



# FERC Order 881 PJM Extension Request Operations Update

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Operating Committee  
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- [FERC Order 881](#) was issued on Dec 16, 2021.
- Purpose: *To improve the **accuracy** and **transparency** of “transmission line” ratings.*
  - Applies to PJM Transmission Facility Ratings
- Order requires Transmission Service Providers to utilize Ambient-Adjusted Ratings:
  - Hourly, over the next 10 days
  - Seasonally, no fewer than 4/yr, beyond 10 days out through a year (Or, longer for AFC/ATC assessment beginning within the year *and* extending beyond the year.)
- Order requires ISO/RTO to support Dynamic Line Rating (DLR) use.

## Ambient-Adjusted Ratings [AAR] requirements

- Applies to a time period not greater than one hour, calculated hourly (rolling) across the next 10 days, reflecting an up to date forecast for the given period;
  - Must update at least with every 5°F increment of temperature change;
  - Must reflect the absence of solar heating during nighttime periods, and must reflect changes sunrise/sunset times at least monthly;
  - Must be valid across the range of local historical temperatures over the entire period for which records are available +/- 10°F.

## Seasonal Facility Rating requirements:

- Applies to a specified season, not fewer than four seasons in each year, and to reasonably reflect portions of the year where expected high temperatures are relatively consistent;
  - Reflects an up-to-date forecast (or historic) of ambient air temperature across the relevant season over which the rating applies;
  - Evaluated annually, if not more frequently, for each season in the future for which Transmission Service can be requested.
- PJM to leverage Monthly (12 per year, calendar based) approach, in alignment with the end-use cases.

## AAR Alternatives:

Order allows for **AAR Exceptions** for those facilities which are not impacted by ambient conditions.

- As determined by Transmission Owner

Order allows for temporary alternative **Conditional Ratings** from that of AAR for the purposes of safety and reliability.

- Tracked through M-03B, PJM's Transmission Operations Manual, and temporary eDART TERM tickets today.
- Optionally applicable to AAR Exception facilities as well.

## PJM Transmission Owners

- Future (filed) CTOA language aligns with PJM Tariff filings and with ties to CTOA/Tariff as well as PJM manuals.
- Required to submit/maintain Order 881-compliant **Lookup Tables**
  - Including for DLR facilities
  - Lookup Tables will remain in PJM's eDART TERM
- Required to submit **TO Facility Rating Methodologies**, and update at least every 5 years or sooner if changes are made.
  - Methodologies submitted via PJM's Facility Ratings database. (eDART TERM)
- Option to determine AAR Ambient Condition (real-time and forecasted)
  - TO may elect to defer to PJM AAR determination for their zones, as today.
- Methodology, EMS Real-time & Study, ratings maintenance impacts, etc.

## PJM Operations

- **Weather Forecast Team** (Markets Coord Dept. & Operations Apps: Xapps)
  - NEW tool to apply PJM vendor forecasts and buffer against TO SCADA Zonal weather station definitions and determine hourly Ambient Conditions.
- **EMS impacts to SCADA** (AspenTech) and **Network Applications** (Siemens) (Operations Engineering Support subdivision)
  - Substantive enhancements to existing SCADA rating framework, leveraging and passing through hourly Ambient Conditions.
  - Network Applications enhancements to provide upcoming hour look-ahead and to absorb hourly ratings within EMS study package.



## PJM Operations (cont.)

- **eDART** (OAT Dept. & Operations Apps)
  - Conversion of existing eDART TERM into full 881 Facility Ratings Database, with inputs from EMS on hourly projections, and as a ratings clearinghouse for those interested in PJM Facility Ratings and associated metadata.
- **AFC/ATC** (Transmission Services Dept. & Operations Apps)
  - Consumption and application of hourly and Seasonal projections
  - NOTE: AFC/ATC impact extends beyond the year required use for the majority of Order 881 impacts. (As noted on Slide 2)



