



Special eDART Forum – FERC Order 881

May 8, 2023

- Overview
- Thermal Ratings – Pre → Post Order 881
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- Order 881: eDART Outputs
- Roadmap for Future Meetings
- Glossary of Terms
- General Q&A

Overview

Revisions to the *pro forma* Open Access Transmission Tariff (OATT) and the Commission's regulations under the Federal Power Act to improve accuracy and transparency of electric transmission line ratings.

- Impacts eDART TERM Application and pjm.com OASIS thermal ratings
- eDART Project began January 2023
- Compliance due July 2025

Planned Deliverables (Train Only) expanded functionality:

- Submit and view ratings Lookup Tables (expanded)
- Functionality to manage AAR Exceptions and TO Rating Methodology
- Seasonal Ratings functionality
- Ability to pull ratings for the Operations & Operations Planning Time Horizon, including historical, for all eDART users.

CLI to support current and new functionality

UI updated to reflect new functionality

- <https://www.ferc.gov/media/e-1-rm20-16-000>
- Improve the accuracy and transparency of electric transmission [facility] ratings used by transmission providers by moving away from seasonal or static temperature assumptions that may:
 - understate the near-term transfer capability, restricting flows and potentially increasing congestion costs
 - Overstate the near-term transfer capability, creating potential reliability and safety problems
- Adopt requirements for greater use of Ambient-Adjusted Ratings (AAR) in both near-term (10-day) and longer term, while allowing for temporary ratings for safety and reliability as well as AAR exceptions
- Require ISO/RTO systems / procedures to allow for DLR

DISCLAIMER: Presentation contains summary information above & throughout regarding FERC Order 881. FERC Order 881 requirements and language take priority over any information herein which may unintentionally misconstrue or deviate from FERC Order obligations.

Thermal Ratings – Pre → Post Order 881

PJM Facility Ratings

- Rated at respective END(s) of the facility

PJM Rating Sets

- Normal (NL), Long Term Emergency (LTE), Short Term Emergency (STE), Load Dump (LD)

PJM-modeled Facilities requiring thermal ratings meet BOTH of the criteria below:

- Reliability & Markets facilities as defined by Monitored Priority
 - Either *MP1*, *MP2* or *MP6*
- Thermal Facility Types
 - Either a *Line*, *Transformer*, *PAR*, *Series Device* or *Flow Device/CB*

i.e., If we have thermal ratings today, and the facility's Type or Monitored Priority remain unchanged, PJM will need thermal ratings post-881 leveraging the new 881 AAR framework. Conversely, if we do NOT have thermal ratings for a given facility today, then barring a change to the facility's Type or Monitored Priority we would NOT expect thermal ratings on the given facility.

<https://www.pjm.com/-/media/committees-groups/committees/oc/2022/20220429-special/order-881---education.ashx> (See pages 9 through 11)

Today	Today	Post-881
Temp Sets	R	Modified
Lookup Tables	R	Modified
Conditional Rating Set	n/a	New
AAR Exceptions	n/a	New
Station to Zone Mapping	n/a	New
TO Temp Set Forecast	n/a	New, Optional
AAR Zonal Forecast	n/a	New, R/O for all eDART Users
pjm.com Postings [OASIS]	R	Replaced w/ below
eDART reports	n/a	New, R/O for all eDART Users
Database [Historian/Reports]	n/a	New, R/O for all eDART Users
TO Rating Methodologies	n/a	New, R/O for all eDART Users

New or Modified as it relates to eDART functionality.

In most cases, also New to PJM.

Today

- RTO-wide framework
- Temp Sets representing 16 unique ambient conditions
- Day & Night solar conditions
- From 32°F up to 95°F temperature conditions
- 9°F band separation between sets

Post-881

- RTO-wide framework
- *Temp Sets* representing 76 unique ambient conditions
- Day & Night solar conditions
- From -55°F to 130°F temperature conditions
- 5°F band separation between sets



Today

Temp Set	Temp Set
95Day	95Night
86Day	86Night
77Day	77Night
68Day	68Night
59Day	59Night
50Day	50Night
41Day	41Night
32Day	32Night

Post-881

Temp Set	Temp Set	Temp Set	Temp Set
130Day	35Day	130Night	35Night
125Day	30Day	125Night	30Night
120Day	25Day	120Night	25Night
115Day	20Day	115Night	20Night
110Day	15Day	110Night	15Night
105Day	10Day	105Night	10Night
100Day	5Day	100Night	5Night
95Day	0Day	95Night	0Night
90Day	-5Day	90Night	-5Night
85Day	-10Day	85Night	-10Night
80Day	-15Day	80Night	-15Night
75Day	-20Day	75Night	-20Night
70Day	-25Day	70Night	-25Night
65Day	-30Day	65Night	-30Night
60Day	-35Day	60Night	-35Night
55Day	-40Day	55Night	-40Night
50Day	-45Day	50Night	-45Night
45Day	-50Day	45Night	-50Night
40Day	-55Day	40Night	-55Night

PJM Temp Set framework will move from **16 to 76** Temp Sets reflecting ambient conditions.

