# PJM Regional Transmission Expansion Plan (RTEP) Process

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Transmission Planning
IPSAC – December 5, 2025

# PJM Planning Links

- Planning Committee (PC)
  - http://www.pjm.com/committees-and-groups/committees/pc.aspx
- Transmission Expansion Advisory Committee (TEAC)
  - http://www.pjm.com/committees-and-groups/committees/teac.aspx
- Interregional Planning
  - http://www.pjm.com/planning/interregional-planning.aspx
- Services and Requests
  - http://www.pjm.com/planning/services-requests.aspx
- RTEP Development
  - http://www.pjm.com/planning/rtep-development.aspx
- Manual 14B
  - http://www.pjm.com/-/media/documents/manuals/m14b.ashx

# 2025 Regional Transmission Expansion Plan (RTEP) Updates

- The 2025 RTEP Assumptions were presented at the May IPSAC meeting. Refer to

https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2025/20250107/20250107-item-11---2025-rtep-assumption.pdf

https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2025/20250304/20250304-item-16---2025-rtep-assumption-update.pdf

https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2025/20250401/20250401-item-15---2025-rtep-assumption-update.pdf

- Baseline Projects –Projects that are driven by reliability criteria violations, operational performance issues, congestion constraints and public policy.
- Supplemental Projects – Projects that are not required to address system reliability, operational performance or economic criteria. Supplemental projects are planned according to the Tariff Attachment M-3 process.

- Per the PJM Operating Agreement, a proposal window was conducted for all reliability needs that were not Immediate Need reliability upgrades or were otherwise ineligible to go through the window process.
- One FERC Order 1000 proposal window opened during the 2025 RTEP cycle
  - 2025 Window 1 - 60 day window