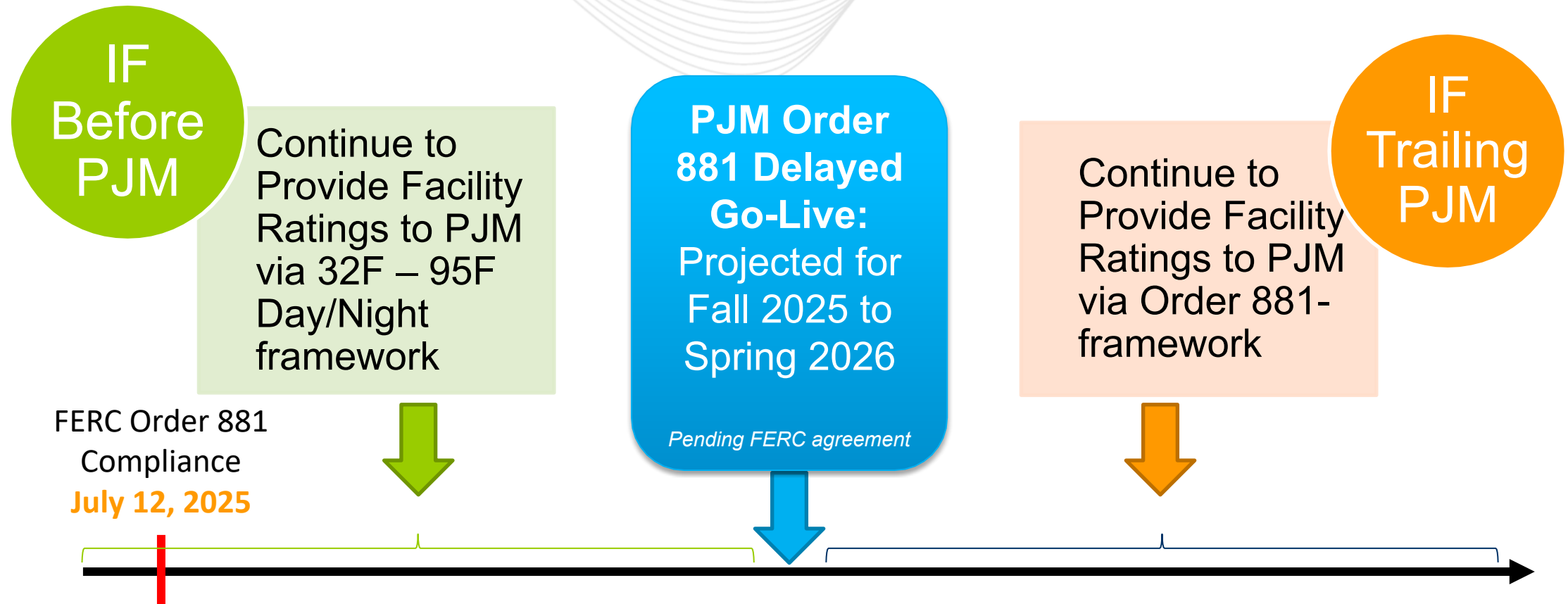
## PJM Operations (cont.)

- **Reliability Studies** (OAT & Trans Ops. Depts.) & **TARA** (PowerGEM)
  - Conversion of our reliability studies over to consuming Hourly/Seasonal Facility Ratings by time; rather than independent determination of Ambient Conditions.
- **Operator Training** (System Operator Training)
  - Training/awareness around changes from PJM Operators (Power Directors) determining ambient conditions manually today (pre-881) vs. the impacts of having the 881 ambient conditions determined by PJM tools, proactive monitoring/assessment of same, as well as ability to override as today.
  - Application impact includes any from Operations and Markets
- **Manual/Procedural** FERC Order 881 conforming changes/impacts

- PJM Operations has been targeting late/early Q1/Q2 readiness for Order 881 implementation. (FERC Deadline: July 12, 2025)
- At present, full solution for both PJM Markets & Operations have not reached a ready state and Go-Live target is at risk.
- As noted in the February 5<sup>th</sup> MIC, **PJM will be seeking a delay/extension in its Order 881 implementation:**
  - Upcoming filing will seek a ‘no later than’ date of Spring 2026
    - Ideally, working with vendors towards a Fall 2025 Go-Live
  - PJM will continue to provide updates to members while seeking to avoid implementation during summer/winter months

- PJM Facility Ratings framework will remain as is, until PJM Go-Live.
- If a TO elects to proceed ahead of PJM 881 Go-Live, PJM will continue to require Rating Sets in the legacy framework.
- PJM's legacy Transmission Facility Ratings framework:
  - i.e., Regardless of TO-readiness for full 881 implementation, PJM would need such ratings to continue to be provided/maintained in its legacy framework ahead of PJM's 881 Go-Live.

## PJM Go-Live vs. PJM TO 881 Go-Live & Facility Ratings *conversion*



NOTE: While PJM can assist a member Facility Ratings conversion, PJM is a Facility Ratings consumer, not a Facility Ratings provider.

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**[FERC Order 881 Extension Request: Ops Update]**

A green speech bubble containing a large black question mark.A blue speech bubble containing three horizontal white lines.

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