



Market Efficiency Update

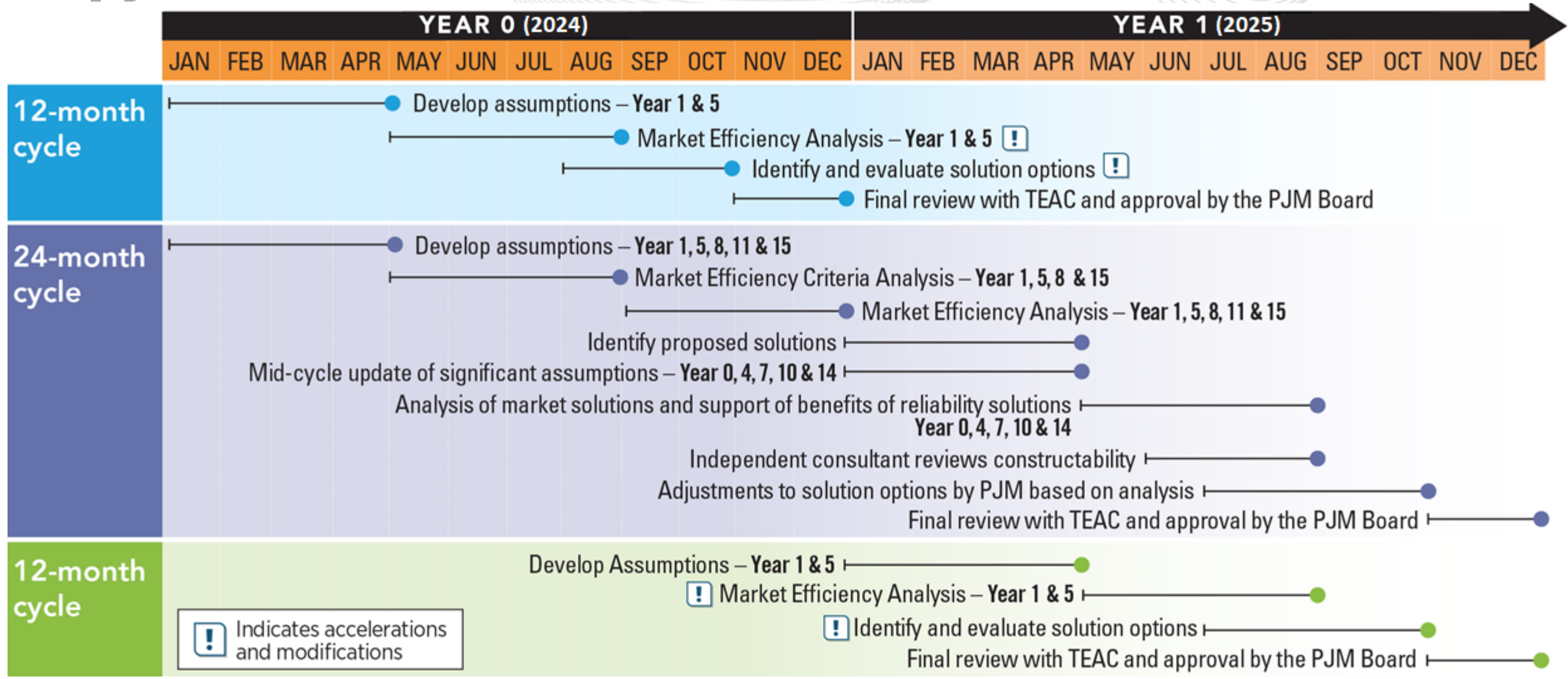
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2024/25 Market Efficiency Cycle



- In February 2024, PJM posted the final update for the 2023/24 ME Base Case.
 - Included the reliability upgrades from the 2022 Window 3 (approved at Dec '23 Board meeting).
 - Case was posted on the [ME secure page](#).
- The starting 2024/2025 ME Base Case database will be posted in the following days and it will include:
 - All RTEP baseline projects approved by the PJM Board at the February 2024 meeting.
 - New load forecast from 2024 PJM Load Forecast Report (posted February 2024).
- This database is the starting point for the 2024/2025 ME Cycle and it provides the complete congestion view at the end of the 18-months 2023 RTEP Reliability Cycle.

- Modeled years: 2025, 2029, 2032, 2035.
- Updated Hitachi Energy PROMOD Database.
- Powerflow consistent with the final 2028 RTEP powerflow.
 - Includes baseline transmission upgrades and expansions approved at the Feb '24 Board meeting.
- Load Forecast and Demand Response based on PJM 2024 Load Forecast Report.
- Updated Generation Expansion.
- Fuel/Emissions Price forecasts provided by Hitachi Energy (Spring 2024 vintage).
- Financial parameters, Discount Rate and Carrying Charge, based on the latest Transmission Cost Information Center spreadsheet.



Comparison New ME Base Case vs. Previous ME Base Case

- Slides 7 through 9 compare the simulated congestion between the new ME Base Case (2024/25 start) and the previous ME Base Case (2023/24 end).
- The new ME Base Case (2024/25 start) was created by updating the previous ME Base Case (2023/24 end) with the following:
 - Topology updated with the baseline transmission upgrades and expansions approved at the Feb '24 Board meeting.
 - Load forecast updated to reflect the most recent PJM Load Forecast Report.
- The congestion differences between the two cases are due to the following:
 - Different market conditions 2028 vs. 2029.
 - RTEP upgrades approved at the Feb '24 Board meeting.
 - Changes in forecast between the 2023 Load Forecast and 2024 Load Forecast Reports.