# 2025 RTEP Window 1 Updates

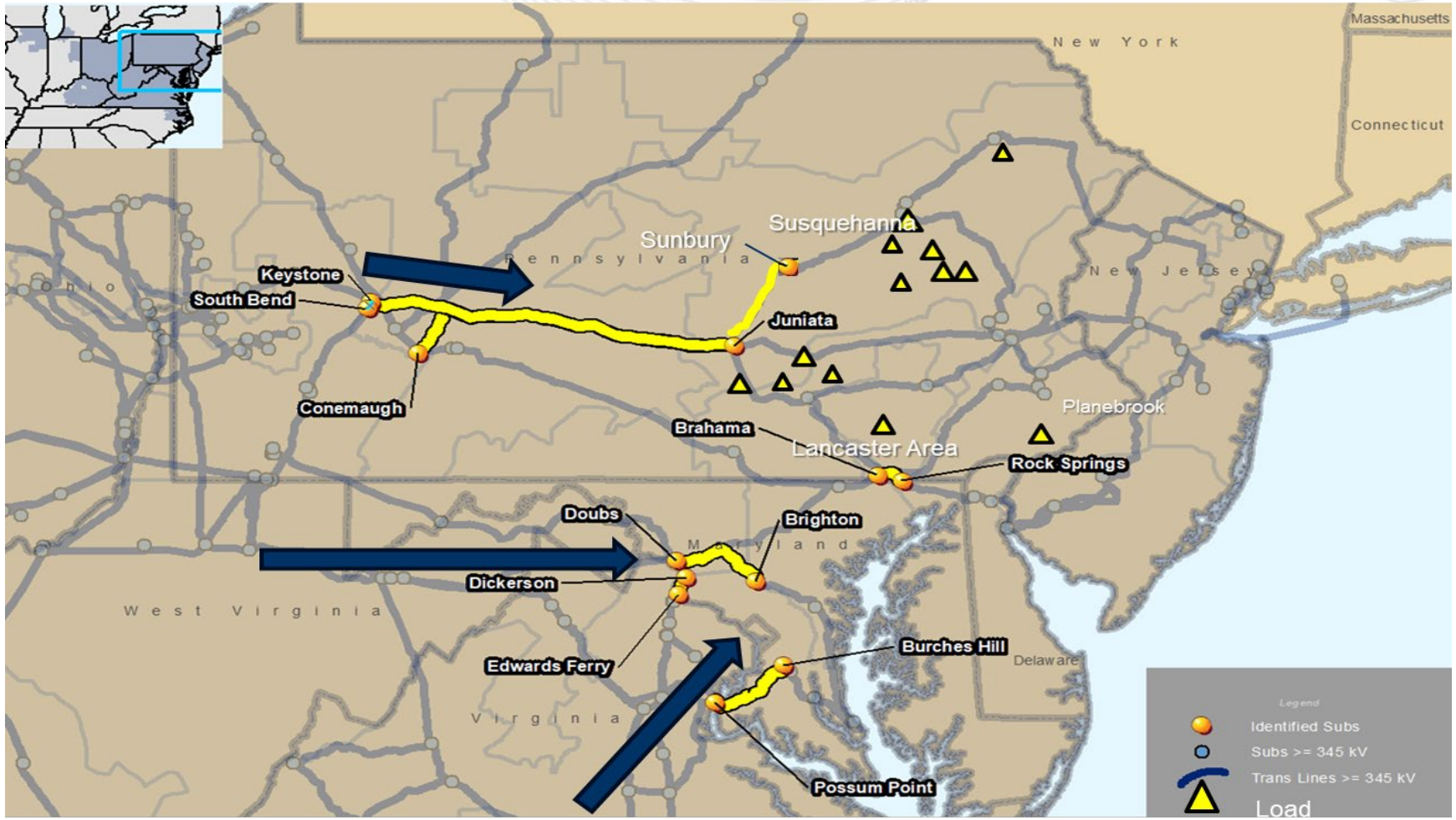
## Baseline Reliability Projects

## Mid-Atlantic Region Needs:

- The regional transfer to the Mid-Atlantic from West and South increased comparing to the previous 2024 RTEP cases.
- The increase in transfer to Mid-Atlantic attributes to the load increase mainly in PPL zone (approximately 5G), and the increase in future generation capacity in the South and West of PJM.
- The delay of the NJOSW combined with the additional PPL load (~3.5GWs - not included in the 2025 load forecast) further increased the need for transfer to Mid-Atlantic region.

- MAAC 500 kV system:
  - The transfer increase resulted in an overload on 500 kV transmission lines.
  - Removing the NJ/DE OSW results in MAAC requiring additional source from west and south. This results in additional overloads on the West to East and South to North 500 kV lines
- PPL Zone:
  - Several 230kV facilities overloaded in PPL zone in the five year out case, and these issues worsened in the 2032 analysis.
  - Additional overloads are identified in 2032 as the load continue to grow.

