Market Simulation Update

Market Simulation

Transmission Expansion Advisory Committee

March 10, 2026

ME Sensitivity with 2025 Baseline Upgrades 2030 & 2032 Simulations

- Studied the impact of Reliability 2025W1 and Market Efficiency 2024/25W1 baseline upgrades on the 2030 and 2032 Market Efficiency cases.
  - Using the 2025 PJM Load Forecast (consistent with 2025W1 reliability cases).
  - Aligned the generation expansion to be consistent with the 2030 and 2032 reliability base cases utilized in 2025W1.
  - 2030 and 2032 scenarios with upgrades posted on Market Efficiency Secure Page.
- The 2025W1 and 2024/25W1 baseline upgrades were applied based on required in-service dates.
  - Once the upgrades are applied, the 2030 simulation is cleared of constraint overloads.
- Will continue to monitor remaining congestion for overlaps with violations in the 2026 RTEP reliability window.

ME Sensitivity with 2025 Baseline Upgrades
2030 Simulated Year – Hours with Overloads

- The addition of the 2025 baseline upgrades address the constraint overload issues previously present in the 2030 simulation.

2030 Simulation	Hours with Constraint Overloads
Without baseline upgrades	352
With baseline upgrades	0

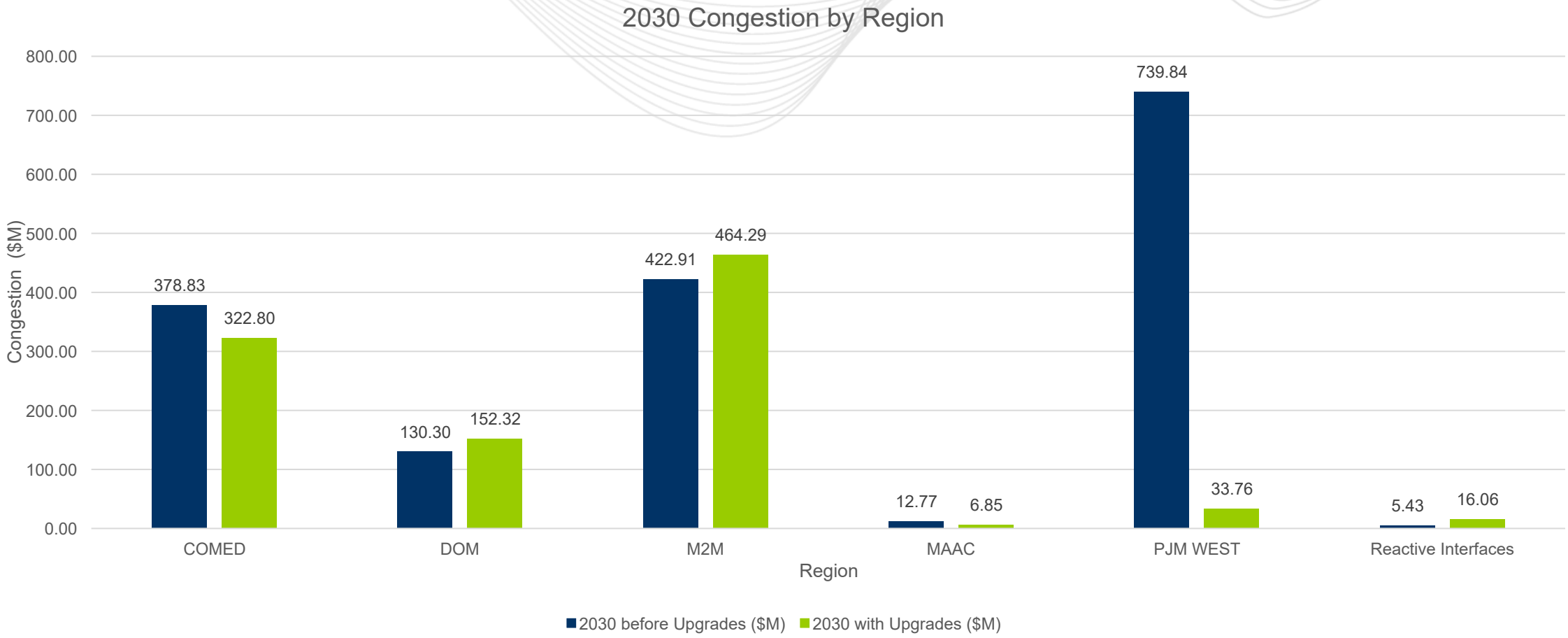
ME Sensitivity with 2025 Baseline Upgrades
2030 Simulated Year - Congestion

