

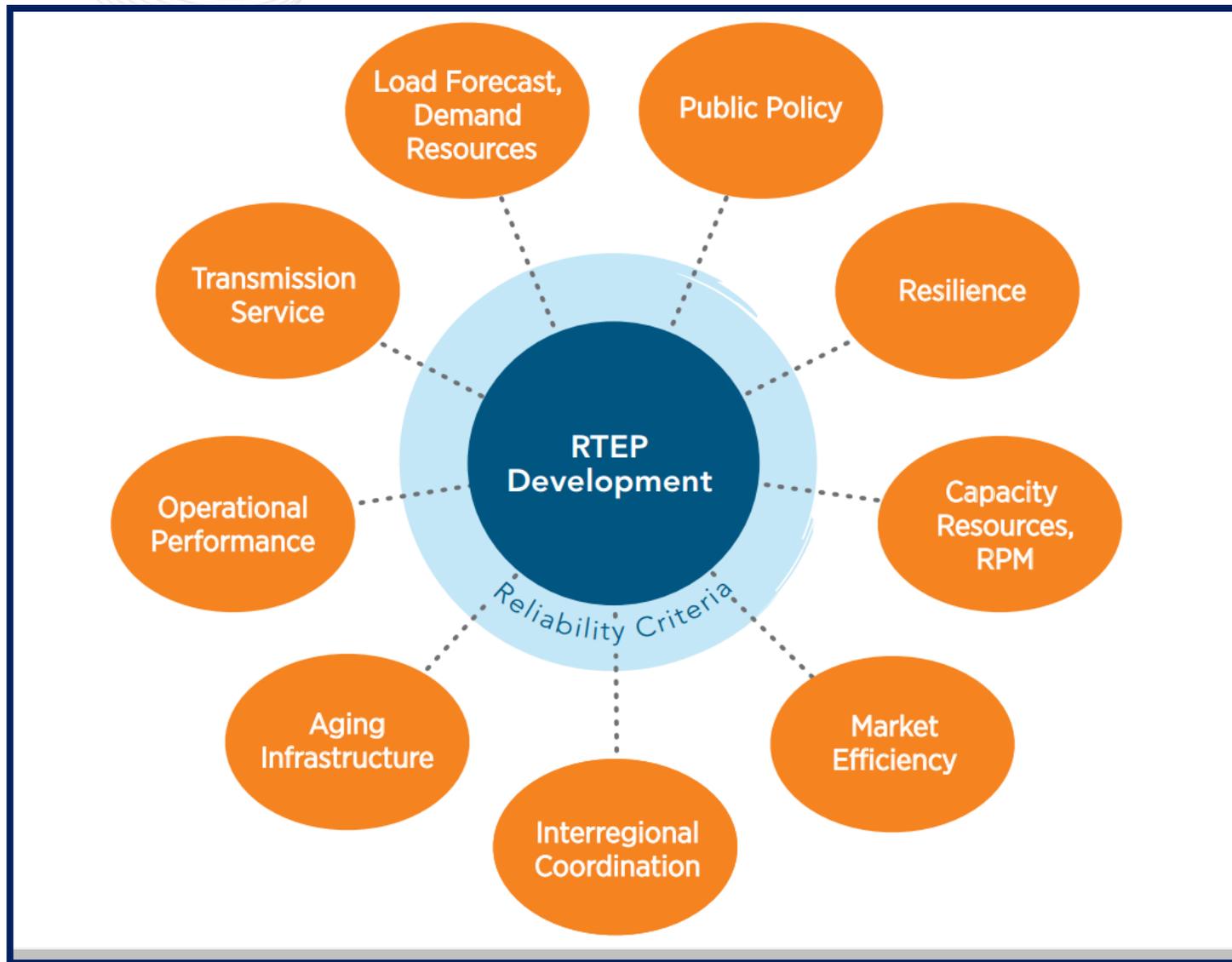
# PJM Regional Transmission Expansion Planning (RTEP) Process