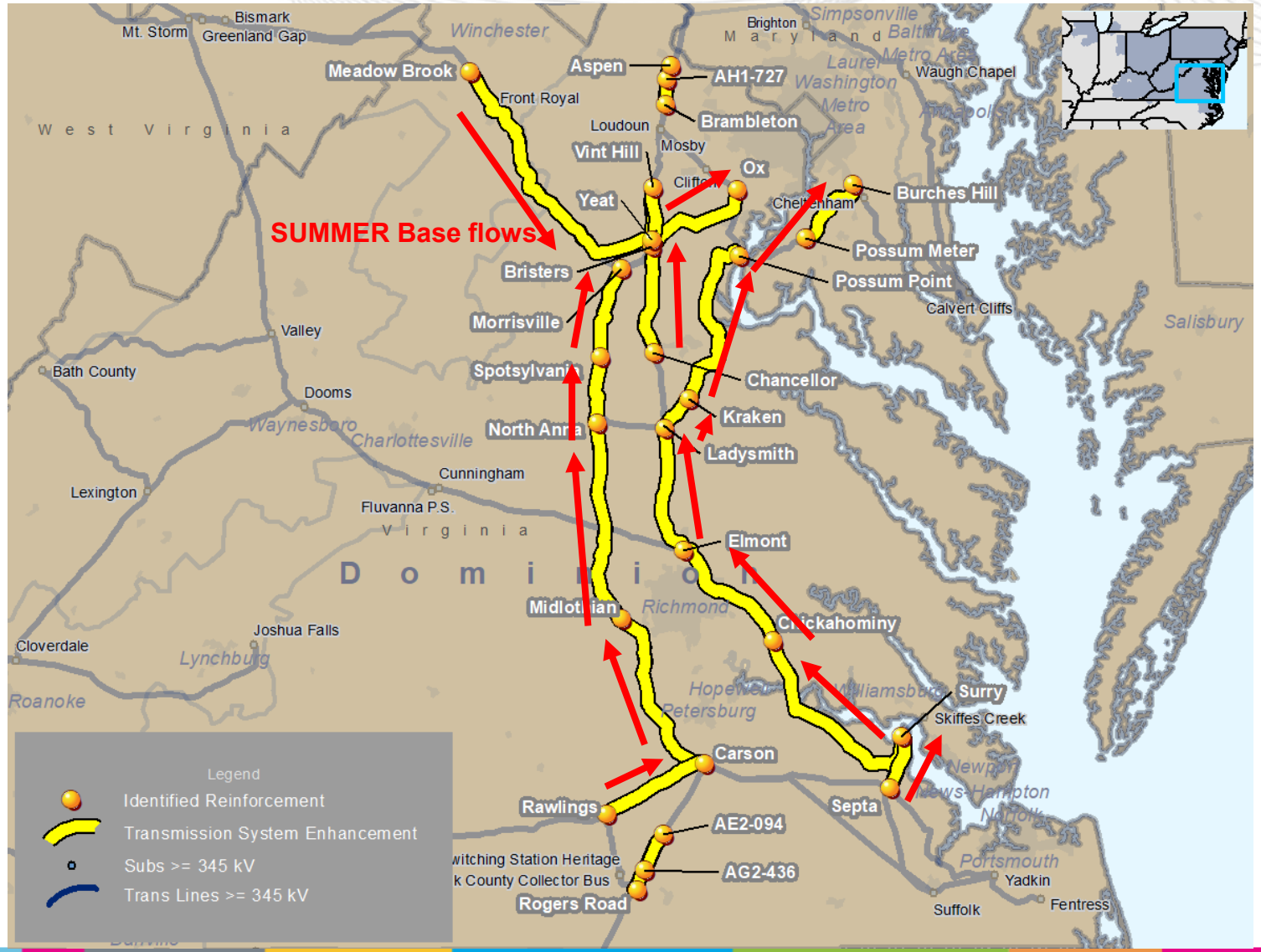
# Mid-Atlantic 2025 Reliability Window 1 - 500 kV Violations



## Dominion/South Region Needs:

- The Dominion area is experiencing multiple 500kV violations along its primary South - North corridor in 2032.
  - Violations are predominantly being driven by:
    - Additional generation added in the south that is flowing to the load centers in northern VA (NOVA).
    - Increases in load with a heavier concentration in the NOVA area.
    - Further increases in PJM load overall – currently, an increase in data center load external to Dominion (PPL zone).
  - These needs require long-lead, backbone enhancements requiring more than 5 years to develop.