Extreme ambient conditions inhabit either end of the ambient spectrum, serving as margins, and are not *projected* to be utilized in Real-time.

- ANY Real-time use of such ratings due to actual temperatures will require *Temp Set* framework expansion and resulting calculations 6 months prior to next corresponding season
- Forecasted use permitted without need to expand the PJM *Temp Set* framework
- All Temp Sets are in Fahrenheit degrees
- The 130Day/Night & -55Day/Night should be calculated and treated as the max/min threshold sets they are within the framework rather than the specific ambient condition the *Temp Set* names imply

[See FERC Order 881, paragraph 185.]
 Finally, in the event that actual temperatures set new high or low records, transmission providers are required to revise their look-up tables/databases or formulas/programs, as necessary and within a timely manner, to maintain the 10 degree Fahrenheit margin.

Order 881: TO Inputs

Today

- **TERM Permanent Ticket**
 - *Lookup Tables* containing Rating Sets across all ambient conditions to be used, from the estimated start date onward, in normal reliability and markets functions for a given facility
 - In use until superseded by new Permanent Ratings and/or a Temporary override
 - For DLR facilities, serve as backup to DLR and for projections beyond DLR forecast
- **TERM Temporary Ticket**
 - *Lookup Tables* containing the full Rating Sets across all ambient conditions to be used short duration, including an estimated start and end date
 - Include PJM operator set ratings used to maintain reliability of the transmission system

Post-881

- **Permanent Ticket**
 - Used until superseded by another Permanent Ticket and may be either *AAR Lookup Table* or *AAR Exception* type
 - Optionally include known *Conditional Rating Sets*, such as those defined in M03B or posted on pjm.com
 - For DLR facilities, serve as backup to DLR and projections beyond DLR forecast
- **Temporary Ticket**
 - Override to Permanent Ticket for a temporary duration; may be either *AAR Lookup Table* or *AAR Exception* type
 - Interim ratings used for the safety and reliability of the transmission system
 - Revert back to Permanent Ticket and/or DLR when terminated

REQUIRED

Daytime Temp Sets

Temp Set	NL	LTE	STE	LD
130Day				
125Day				
120Day				
115Day				
110Day				
105Day				
100Day				
95Day				
90Day				
85Day				
80Day				
75Day				
70Day				
65Day				
60Day				
55Day				
50Day				
45Day				
40Day				
35Day				
30Day				
25Day				
20Day				
15Day				
10Day				
5Day				
0Day				
-5Day				
-10Day				
-15Day				
-20Day				
-25Day				
-30Day				
-35Day				
-40Day				
-45Day				
-50Day				
-55Day				

Nighttime Temp Sets

Temp Set	NL	LTE	STE	LD
130Night				
125Night				
120Night				
115Night				
110Night				
105Night				
100Night				
95Night				
90Night				
85Night				
80Night				
75Night				
70Night				
65Night				
60Night				
55Night				
50Night				
45Night				
40Night				
35Night				
30Night				
25Night				
20Night				
15Night				
10Night				
5Night				
0Night				
-5Night				
-10Night				
-15Night				
-20Night				
-25Night				
-30Night				
-35Night				
-40Night				
-45Night				
-50Night				
-55Night				

Temp Set	NL	LTE	STE	LD	Condition Description
CND1					Rationale and description for use.
CND2					Rationale and description for use.
CND#					Rationale and description for use.

OPTIONAL Conditional "Temp Sets"

- Night and Day Temp Sets utilized for appropriate ambient condition, as with today's Temp Set structure
- Each Temp Set has a singular Rating Set associated with it at any point in time
- Applicable to AAR Facilities only; And, Permanent Tickets or Temporary Tickets for same
- OPTIONAL one or more *Conditional Rating Set(s)* [non-ambient] which include clarifying information around use
 - ❑ Example: *Common Trench, loss of parallel facility, See M-03B.*

Per FERC Order 881, AAR Exception as related to any facility for which it is “not affected by ambient air temperature”. Should the TO elect to designate, the facility may be deemed an AAR Exception.