- As expected, after the addition of the 2025W1 and 2024/25W1 baseline upgrades, constraints near/overlapping with reliability violations no longer bind in the 2030 simulation.

Constraint	Area	Type	Congestion before Upgrades ($M)	Congestion after Upgrades ($M)	Congestion >$5M in 2032 Simulation
College Corner-Collinsville 138 kV	AEP-DEOK	Line	10.83	0.09	No
Mcgirr Rd-Rochelle Tap (R) 138 kV	COMED	Line	8.93	0.00	No
Steward TSS 186-Haumesser Rd. (R) 138 kV	COMED	Line	5.87	0.00	No
Waterman 3-Sandwich (R) 138 kV	COMED	Line	100.84	0.00	No
Bath-Urbana 138 kV	DAY	Line	33.46	0.00	Yes
Chesterfield 2-Basin 230 kV	DOM	Line	101.12	0.00	No
East Springfield-Melissa 138 kV	FE-ATSI	Line	601.74	0.00	No
Glenbrook-Susquehanna 230 kV	PLGRP	Line	6.22	0.00	No

*Includes constraints that have congestion >$5M before the addition of 2025W1 baseline upgrades.

ME Sensitivity with 2025 Baseline Upgrades
2030 Simulated Year – Congestion by Region



2025W1 and 2024/25W1 upgrades significantly reduce 2030 congestion in the PJM West (non COMED) region.

2030 Simulated Congestion

(includes 2025W1 & 2024/25W1 Baseline Upgrades)

ME Sensitivity with 2025 Baseline Upgrades
2030 Simulated Congestion-MAAC, Interfaces, DOM

Constraint*	Area	Type	2030 Simulation with Upgrades Annual Congestion ($Million)	2030 Simulation with Upgrades Annual Hours Binding (Hrs.)	Congestion >$5M in 2032 Simulation
Peach Bottom TR 500/230 kV	PECO	TR	1.62	43	Yes
Cloverdale-Joshua Falls Interface	PJM	Interface	9.39	44	Yes
Central Interface	PJM	Interface	4.99	238	No
Chickahominy-Elko 230 kV	DOM	Line	132.29	1049	Yes
Lightfoot-Lanexa 230 kV	DOM	Line	6.78	80	No
Waller Solar I-Lancaster 115 kV	DOM	Line	4.16	533	No
Altavista #3 TR 138/115 kV	DOM	TR	3.87	214	Yes
Oak Ridge-Suffolk 115 kV	DOM	Line	2.52	556	No
Farmville #5 TR 230/115 kV	DOM	TR	1.75	152	Yes

*Includes constraints with annual simulated congestion greater than $1M and binding hours greater than 25.

ME Sensitivity with 2025 Baseline Upgrades
2030 Simulated Congestion-PJM West (non-COMED)

Constraint*	Area	Type	2030 Simulation with Upgrades Annual Congestion ($Million)	2030 Simulation with Upgrades Hours Binding (Hrs.)	Congestion >$5M in 2032 Simulation
Musevillle-Smith Mountain 138 kV	AEP	Line	12.04	360	No
Fieldale-Thornton 138 kV	AEP	Line	3.49	54	No
Abingdon-Keywood SS 138 kV	AEP	Line	2.64	116	Yes
Axton-PJM Queue AE2-140 138 kV	AEP	Line	2.62	156	No
Claytor-South Christainsburg 138 kV	AEP	Line	1.72	58	No
Atalla-Adams 138 kV	AEP	Line	1.54	95	Yes
Leroy Center Q4-Spruce Q4 138 kV	FE-ATSI	Line	1.49	150	No
Danville-East Danville 138 kV	AEP	Line	1.30	44	No
Kittanning-All Dam 6 Tap 138 kV	APS	Line	1.20	216	No

*Includes constraints with annual simulated congestion greater than $1M and binding hours greater than 25.