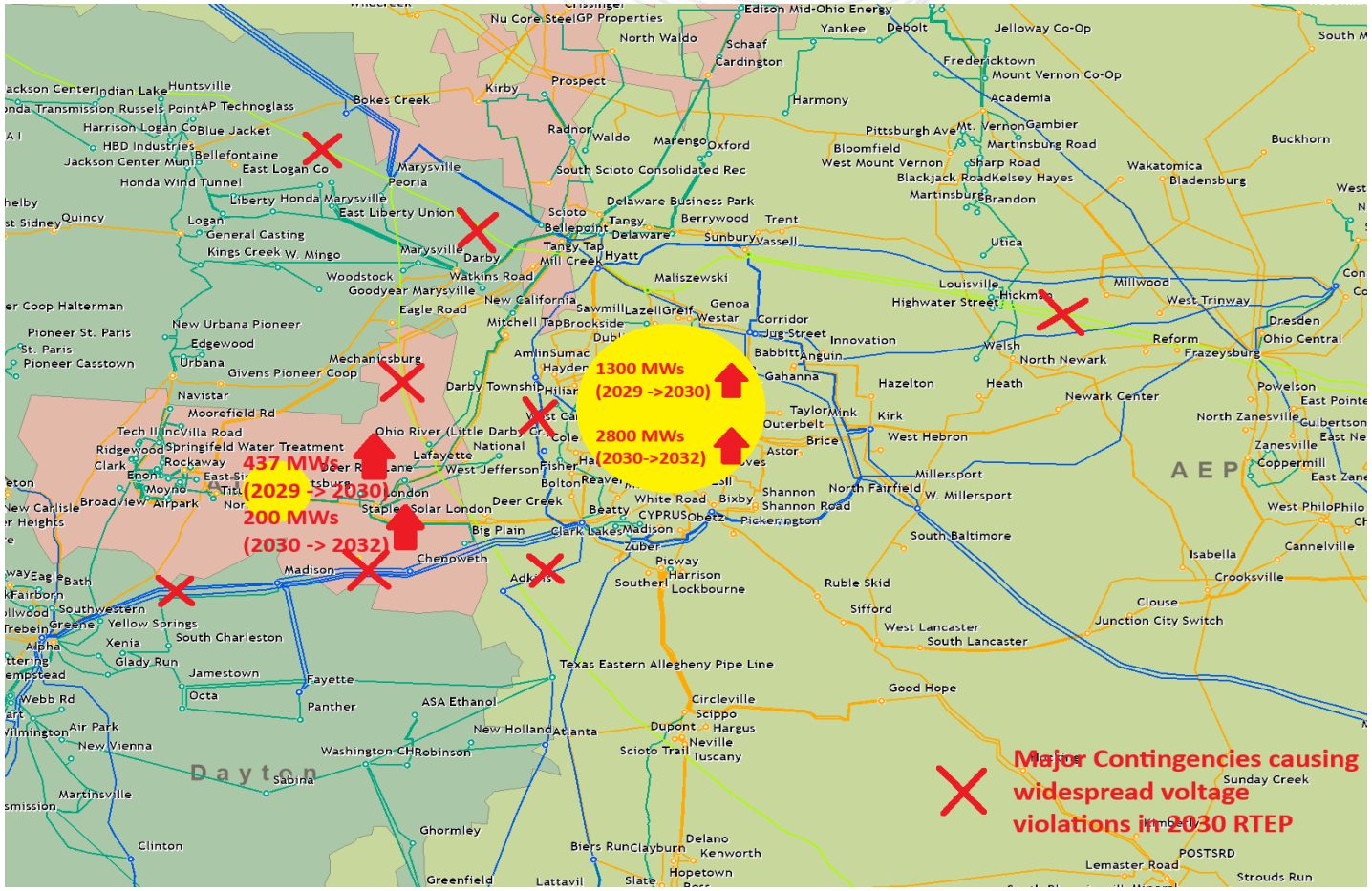
# 2032 Dominion Violations – 500 kV



# PJM West Region Needs:

- Load increase in Columbus and at Melissa area
  - PJM is experiencing load growth in Central Ohio, part of ATSI territory causing multiple thermal and voltage violations under various contingencies. These violations spread through several reliability analyses affecting neighboring TOs such as AEP, DEOK and Dayton.
  - AEP Columbus area, there are two major backbone (765/345 kV) EHV sources that currently serve the load pocket. Multiple thermal overloads are showing in the area. Various contingency pairs cause the wide-spread local system voltage issues which are expected to worsen with forecasted load increase beyond five years.
- Increase in Regional flows towards Eastern and Southern PJM Regions as a result of future generation development in the PJM West.