As such, within PJM, for any facilities a TO deems to be an AAR Exception type:

- Permanent/Temporary *Lookup Table* will be a single flat *Rating Set*, with one NL / LTE / STE / LD set, regardless of ambient condition and/or Season
- TO establishes at the Facility level, including a designation reason, driving change from an *AAR Lookup Table* to the flat *AAR Exception Lookup Table*
- Facility *Rating Set* examples for 3 sample uses below:

AAR Exception	NL	LTE	STE	LD
Facility1 ENDA	100	111	111	125
Facility2 ENDA	100	100	100	100
Facility2 ENDB	80	100	120	130

Today

- Identical *Rating Sets* are submitted across all 16 available Temp Sets
- *Conditional Ratings* captured in manual M-03B [CEII] and pjm.com file postings, and active TERM tickets only when implemented

Post-881

- TO designates Facility as being an *AAR Exception* type
- Instead of populating an AAR Lookup Table for PJM RTO's 76 Temp Set framework, TO provides a single Rating Set of Temp Set type **EXCPTN**
- TO/PJM may optionally include *Conditional Rating Sets* if appropriate
- Validation by TO every five years

REQUIRED

Temp Set	NL	LTE	STE	LD
EXCPTN				

Temp Set	NL	LTE	STE	LD	Condition Description
CND1					Rationale and description for use.
CND2					Rationale and description for use.
CND#					Rationale and description for use.

OPTIONAL Conditional "Temp Sets"

- Singular "Temp Set", used regardless of ambient conditions
- Applicable to *AAR Exception* designated Facilities only; And, Permanent Tickets or Temporary Tickets for same
- OPTIONAL one or more *Conditional Rating Set(s)* which include clarifying information around use
 - ❑ Example: *Common Trench, loss of parallel facility, See M-03B.*

- PJM Transmission Owner documentation
- FERC Order references these as a TO's *Transmission Line Rating Methodology*, but [PJM filing](#) references these as TO's *Thermal Transmission Facility Rating methodology(ies)*
 - *TO Rating Methodology* for short herein
 - NERC FAC-008-5
 - R3 Each Transmission Owner shall have a documented methodology for determining Facility Ratings (Facility Ratings methodology) of its solely and jointly owned Facilities (except for those generating unit Facilities addressed in R1 and R2)
- Methodology to be relevant to PJM Reliability & Markets (*MP1, MP2 or MP6*) Thermal Facilities (*Line, Transformer, PAR, Series Device or Flow Device/CB*)

In order to support ratings forecasts, Facilities (END) map direct to a Transmission [sub]Station.

