Review of 2026 RTEP Assumptions

Transmission Expansion Advisory Committee

Yiming Mao, Sr. Lead Engineer
PJM Transmission Planning

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- 2026 RTEP
  - TPL-001-5
  - PJM Planning Criteria
  - TO form 715 Planning Criteria
- Modeling
  - MOD-032 (GOs and TOs)
  - http://pjm.com/planning/rtep-development/powerflow-cases/mod-032.aspx
  - Siemens PSS®MOD - Model On Demand (TOs)
  - PJM.com Planning Center Online Tool (Gen Model) – GOs

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Expected Timeline

- **November 2025**: Establish 2026 RTEP base case modeling assumptions

- **November 2025 to March 2026**: Build base cases and perform initial case review. During this period;
  - New modeling and other basic assumption changes may be considered if PJM determines they may have a significant impact on the near-term RTEP baseline studies. PJM will notify TEAC and provide an update summarizing changes as needed.
  - Corrections to the analytical files will be accepted.

- **March to June 2026**: Perform RTEP baseline studies.
  - Corrections to the analytical files will only be accepted if they have a widespread impact or will likely impact one or more identified violations.

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Expected Timeline

- **July 2026** (**targeting beginning of July 2026**)
  - Open competitive proposal window
  - Post modeling assumptions changes and corrections for and begin mid-year retool of 2026 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 2027 RTEP.
- **August/September 2026**
  - Close competitive proposal window
  - Finalize mid-year retool if required
- **September to November 2026**: Evaluate proposals
- **October 2026 to February 2027**: Review (TEAC) and Approve proposals (PJM Board)

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- Load Flow Modeling
  - Power flow models for outside world load, capacity, and topology will be based on the following 2025 Series MMWG power flow cases
    - 2030 SUM MMWG outside world for 2025 Series 2031 SUM RTEP, 2029 SUM RTEP
    - 2030 LL MMWG outside world for 2025 Series 2031 LL RTEP
    - 2030 WIN MMWG outside world for 2025 Series 2031 WIN RTEP, 2029 WIN RTEP
    - 2027 SUM MMWG outside world for 2025 Series 2027 SUM RTEP
  - PJM to work with neighbors to identify any updates to topology/corrections
  - PJM topology for all cases sourced from Model On Demand
    - Include all PJM Board approved upgrades through the Q1 2026 PJM Board of Manager approvals.
    - Include all Supplemental Projects included in 2025 Local Plan
    - In order to avoid development of redundant reinforcements, all reinforcements from earlier RTEPs will be modeled based on required in service date.

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- Firm Commitments
  - Long term firm transmission service consistent with those coordinated between PJM and other Planning Coordinators during the 2025 Series MMWG development

- Outage Rates
  - Generation outage rates will be based on the most recent Reserve Requirement Study (RRS) performed by PJM
  - Generation outage rates for future PJM units will be estimated based on class average rates

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- At a minimum, all PJM bulk electric system facilities, all tie lines to neighboring systems and all lower voltage facilities operated by PJM will be monitored.
- At a minimum, contingency analysis will include all bulk electric system facilities, all tie lines to neighboring systems and all lower voltage facilities operated by PJM.
- Thermal and voltage limits will be consistent with those used in operations and those specified in the Form 715 planning criteria. In all cases, the more conservative value will be used.

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2026 RTEP Load Modeling

- Summer Peak Load
  - Summer Peak Load will be modeled consistent with the 2026 PJM Load Forecast Report (or most updated load forecast)
- Winter Peak Load
  - Winter Peak Load will be modeled consistent with the 2026 PJM Load Forecast Report
- Light Load
  - The Light Load Reliability Criteria case will be modeled consistent with the procedure defined in M14B
- Demand Side Load Management, where applicable, will be modeled consistent with the 2026 Load Forecast Report
  - Used in LDA under study in load deliverability analysis

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2026 RTEP Generation Assumptions

- All existing generation expected to remain in service for the year being studied will be modeled.
- Future generation with signed Interconnection Service Agreement (ISA) or Generation Interconnection Agreement (GIA), or that cleared in the 2025/26 BRA, will be modeled along with any associated network upgrades.
  - Generation with a signed ISA/GIA will contribute to and be allowed to back-off problems.
- Off-Shore Wind
  - PJM will monitor status of projects and provide an update at a later TEAC on capacities to be included (if any) and staging: 5 year vs. 8 year modeling
- If needed, additional generation (pre-GIA stage or with a suspended status) may be modeled consistent with the procedures noted in Manual 14B.
- Energy storage including BESS will be modeled and dispatched in base case as needed.