Comparison New ME Base Case vs. Previous ME Base Case (cont.)

PJM Constraint ¹⁾	Area	Type	2028 Annual Congestion Previous ME Base Case with Previous 2023 Load Forecast Report	2029 Annual Congestion ²⁾ New ME Base Case with New 2024 Load Forecast Report
Clifford-Boxwood 138 kV	AEP	Line	\$48,494,165	\$45,452,532
AP South	PJM	Interface	\$1,785,468	\$25,900,133
Westvaco-Mt Zion 138 kV	APS	Line	\$1,704,211	\$11,465,132
Enbridge-DeKalb-Waterman 138 kV ³⁾	COMED	Line	\$7,513,761	\$9,025,408
Haumesser Rd-W De Kalb 138 kV ³⁾	COMED	Line	\$6,582,203	\$8,580,172
Bremo-Scottsville 138 kV	DOM-AEP	Line	\$11,372,270	\$8,474,276
Morgan-Cherry Run 138 kV	APS	Line	\$2,126,902	\$6,942,351
AEP-DOM	PJM	Interface	\$2,801,883	\$6,591,150
Ashtabula-Sanborn 138 kV ³⁾	FE-ATSI	Line	\$5,930,137	\$4,203,614
Bedington-Blackoak	PJM	Interface	\$46,307	\$2,726,422
Charlottesville-Proffit Rd 230 kV	DOM	Line	\$1,196,533	\$2,070,566
Bremo-Fork Union 115 kV	DOM	Line	\$4,411,072	\$1,893,025
Fork Union-Cunningham 115 kV	DOM	Line	\$436,639	\$1,165,211
Bremo 230/115 kV	DOM	Line	\$1,655,259	\$860,048
Thrasher-Fentress 230 kV	DOM	Line	\$1,152,383	\$795,046
Chesterfield-Basin 230 kV	DOM	Line	\$1,845,737	\$159,768

¹⁾ Some of these constraints are electrically close to reliability violations addressed in the 2022 Window 3.

²⁾ Table includes constraints that bind >\$1M annual congestion in the 2028 or 2029 production cost simulation.

³⁾ This constraint will be addressed by the 2023 RTEP Window 1, Cluster 3 solution.



Comparison New ME Base Case vs. Previous ME Base Case (cont.)

PJM Constraint ¹⁾	Area	Type	2028 Annual Congestion	2029 Annual Congestion
			Previous ME Base Case with Previous 2023 Load Forecast Report	New ME Base Case with New 2024 Load Forecast Report
Allen-R.P. Mone 345 kV	AEP	Line	\$ 696,675	\$ 1,748,305
Ohio Central-South Coshocton 138 kV	AEP	Line	\$ 21,880	\$ 1,432,579
Dauphin-Juniata 230 kV	PPL	Line	\$ 517,441	\$ 1,438,749
Amos #6 765/138 kV	AEP	XFMR	\$ -	\$ 1,273,208
West Bellaire-Tiltonsville 138 kV	AEP	Line	\$ 98,211	\$ 1,017,213

¹⁾Table includes constraints that bind >\$1M annual congestion in the 2028 or 2029 production cost simulation.

The congestion difference between the two columns are due to the following:

1. Different market conditions 2028 vs. 2029.
2. RTEP upgrades approved at the Feb '24 Board meeting.
3. Changes in forecast between the 2023 Load Forecast Report and 2024 Load Forecast Report.



Comparison New ME Base Case vs. Previous ME Base Case - M2M

M2M Constraint ¹⁾	Area	Type	2028 Annual Congestion Previous ME Base Case with <u>Previous 2023 Load Forecast Report</u>	2029 Annual Congestion Updated ME Base Case with <u>New 2024 Load Forecast Report</u>
Crescent Ridge-Corbin 138 kV	COMED-AMIL	Line	\$7,277,187	\$9,374,933
Green Acres-Olive 345 kV	COMED-AEP	Line	\$4,769,215	\$7,405,951
Mittal Steel-Putnam 138 kV	AMIL	Line	\$3,729,240	\$4,971,977
Stillwell 345/138 kV	NIPSCO	XFMR	\$1,766,364	\$5,026,193
Munster-Lake George 345 kV	NIPSCO	Line	\$954,185	\$1,528,978
Dune Acre-Michigan City 138 kV	NIPSCO	Line	\$650,747	\$2,615,152
Lallendorf-Monroe 345 kV	ATSI-DECO	Line	\$568,112	\$2,931,002
Kokomo-Tipton 230 kV	DUK-IN	Line	\$424,891	\$1,021,420

¹⁾Table includes M2M constraints that bind >\$1M annual congestion in the 2028 or 2029 production cost simulation.

M2M constraints may be considered for a coordinated system planning study with MISO.

Step	Tentative Target Date
Develop Base Case Assumptions	May 2024
Post Preliminary Base Case	July 2024
Stakeholders Feedback	September 2024
Identify Congestion Drivers	September – November 2024
Post Final Base Case and Target Congestion Drivers	January 2025
Long Term Proposal Window	January - May 2025
Analysis of Proposed Solutions	May – September 2025
TEAC Reviews and Board Approval	October - December 2025

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