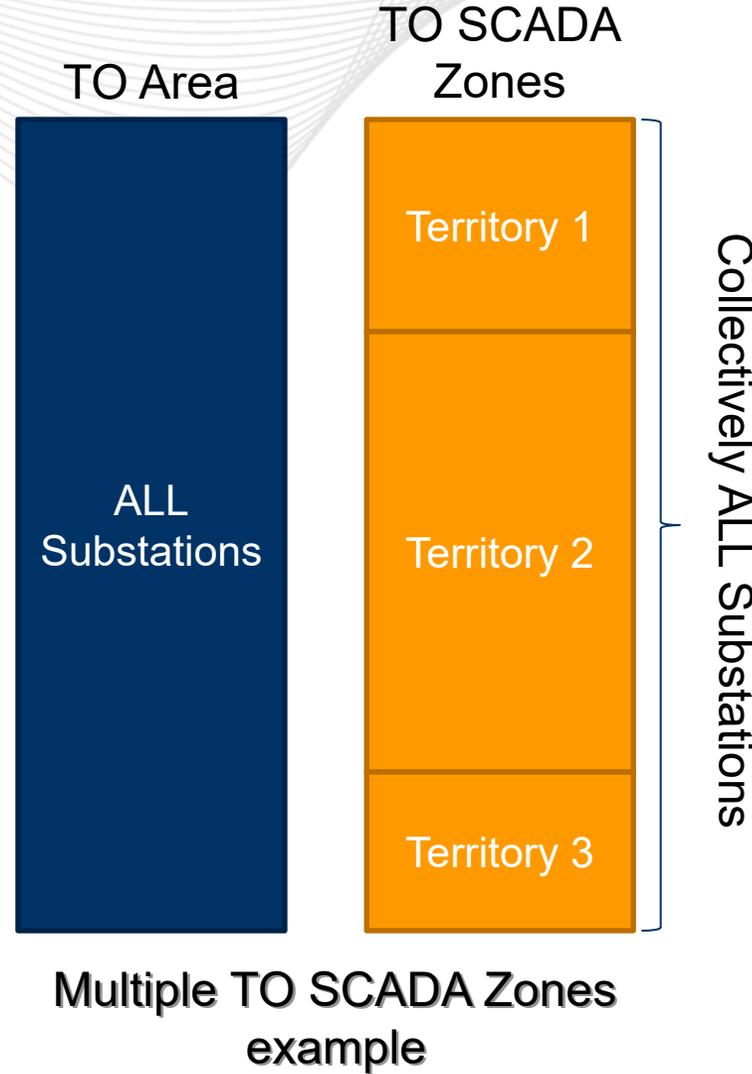
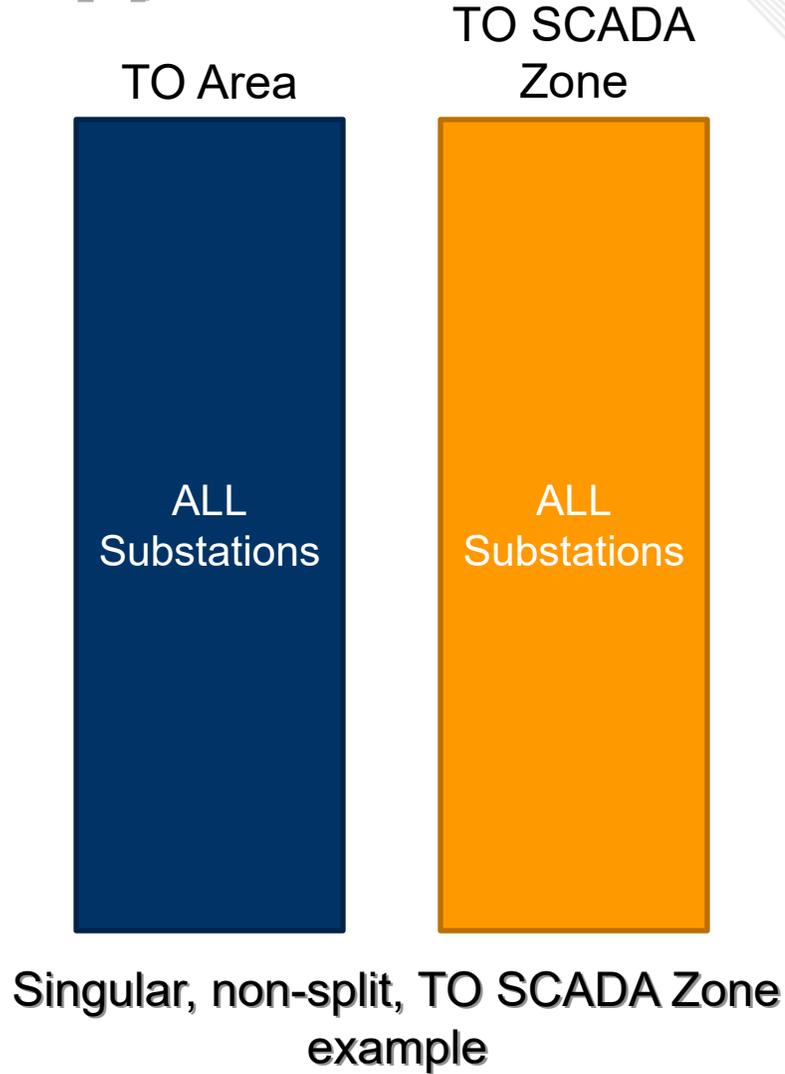
- i.e., a 1:1 mapping between the Facility Rated END and the Station

Likewise, Stations map direct (1:1) to a single TO SCADA Zone.

- Individual TO Transmission Zones can be split into multiple geographically contiguous TO SCADA Zones
- Example: TO Alpha, can be split into ALPHA-N, ALPHA-SE & ALPHA-SW TO SCADA Zones

Station to Zone Mapping will be governed by PJM Model Build processes/timeframes captured in PJM Manual M-03A:

- All PJM TO substations will be mapped to a corresponding TO SCADA Zone, regardless of the substation containing Thermal Transmission Facilities at time of creation
- Likewise, TO SCADA Zone (splits/expansion) revisions will be governed under an expanded future PJM Model Build process and corresponding M-03A language
- Above changes are anticipated to be **quarterly**, barring a change to the PJM Model Build process



TO SCADA Zones will then tie to associated Weather Stations and resultant AAR Temp Set Forecasts.