ME Sensitivity with 2025 Baseline Upgrades
2030 Simulated Congestion-COMED

Constraint*	Area	Type	2030 Simulation with Upgrades Annual Congestion ($Million)	2030 Simulation with Upgrades Hours Binding (Hrs.)	Congestion >$5M in 2032 Simulation
Cherry Valley(B)-Silver Lake (R) 345 kV	COMED	Line	190.00	1461	Yes
Alpine Tap (R)-Belvidere (R) 138 kV	COMED	Line	67.23	310	Yes
Kensington Ave (B)-Kankakee (B) 138 kV	COMED	Line	11.10	747	Yes
Wilton Center (B)-PJM Queue AD1-100 345 kV	COMED	Line	11.06	77	Yes
Streator-Queue AC1-168 138 kV	COMED	Line	10.58	989	Yes
Quad Cities-Sterling Steel 345 kV	COMED	Line	9.45	91	Yes
Sandwich (R)-Sandwich (B) 138 kV	COMED	Line	5.28	172	No
Loretto (B)-PJM Queue AD1-100 345 kV	COMED	Line	2.34	54	Yes

*Includes constraints with annual simulated congestion greater than $1M and binding hours greater than 25.

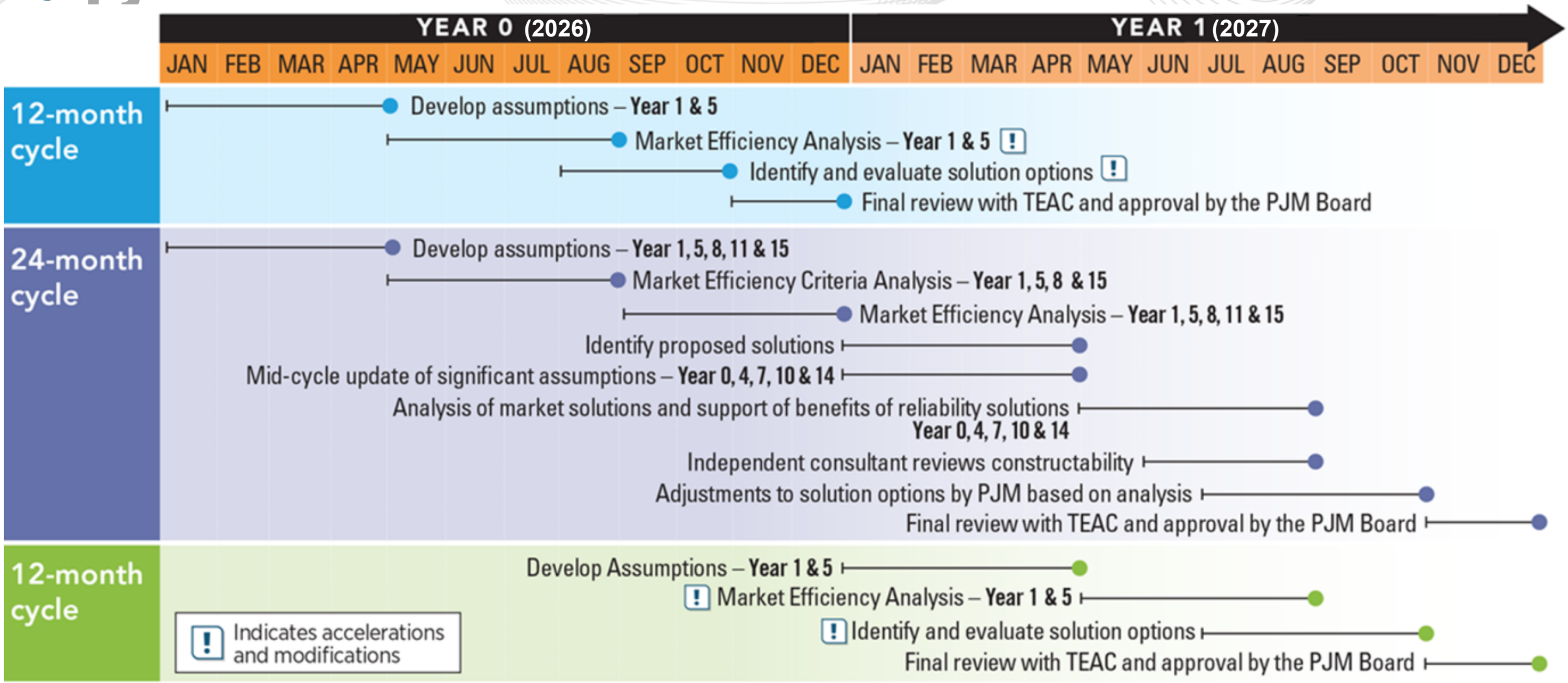
ME Sensitivity with 2025 Baseline Upgrades
2030 Simulated Congestion-M2M