Nebiat Tesfa, Principal Engineer

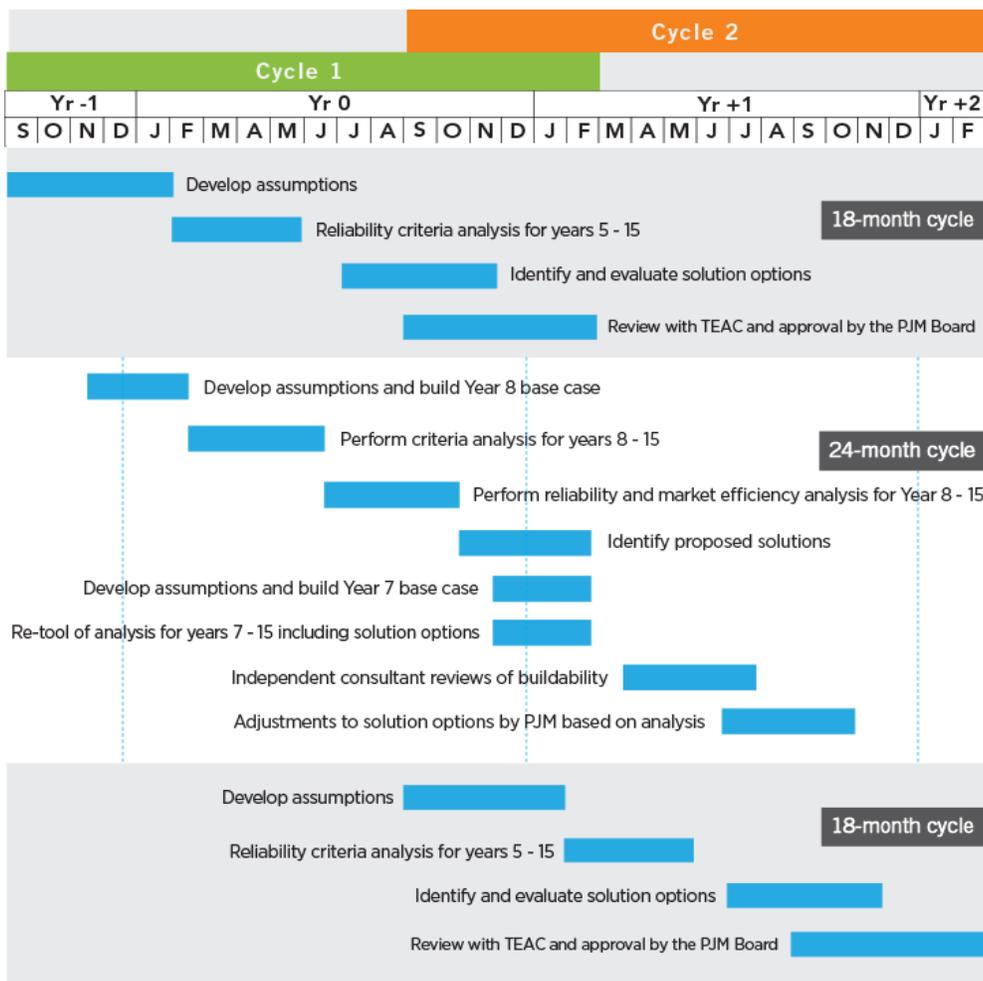
Transmission Planning

IPSAC - May 3, 2024

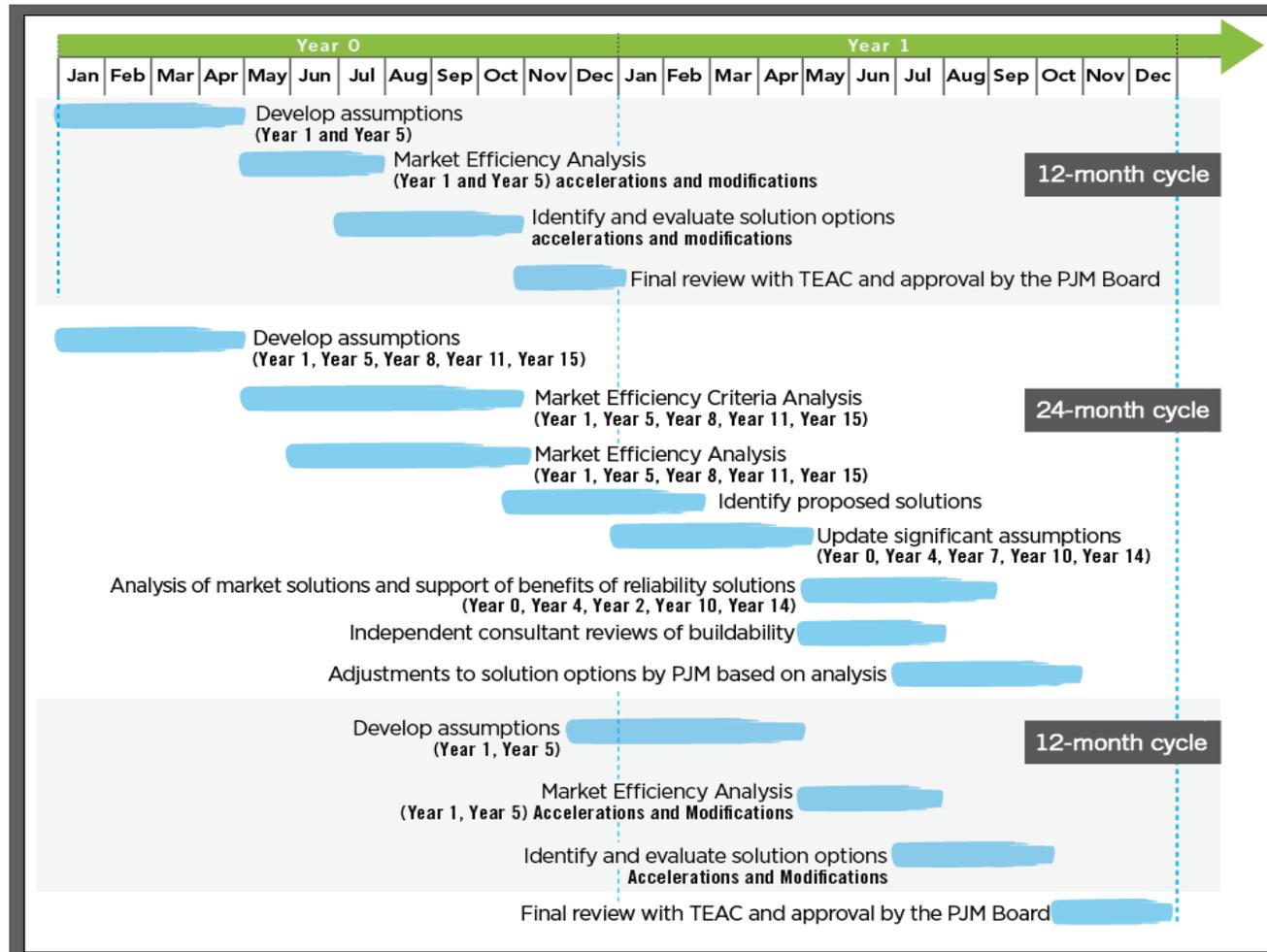
- Planning Committee (PC)
  - <http://www.pjm.com/committees-and-groups/committees/pc.aspx>
- Transmission Expansion Advisory Committee (TEAC)
  - <http://www.pjm.com/committees-and-groups/committees/teac.aspx>
- Interregional Planning
  - <http://www.pjm.com/planning/interregional-planning.aspx>
- Services 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>



## PJM's 2-year Reliability



## PJM's 2-year Market Efficiency





# 2024 RTEP Assumptions and Updates

- PJM annually presents the assumptions at the beginning of each year.
- Follow the link below for details of the 2024 RTEP Assumptions presentation.

<https://www.pjm.com/-/media/committees-groups/committees/teac/2024/20240109/20240109-item-13---2024-rtep-assumption.ashx>

- As part of the 24-month RTEP cycle, a year-8 (2032) base case will be developed and evaluated as needed as part of the 2024 RTEP
- The year 8 case will be based on year-5 (2029) cases that will be developed as part of this year's 2024 RTEP
- Purpose: To identify and develop longer lead time transmission upgrades in coordination with LTRTP
- In 2024:
  - PJM is pursuing Manual revisions to change the 24 month RTEP to 36 month RTEP
  - Once the Manual Revisions are adopted, PJM will begin assumptions and model building discussions for year 8 and year 15 cases to support Long Term Regional Transmission Planning (LTRTP)