Use Case: For each hour/season, a given Temp Set for AAR facilities will be derived based upon anticipated ambient conditions, [optional] direct TO-provided Forecast, or PJM Operator override.

OPTIONALLY, a TO may elect to provide PJM with direct forecasted Temp Sets for its relevant AAR Facilities to cover all or a portion of the Operations Planning time horizon covered within FERC Order 881.

In order for PJM consumption and use in an upcoming Facility Ratings projection, including downstream use within PJM Reliability & Markets functions, including all Transmission Services obligations covered by FERC Order 881, TO Forecasts must be:

1. Submitted via PJM eDART CLI
2. Timely, a minimum of 60 minutes ahead of the upcoming hour for use
3. Contiguous, initiating from the upcoming hourly projection
4. Updated hourly

Seasonal have similar obligations, being required by the 1st of the month two months prior to the projected Season (month), submitted contiguously beginning with the upcoming Seasonal projection, and updated monthly. (i.e., To submit for the August 2025 Season forecast, must be submitted prior to 6/1/2025.)

DLR-facility owning TOs are obligated to provide hourly forecasts, as per existing rules in PJM's Transmission Operations manual, M-03, Section 2.1.1.2.

Consumed:



1. Submitted on time via CLI
2. Submitted for TO's SCADA zones
3. Contiguous and starting from HR/Month +1:
 - Submitted starting from +1 hr/month for future hours/months
 - Submitted for contiguous hours/months

Rejected:



1. Late submittals ignored
2. Submitted for TO SCADA zones for which the TO does not have ownership
3. Data beyond gaps:
 - Ex1: Submitted for Hrs 1 to 24, skipping Hr 25, and then submitted for Hr 26+; i.e., Hr 25 onward rejected
 - Ex2: Submitted for Month 2 onward, skipping Month 1; i.e., Month 2 onward rejected

Any hours/months with rejected optionally-provided TO AAR Temp Set data would be replaced/filled by PJM derived forecast hourly/monthly AAR Temp Sets for the given TO SCADA zone.

TO Temp Set Forecast submittals will include PJM *Temp Set*, by date of use, per TO SCADA Zone.

- PJM's vendor weather service information will be utilized to provide the Zonal Forecast of last resort with respect to Hourly and Seasonal AAR projections
- PJM will consume all valid TO Forecast information, along with PJM Temp Set forecasts, into the AAR Hourly and Seasonal Forecasts, and ultimately the Hourly and Seasonal Rating Set Forecasts



Order 881: eDART Outputs

Item	Today	Post-881
Lookup Tables	-	All eDART users
Reports (OASIS)	Available on pjm.com	All eDART users
Historian (OASIS)	-	All eDART users
AAR Exceptions	-	All eDART users
TO Rating Methodology	-	All eDART users
Station to Zone Mapping	-	All eDART users
TO SCADA Zone to Weather Station Mapping	-	All eDART users
AAR Zonal Forecasts	-	All eDART users
Facility Ratings	-	All eDART users

On a TO SCADA Zone by TO SCADA Zone basis, PJM will derive AAR Zonal forecasts from:

1. EITHER a valid TO Temp Set Forecast, if available,
2. OR PJM weather vendor information

High level sourcing information will be shared (either PJM or TO) along with derivation/submittal date/time:

- PJM will use internal weather vendor(s) data and provide all eDART users with the weather station(s) PJM utilizes per TO SCADA Zone
- Both PJM-derived and TO-provided forecasts will be at the Temp Set level

