakeholder processes
- Will involve changes to ISO systems/software
 - Scope being evaluated by ISO
- Discussions between ISO-NE and NYISO as well as between ISO-NE, and Transmission Owners/Providers regarding implementation have commenced and will continue throughout the pendency of the proceeding

Stakeholder Schedule

Stakeholder Committee and Date	Scheduled Project Milestone
Transmission Committee March 23, 2022	ISO summarizes requirements and responsibilities, and delivers high level plans for compliance and implementation
Transmission Committee April 14, 2022	Additional review of Order requirements and responsibilities; first review of proposed ISO Tariff language
Transmission Committee May 31, 2022	Second review of proposed ISO Tariff language and vote; initial discussions regarding implementation
Participants Committee June 2, 2022	Vote

Questions