- As per the PJM Operating Agreement, a proposal window will be conducted for all reliability needs that are not Immediate Need reliability upgrades or are otherwise ineligible to go through the window process.
- FERC 1000 implementation will be similar to the 2023 RTEP.
  - Advance notice and posting of potential violations
  - Advance notice of window openings
  - Window administration

- Input Requested:
  - Stakeholder suggestions for and input to 2024 alternative sensitivity studies and scenario analysis
- Information Items (Non-RTEP Scenarios Studied by PJM):
  - PJM continues to participate in the DOE Atlantic Offshore Wind Transmission study which may provide additional information for 2024 RTEP and beyond
  - The DOE National Transmission Planning Study

# 2024 RTEP Window 1 - Expected Timeline

- June/July 2024
  - Open competitive proposal window
  - Post modeling assumptions changes and corrections for and begin mid-year retool of 2024 RTEP baseline analysis if required
    - Accounts for major new modeling assumption changes and corrections not previously considered.
    - Basic assumptions such as planning criteria and ratings methodology that changed after February will not be considered until the 2025 RTEP.
- July/August 2024
  - Close competitive proposal window
  - Finalize mid-year retool
- September to December 2024: Evaluate proposals
- October 2024 to February 2025: Review and Approve proposals

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# 2024 7/8-Year RTEP Window Baseline Reliability Projects

# 2024 7/8-Year RTEP Window - NJ OSW 2.0 Update

- NJ SAA 2.0 Window – Planned to open in July for 90 days
  - Will use an 8-year RTEP needs and NJ SAA OSW integration impacts
    - Deliverability of full 7,500 MWs of SAA 1.0 capability (remaining 3,742 MW beyond the 2028-29 level) of generation from SAA 1.0 expected to be in service 2031-2032 (reliability)
    - Account for load growth (5 to 8 years gap) and longer-term impacts of deactivations
    - New 3,500 MW of generation requested with SAA 2.0 expected in service starting 2033 (public policy)
  - Solutions will focus on meeting both needs and opportunities for multi-driver solutions
  - Targeting NJ BPU will accept solutions in Spring 2025.
  - Solutions presented to the PJM Board targeted for July 2025

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# 2023 RTEP Window 2 Updates

## Baseline Reliability Projects

## 2023 Window 2 opened on March 6 and closed on April 5

### Window to address the following needs:

- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>▪ AEP forecasted load growth in the Columbus, Ohio area.</li> </ul> | <ul style="list-style-type: none"> <li>▪ Thermal issues in PSEG around Hinchmans area</li> </ul> | <ul style="list-style-type: none"> <li>▪ 500kV line #588 Fentress -Yadkin End of Life (EOL) in Dominion</li> </ul> |
|--|--|--|