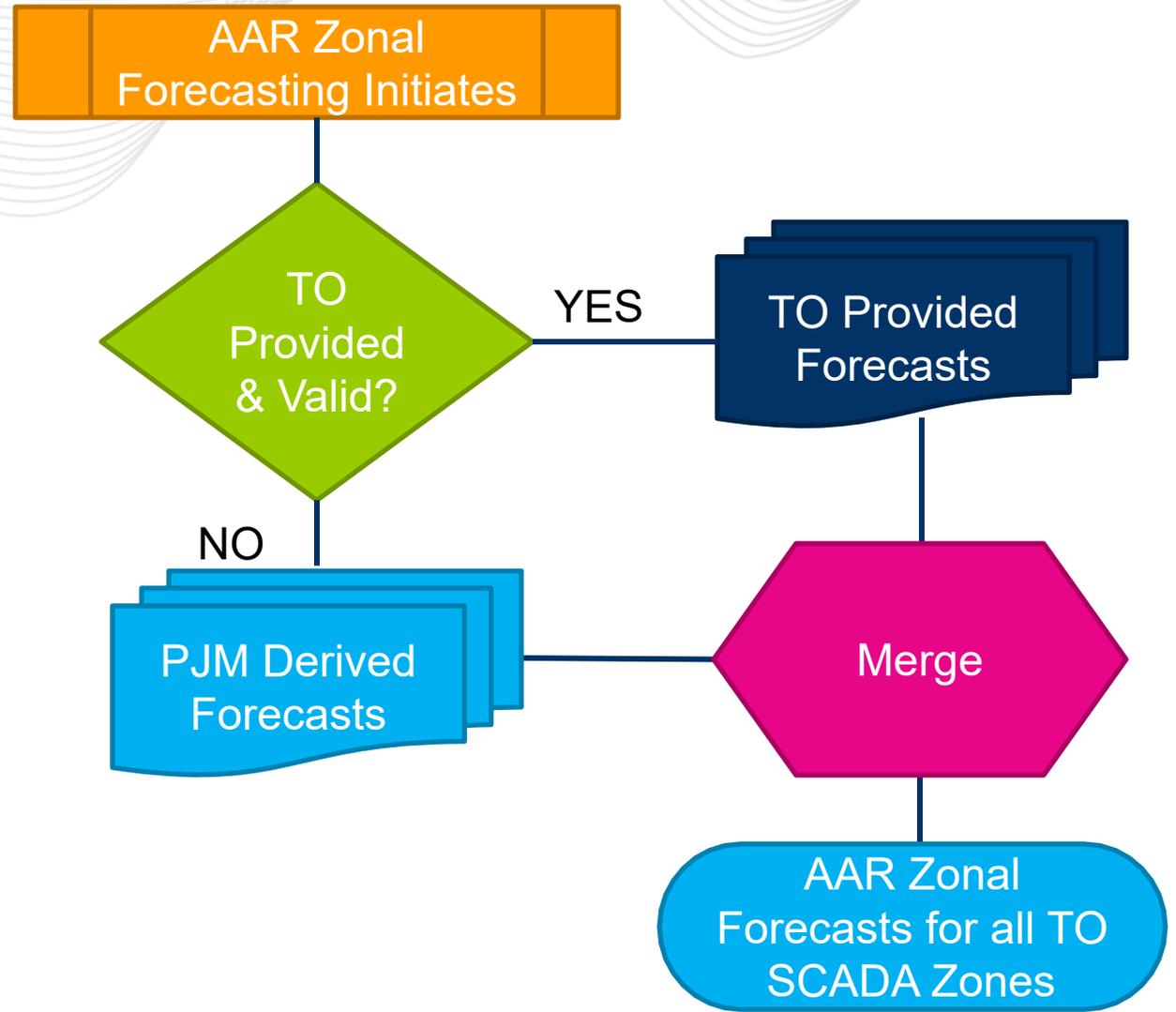
OPTIONAL TO Provided

- TO1 Zone Temp Set Forecast
- TO2 Zone1 Temp Set Forecast
- TO2 Zone2 Temp Set Forecast

PJM Derived

- TO1 Zone Temp Set Forecast
- TO2 Zone1 Temp Set Forecast
- TO2 Zone2 Temp Set Forecast

ALL remaining TO Zone Temp Set Forecasts



Facility Rating Set (Hourly & Seasonal) for each given Thermal Transmission Facility observe a priority order with caveats:

1. **Conditional Rating Set** (Temporary or Permanent tickets)
 - IF the rating is EITHER in-use OR projected for use
2. **AAR Exception Facility Rating Set** (Temporary or Permanent tickets)
 - Does NOT follow ambient temperature
3. **DLR Facility Rating Set** (TO Forecasted, PJM Forecasted, and Telemetered)
 - NOT leveraged for *Seasonal Ratings*, defaults to corresponding AAR Facility Rating
4. **AAR Facility Rating Set** (Temporary or Permanent tickets)
 - Leverage ratings appropriate to the facility's respective TO SCADA Zonal Temp Set

NOTE:

- AAR Exception and DLR Facility-level designations are mutually exclusive, and cannot be simultaneously true at any point for any Facility
- Default PJM Facility-level designation is an AAR Facility unless otherwise declared *either* an AAR Exception Facility *or* a DLR Facility

Per Facility, covering the 240 hourly projection, forecasted Rating Sets will be derived once per hour.