# PJM West Cluster – Needs Overview

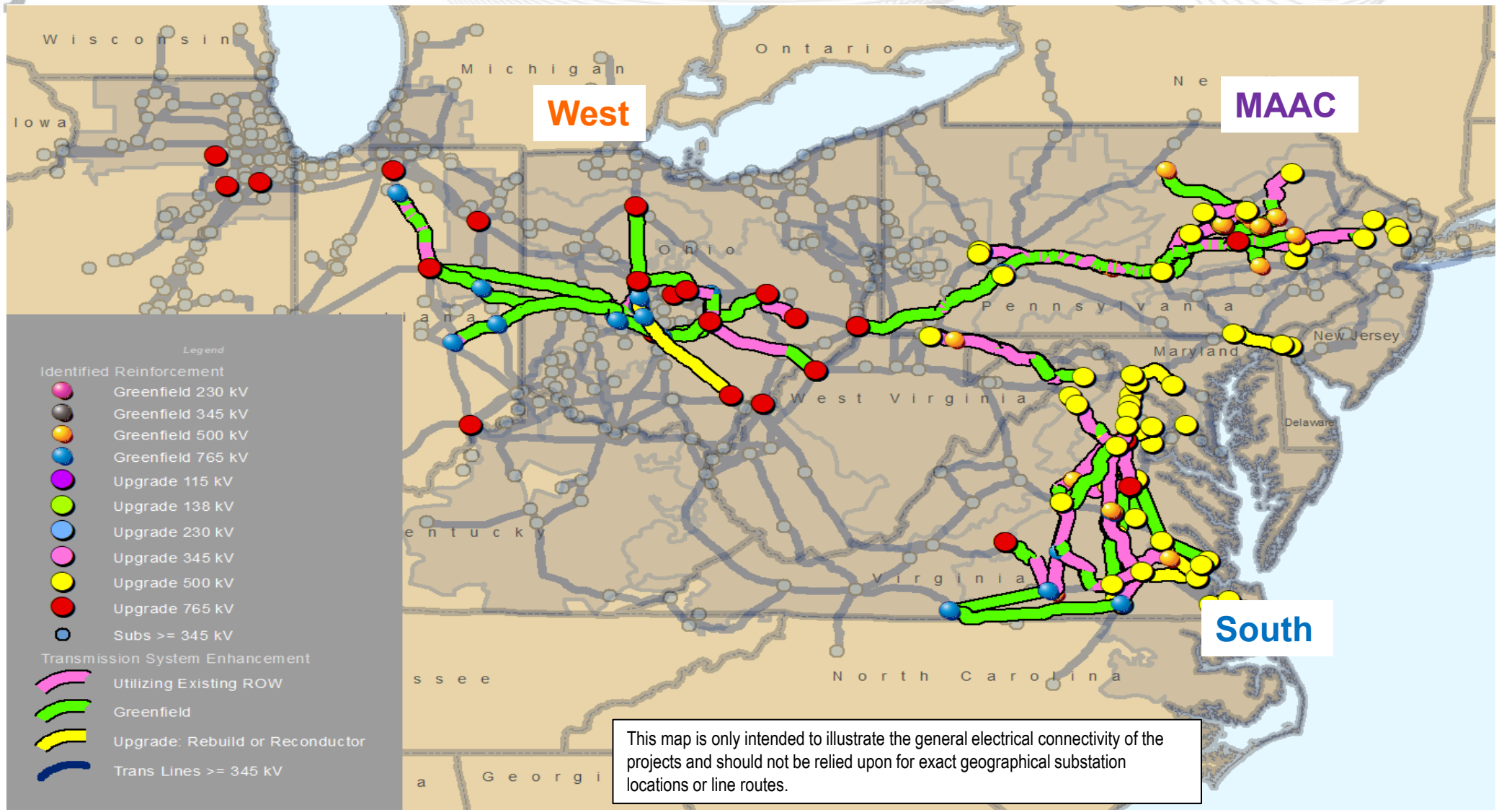


# 2025 Reliability Proposal Window 1

- 2025 Window 1 opened on June 18, 2025 and closed on August 18 , 2025.
- The 2025 Window 1 was conducted to address Reliability violations identified for the year of 2030 to 2032 RTEP studies.
- For this Window, PJM sought technical solutions, also called proposals, to resolve potential reliability criteria violations on facilities identified in accordance with all applicable planning criteria (PJM, NERC, SERC, RFC, and Local Transmission Owner criteria).
  - 134 total proposals submitted from 19 entities (includes combined/portfolio proposals)
    - 57 Greenfields
    - 77 Upgrades
  - Proposal Cost Estimates: Approximates range from $1.65 M to $6,730 M
  - 90 proposals with cost containment (Some hard-capped)
  - Grid Enhancing Technologies:
    - HVDC: 5 proposals
    - Advanced Conductors: 5 proposals
- The evaluation for the Window 1 proposed projects is in progress and is expected to be completed by the end of December 2025 and board approved in February 2026.

- **Strong Stakeholder Participation and Collaboration - 15 Joint Proposals submitted to the PJM 2025 RTEP. The following are highlights**:
  - Joint venture between TRAIL and Transource.
  - FirstEnergy submitted joint proposals with AEP.
  - NXTMID (NextEra) proposal benefits are standalone but additional benefits if paired with Exelon proposals.
  - Exelon submitted joint proposals intended to be paired with NextEra proposals.
  - PSEGRT submitted proposals are PSEG, PPL, and AES (Dayton) joint proposals.