Constraint*	Area	Type	2030 Simulation with Upgrades Annual Congestion ($Million)	2030 Simulation with Upgrades Hours Binding (Hrs.)	Congestion >$5M in 2032 Simulation
Goose Creek-Rising 345 kV	AMIL	Line	261.98	1825	Yes
He Hubbell-Batesville 138 kV	DUK-IN-HE	Line	72.97	1075	Yes
Reynolds TR3 765/345 kV	NIPS	Line	35.10	242	Yes
Lake George-Munster 345 kV	NIPS	Line	22.64	249	Yes
Crescent Ridge (R)-Corbin 138 kV	COMED-AMIL	Line	19.42	945	Yes
Leghorn-Goose Creek IP 345 kV	AMIL	Line	17.17	248	No
Munster-Burnham (Red) 345 kV	NIPS-COMED	Line	16.24	189	No
He Hubbell-Sunman Weisburg 138 kV	DUK-IN-HE	Line	6.16	97	Yes
Kewanee-Putnam 138 kV	COMED-AMIL	Line	4.58	163	Yes
Chicago Avenue-Praxair 3 138 kV	NIPS	Line	3.69	512	Yes
Hidden Valley-Greendale 138 kV	DUK-IN	Line	2.30	43	No
Lallendorf-Monroe 1&2 345 kV	FE-ATSI-DECO	TR	1.55	70	No

*Includes constraints with annual simulated congestion greater than $1M and binding hours greater than 25.

2026/27 Market Efficiency Cycle

2026/27 Market Efficiency Timeline



2026/27 Market Efficiency Next Steps

Step	Target Date
Post Preliminary Base Case	July 2026
Stakeholders Feedback	August – October 2026
Identify Congestion Drivers	September – December 2026
Post Final Base Case and Target Congestion Drivers	January 2027
Long Term Proposal Window	January - May 2027
Analysis of Proposed Solutions	May – September 2027
TEAC Reviews and Board Approval	October - December 2027

2026/27 ME Cycle Assumptions Overview

- Study Years
  - 2027, 2031, 2034, 2037, and 2041.
- Model and Input Assumptions
  - Fall 2025 Data Release from Hitachi Energy.
    - Fuel/Emissions price forecasts from Hitachi Energy, Spring 2026 update.
  - Load forecast from PJM 2026 Load Forecast Report.
  - Topology will be based on the final 2031 and 2034 Summer Peak powerflows from the RTEP 2026 24-month cycle.
    - Will include all RTEP baseline projects identified during RTEP 2026 cycle.
  - Generation Expansion will be based on 2026 RTEP Generation Assumptions.
- Financial parameters Discount Rate and Carrying Charge, will be based on the Transmission Cost Planner.

Contact

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Market Efficiency Update

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Revision History

- V1 – 03/05/2026 – Original slides posted.

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