Hourly Rating Sets will include:

1. Facility Identification:
 - a) B1/B2/B3 Text & Clearance (ENDA, ENDB, HIGH, LOW, MVA)
 - b) TO SCADA Zone
2. Periodicity for use – Hour Ending
3. Rating Set – NL / LTE / STE / LD limits, in MVA
4. Sourcing Lineage – Derivation information:
 - a) Rating Set type – Temp Set (CND#, EXCPTN, DLR, or *AAR Temp Set*)
 - b) Temp Set origin – PJM or TO
 - c) Temp Set ticket source – eDART TERM Ticket ID# (n/a for DLR)
 - d) AAR Zonal Forecast ID – (n/a for Conditional, AAR Exception, and DLR)

Per Facility, for the Monthly/Seasonal projections, a forecasted Rating Set will be derived at least once per month.

Seasonal Rating Sets will include:

1. Facility Identification:
 - a) B1/B2/B3 Text & Clearance (ENDA, ENDB, HIGH, LOW, MVA)
 - b) TO SCADA Zone
2. Periodicity for use – Year and Month/Season
3. Rating Set – NL / LTE / STE / LD limits, in MVA
4. Sourcing Lineage – Derivation information
 - a) Rating Set type – Temp Set (Conditional, AAR Exception, AAR)
 - b) Temp Set origin – PJM or TO
 - c) Temp Set ticket source – eDART TERM Ticket ID#
 - d) AAR Zonal Forecast ID – (n/a for Conditional, AAR Exception)

Transparency: TO Rating Methodologies & Facility Ratings ¹

- A. Must be shared with other Transmission Providers upon request
- B. Must be shared with Market Monitor & users:
 - Including ratings and methodologies in effect for past five years
 - Including *AAR Exceptions & Temporary* ratings:
 - *Nature of and basis*
 - Dates & times for *initiation* and, if applicable, *withdrawal* of same
 - Allows for either OASIS or password-protected website/database approach
- C. View/Download/Query in standard formats and standard protocols

¹ [See FERC Order 881, paragraphs 330 – 343]

Today

- *Lookup Tables & DLR Real-Time / Forecasts* posted to PJM.com

<https://www.pjm.com/markets-and-operations/etools/oasis/system-information/ratings-information>

- Updates at varying periodicity, as posted above
- Historic for prior three days

Post-881

- Database access via eDART User Interface and browserless/CLI
- R/O available to all eDART roles
- Database to include¹:
 - TO Rating Methodologies
 - Facility *Lookup Tables*
 - Including AAR (plus DLR) & AAR Exceptions
 - Including applicable *Conditional Ratings*
 - Actual & Hourly/Seasonal Forecasts
 - PJM EMS Rating Sets
 - 240-Hr Rating Sets
 - Seasonal Rating Sets

¹ In-use and five years historic moving forward.



Roadmap for Future Meetings

- 5/30/2023: Special eDART Forum – Order 881
 - Follow-up Items

- Future Meeting Topics:
 - Input schema information
 - Output schema information
 - What’s changing in eDART

Glossary of Terms

Thermal Transmission Facility (aka, Thermal Facility or Facility) – Any PJM designated Facility of the appropriate Facility Type (lines, transformers, series devices, phase angle regulators and flow devices) and Monitored Priority (MP1, MP2 & MP6) combination which require thermal Facility Ratings, including an associated Rating Set Lookup Table.

Rating Set (aka, Thermal Rating Set) - Array representing the Normal (NL or continuous) and emergency (Long Term Emergency [LT/LTE], Short Term Emergency [ST/STE] & Load Dump [LD]) thermal Facility Ratings for a given condition or time of use.

Temperature Set (aka, Temp Set) – Identification for a given Rating Set within a Lookup Table, denoted by temperature in Fahrenheit and solar gain time of use (i.e., NIGHT or DAY) or optionally a defined Conditional Rating. The single temperature denoted within a Temperature Set name represents a band of ambient temperatures for a given zone. Facilities are defined within the model at a given TO zone. TO areas are defined by one or more zones to which a Temp Set is applied at any given Operations timeframe.