# Preliminary Clusters (only 765 & 500 kV proposals shown)




This map is only intended to illustrate the general electrical connectivity of the projects and should not be relied upon for exact geographical substation locations or line routes.

Proposal Evaluation in Progress:

PJM in evaluating the proposals and attempts to:

- Develop robust, holistic and expandable solutions that address the baseline violations identified in 2030 and 2032 regional issues associated with:
  - Local constraints: resulting from local load growth across PJM zones
  - Heavy transmission interface flows West-East driven by load increase in Mid-Atlantic/PPL and Northern Dominion and sourced generation in both Western and South PJM
  - Needed reactive power VAR reinforcements, both static and dynamic as necessary.
  - Address the need for regional transfer to MAAC from West and South due to the removal of the NJOSW generation, and additional PPL (~3.5GWs - not included in the 2025 load forecast) .
- Adhere to all applicable planning criteria, including PJM, NERC, SERC, RFC and Local Transmission Owner Criteria.

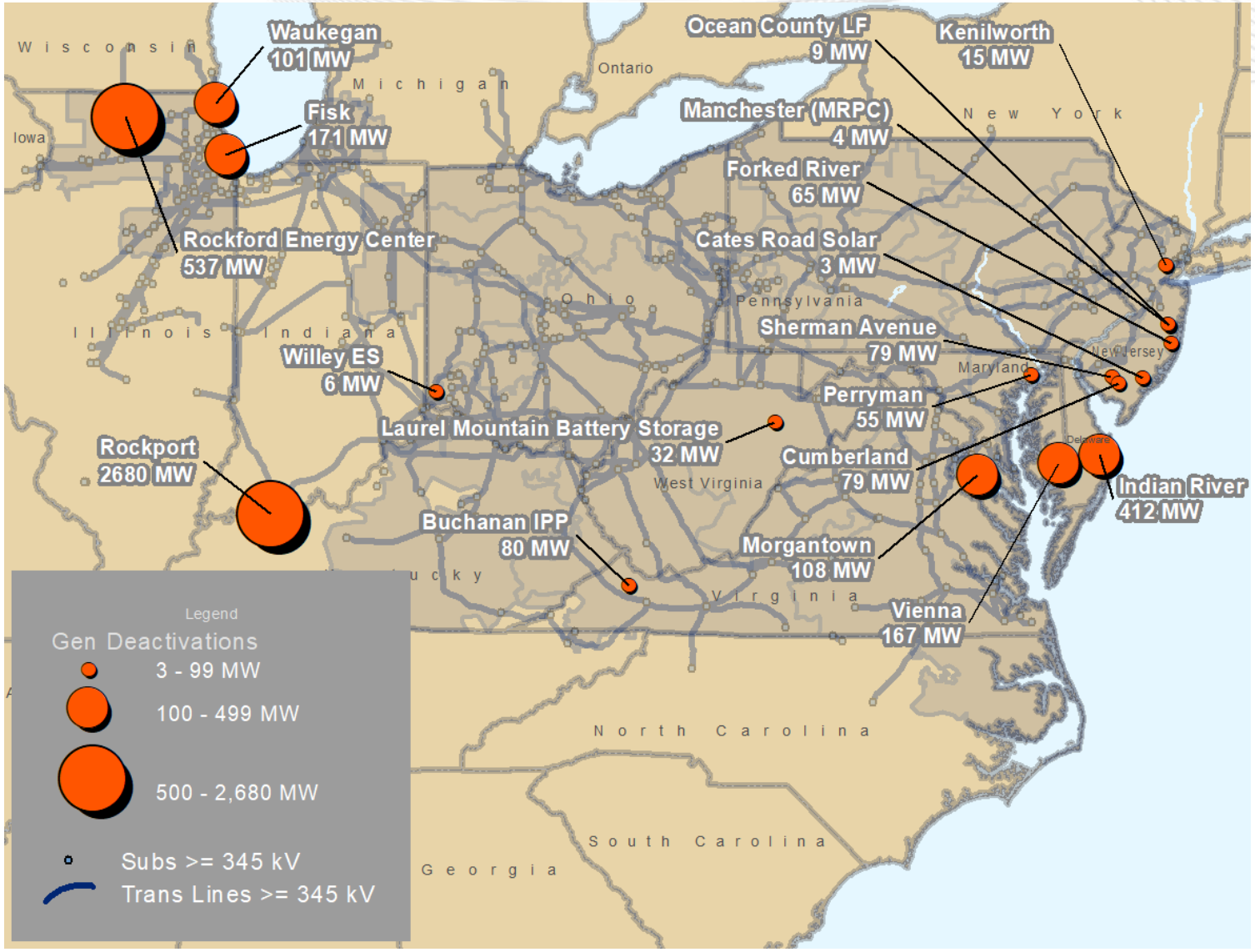
# 2025 RTEP M-3 Projects Update

- Between 11/1/2024 and 11/1/2025:
  - 264 Needs were presented
  - 221 Solutions were presented
    - Total estimated cost: $9.13B
  - 52 Solutions completed all necessary reviews and will be integrated into the 2026 RTEP.
    - Total estimated cost: $1.46B

# Generation Deactivation Notification Update (Between 4/1/2025 and 11/1/2025)

https://www.pjm.com/planning/service-requests/gen-deactivations

# Deactivations



# Deactivation Status: Recently Announced

| Unit Name | Capacity (MW) | Fuel Type | Transmission Owner Zone | Requested Deactivation Date | Reliability Analysis |
|---|---|---|---|---|---|
| Lawnside 14 BT | 0 | Battery | PSEG | 1/1/2027 | Reliability analysis underway |
| Kincaid (Units 1, 2) | 1112 | Coal | ComEd | 11/30/2027 | Reliability analysis underway |
| Cooper 1 | 116 | Coal | EKPC | 12/31/2030 | Reliability analysis complete; no impacts identified |