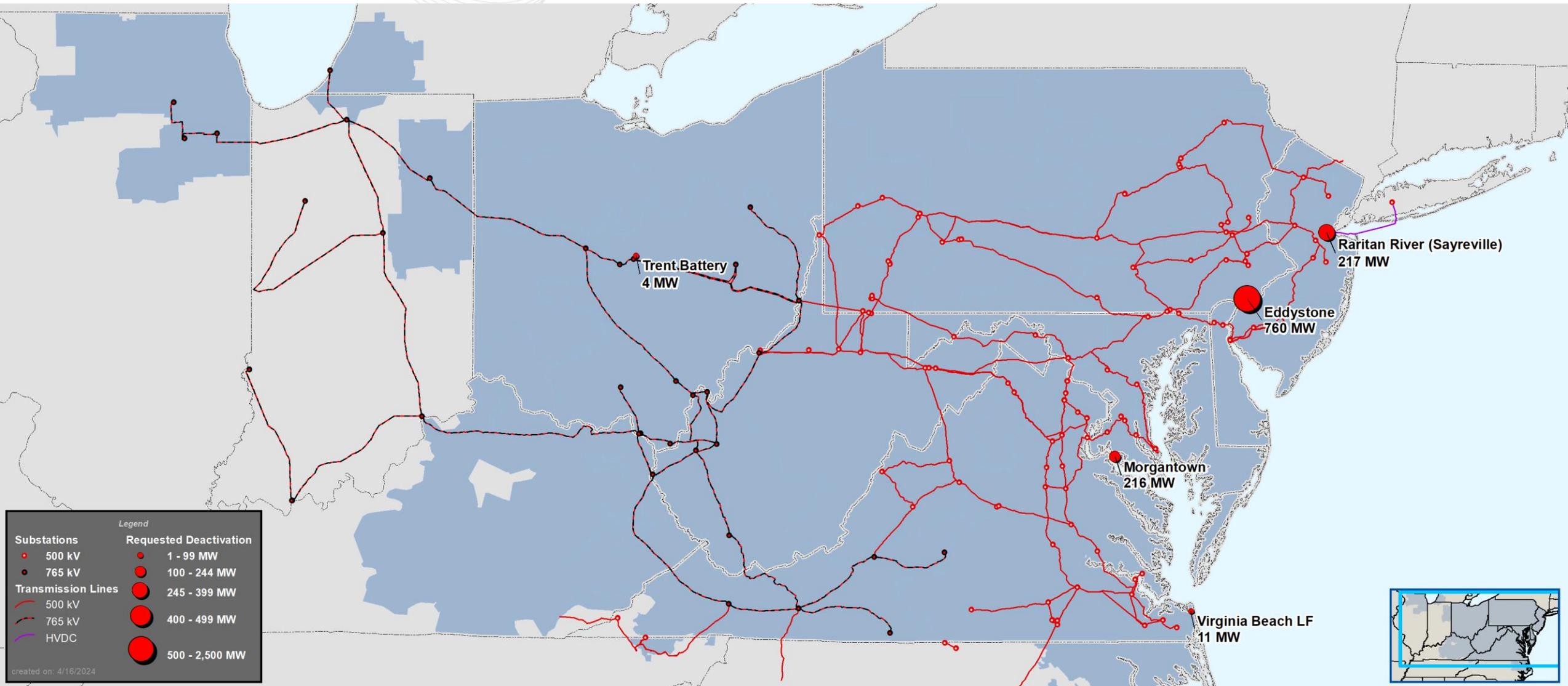
- 2022 Window 3 selected solutions are included in the base cases.

PJM received 21 proposals from six entities  
(15 Upgrades and 6 Greenfield)

<b>Three non-incumbents:</b>		
<p><b>AEP Footprint:</b> 3 x proposing entities</p>	<p><b>PSEG Footprint:</b> 2 x proposing entities</p>	<p><b>Dominion Footprint (EOL):</b> No competing proposals</p>
<p><b>Proposal costs range from \$0.449M to \$229.3M</b></p>		

**Five proposals with cost containment**

# Generation Deactivation Notification Update (Between 11/1/2023 and 4/1/2024)



# Deactivation Status

Unit(s)	Fuel Type	Transmission Zone	Requested Deactivation Date	PJM Reliability Status
Sayreville CT1, CT2, CT3 & CT4 (217 MW)	Natural Gas	JCPL	12/29/2023	Reliability analysis complete. No violation identified
Morgantown CT 3, CT 4, CT 5 & CT 6 (216 MW)	Oil	PEPCO	12/22/2023	Reliability analysis complete. No violation identified
Eddystone Unit 3 & 4 (760 MW)	Oil	PECO	12/1/2023	Reliability analysis complete. No violation identified

Unit Name	Fuel Type	Transmission Zone	Actual Deactivation Date	PJM Reliability Status
Virginia Beach LF (11 MW)	Methane	Dominion	12/8/2023	Reliability analysis complete; no impacts identified
Trent Battery Storage (4 MW)	Battery	AEP	9/22/2023	Reliability analysis complete; no impacts identified

# PJM Market Efficiency Update

Nick Dumitriu

Manager, PJM Market Simulation

# 2024/25 Market Efficiency Cycle

- In March 2024, PJM posted the starting 2024/2025 ME Base Case database:
  - Topology based on the final 2028 Summer Peak powerflow from the RTEP 2023 18-month Reliability cycle.
    - Includes all RTEP baseline projects approved by the PJM Board up to including the February 2024 meeting.
  - Load forecast from 2024 PJM Load Forecast Report (posted February 2024).
  - Case was posted on the [ME secure page](#).
  
- This database is the starting point for the 2024/2025 Market Efficiency Cycle and it provides the complete congestion view at the end of the 18-months 2023 RTEP Reliability Cycle.
  
- PJM currently developing assumptions for the 2024/25 Market Efficiency Cycle.

# 2024/25 Market Efficiency Timeline