Conditional Rating – Optional special Temp Sets for a given Facility, including a description for use, which align to a pre-identified conditions driving Rating Set(s) use. Typical use is to capture and assist administration transparency around the use of PJM’s Transmission Operating Procedures manual M-03B thermal ratings, such as Directional Ratings and Common Trench.

AAR (aka, Ambient-Adjusted Rating) - A Thermal Transmission Facility Rating that: Applies to a time period of greater than one hour.; Reflects an up-to-date forecast of ambient air temperature across the time period to which the rating applies.; Reflects the absence of solar heating during nighttime periods, where the local sunrise/sunset times used to determine daytime and nighttime periods are updated at least monthly, if not more frequently.; Is evaluated at least each hour, if not more frequently. [PJM Tariff proposed [term](#)]

AAR Exception - Where the Transmission Owner determines, consistent with Good Utility Practice, that the Thermal Transmission Facility Rating of a Transmission Facility is not affected by ambient air temperature or solar heating, the Office of the Interconnection and Transmission Owner may use a Thermal Transmission Facility Rating for that Transmission Facility that is not an AAR or Seasonal Facility Rating. [PJM Tariff proposed [term](#)]

Lookup Table (aka, Rating Set Lookup Table or Temp Set Lookup Table) - Array of Rating Sets distinguished by, actual or forecasted, day/night timeframe and ambient conditions expressed in degrees Fahrenheit. Used in the establishment of AAR, identification of AAR Exceptions, establishment of Temporary Ratings, and derivation of Operational Seasonal Ratings. Also utilized as a backup for any Dynamic Line Rating facilities. AAR Exceptions have a flat Rating Set consisting of a single array.

Seasonal Facility Rating (aka, Operational Seasonal Rating) – A Thermal Transmission Facility Rating that: Applies to a specified season, where seasons are defined by the Office of the Interconnection to include 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 of ambient air temperature across the relevant season over which the rating applies.; Is evaluated annually, if not more frequently, for each season in the future for which Transmission Service can be requested. [PJM Tariff proposed [term](#)]

Thermal Transmission Facility Rating (aka, Facility Rating)– the maximum transfer capability of a Transmission Facility, computed in accordance with a written Thermal Transmission Facility Rating methodology and consistent with Good Utility Practice, considering the technical limitations on conductors and relevant transmission equipment. Relevant transmission equipment may include, but is not limited to, circuit breakers, line traps and transformers. [PJM Tariff proposed [term](#)]

Dynamic Line Rating (aka, DLR) – Facility Ratings that are directly telemetered from the TO to PJM, for which the TO provides all or a portion of the required forecasted ratings, and in real-time hourly adjusted at minimum.

Permanent Ticket – Within eDART, a default Lookup Table containing all known AAR (or AAR Exception) based ratings, including Conditional Ratings.

Temporary Ticket – Within eDART, a Facility Rating override utilized for the safety & reliability of the transmission system, including both known and emergency applied Conditional Ratings, superseding any other rating across the defined timeframe until the ticket reaches a final state (Closed, Restored, Retired, Cancelled by PJM, Cancelled, Denied).

Hourly Rating Sets (aka, **10-Day (240-hour) Forecasted Thermal Rating Sets**) – Forecasted hourly Rating Sets¹ for all PJM Thermal Transmission Facilities (DLR, AAR & AAR Exceptions) sourced from a composite of DLR, Permanent and Temporary ticket-based projections across the next 240 hours.

Seasonal Rating Sets – Forecasted monthly projections of the most conservative Rating Set¹ utilized across a given Operational time horizon future month. Most conservative determination is based upon the lowest LTE projected for the given timeframe across all Permanent and Temporary tickets projected for use during the given month.

TO SCADA Zone – Named TO Zone or sub-zone, defined by the PJM EMS modeled substations that makeup the given zone as well as one or more weather stations used to determine actual and forecasted AAR. Substations can only be mapped to a single TO SCADA Zone. Weather stations can be mapped to multiple TO SCADA Zones.

Zonal Forecast – Forecasted Hourly or Seasonal Temp Set projections for one or more TO SCADA Zones. Utilized in the derivation of Rating Sets for those Facilities following AAR for the given timeframe within the given TO SCADA Zone. Provided either by a TO (optionally) directly in full/part or by PJM through its weather services.

¹ *Submitted, Approved, Received and Revised states will be utilized for forecasting purposes. Implemented & Implemented w/o Approval states are utilized in real-time.*

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