# Deactivation Status: Recently Withdrawn Deactivation Notices

| Unit Name | Capacity | Fuel Type | Transmission Owner Zone | Withdrawn Date | Reliability Analysis |
|---|---|---|---|---|---|
| Morgantown (CT5, CT6) | 108 | Oil | PEPCO | 8/14/2025, 9/30/2025 | Reliability analysis complete; no impacts identified |
| Sayreville (CT1, CT2, CT3, CT4) | 216.9 | Natural Gas | JCPL | 8/31/2025 | Reliability analysis complete; no impacts identified |

# Deactivation Status: Recently Deactivated

| Unit Name | Capacity (MW) | Fuel Type | Transmission Owner Zone | Actual Deactivation Date | PJM Reliability Status |
|---|---|---|---|---|---|
| Sidney (Unit 5) | 2 | Diesel | Dayton | 10/8/2025 | Reliability analysis complete; no impacts identified |
| Warren Evergreen (CT1) | 5 | Natural Gas | ATSI | 10/1/2025 | Reliability analysis complete; no impacts identified |
| FE DOVETAIL 1 CT | 0 | Biomass | ATSI | 9/24/2025 | Reliability analysis complete; no impacts identified |
| Willey Energy Storage | 6 | Battery | DEOK | 9/2/2025 | Reliability analysis complete; no impacts identified |
| Buchanan (Units 1, 2) | 80 | Natural Gas | AEP | 7/2/2025 | Reliability analysis complete; no impacts identified |
| Laurel Mountain Battery | 0 | Battery | APS | 7/1/2025 | Reliability analysis complete; no impacts identified |
| Ocean County LF | 9.1 | Biomass | JCPL | 7/1/2025 | Reliability analysis complete; no impacts identified |
| Elwood (CT 8, 9) | 300 | Natural Gas | ComEd | 6/1/2025 | Reliability analysis complete; no impacts identified |
| Wagner 1 | 126 | Natural Gas | BGE | 6/1/2025 | Reliability analysis complete; no impacts identified |
| Wagner CT 1 | 13 | Diesel | BGE | 6/1/2025 | Reliability analysis complete; no impacts identified |
| Morris Road 1 D | 2 | Oil | PECO | 5/31/2025 | Reliability analysis complete; no impacts identified |
| Cates Road Solar | 2.6 | Solar | ACE | 4/1/2025 | Reliability analysis complete; no impacts identified |
| Manchester 1 LF | 4 | Methane | JCPL | 4/1/2025 | Reliability analysis complete; no impacts identified |

# PJM Market Efficiency Update

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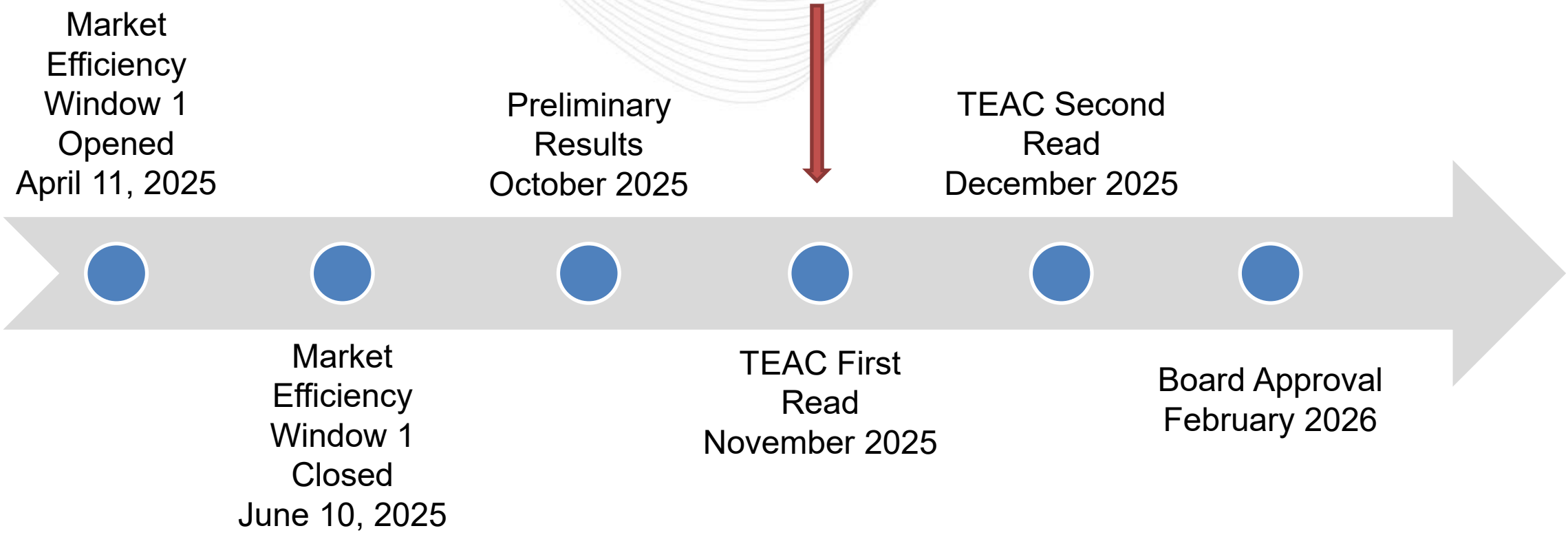
# PJM 2024/25 Market Efficiency Cycle

# 2025 Market Efficiency Timeline



# 2024/25 ME Window 1 - Status

- 2024/25 Long-Term Market Efficiency Window 1 opened on 4/11/25 and closed 6/10/25.
  - Market Efficiency Base Case, Sensitivity Scenarios, and Congestion Drivers for the window posted on the Market Efficiency secure page.
  - Updated Event Files were posted on the Market Efficiency secure page at the beginning of October.
  - Updated congestion file posted on the Market Efficiency secure page.
- Received 14 proposals from 5 entities.
  - Redacted versions of proposals are posted on the Redacted Proposals page.
  - Proposal descriptions can be found in the Market Efficiency Update presented at August TEAC.
- Analysis completed and preliminary results presented during the Market Efficiency Update at the October TEAC.

# 2024/25 ME Window 1 - Results

- Museville-Smith Mountain 138 kV (AEP)
  - Analysis completed: Proposal 733, reconductor one span of the Museville-Smith Mountain 138 kV line and replace disconnect switches at Smith Mountain station, selected as the preferred solution.

- West Point-Lanexa 115 kV (DOM)
  - Analysis completed: Proposal 525, 230/115 kV switching station at Goalders Creek, selected as the preferred solution.

- Garrett-Garrett Tap 115 kV (APS-PENELEC)
  - Garrett-Garrett Tap 115 kV congestion driver will be addressed in 2025W1 reliability window.
  - Proposed solution presented during the Reliability Analysis Update at the October TEAC.

# Questions?