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2026 RTEP Generation Assumptions

- 5 Year (2031) Analysis
  - Balance load with: Existing generation, GIA/ISA generation including CVOW, Suspended ISA generation, and RRI projects (part of TC2).
  - No consideration of a “targeted LOLE”

- 8 Year (2034) Analysis
  - Balance load with: Existing generation, GIA/ISA generation, Suspended ISA generation, and Full TC2 Queue (including RRI)
  - No consideration of a “targeted LOLE”

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Proposed Battery Dispatch Level in Base Cases

The Batteries are proposed to be dispatched in RTEP base cases using the following rules.

- Summer: Min($\frac{ENC \times Storage\ Duration}{4}$, ENC*)×(1-PJM Avg EEFORd)
- Winter: Min($\frac{ENC \times Storage\ Duration}{8}$, ENC)×(1-PJM Avg EEFORd)
- Light Load: Charging at ENC×(1-PJM Avg EEFORd)

* **ENC: Effective Nameplate Capacity**

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Deactivation Notification Generation

- Generation that has officially notified PJM of deactivation will be modeled offline in RTEP base cases for all study years after the intended deactivation date
- RTEP baseline upgrades associated with generation deactivations will be modeled
- Retired units Capacity Interconnection Rights are maintained in RTEP base cases for 1 year after deactivation at which point they will be removed unless claimed by a queued interconnection project

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PSEG/NY Interface

- PJM/NYISO Interface
  - B & C cables will be modeled out of service consistent with 2025 RTEP
- Linden VFT
  - Modeled at 330 MW (Towards NY)
- HTP (HVDC link)
  - Modeled at 0 MW Schedule

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Capacity Factors For Wind & Solar Base Case Dispatch As Percent of Maximum Facility Output

MAAC	Summer CF*	Winter CF	Light Load CF
Solar Fixed	44%	5%	51%
Solar Tracking	61%	5%	53%
Onshore Wind	15%	38%	28%
Offshore Wind	36%	55%	47%

PJM West	Summer CF*	Winter CF	Light Load CF
Solar Fixed	62%	5%	60%
Solar Tracking	64%	5%	53%
Onshore Wind	18%	42%	34%
Offshore Wind	N/A	N/A	N/A

DOM	Summer CF*	Winter CF	Light Load CF
Solar Fixed	49%	5%	57%
Solar Tracking	62%	5%	58%
Onshore Wind	18%	36%	29%
Offshore Wind	31%	57%	46%

*** Use lower of CIR or Capacity Factor (CF)**

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Wind & Solar Harmer Dispatch
As Percent of Maximum Facility Output

MAAC	Summer**	Winter	Light Load
Solar Fixed ($P_{80\%}$)	63%	*	*
Solar Tracking ($P_{80\%}$)	80%	*	*
Onshore Wind ($P_{90\%}$)	37%	71%	63%
Offshore Wind ($P_{80\%}$)	72%	93%	88%

PJM West	Summer**	Winter	Light Load
Solar Fixed ($P_{80\%}$)	80%	*	*
Solar Tracking ($P_{80\%}$)	79%	*	*
Onshore Wind ($P_{90\%}$)	50%	83%	79%
Offshore Wind ($P_{80\%}$)	N/A	N/A	N/A

DOM	Summer**	Winter	Light Load
Solar Fixed ($P_{80\%}$)	66%	*	*
Solar Tracking ($P_{80\%}$)	78%	*	*
Onshore Wind ($P_{90\%}$)	41%	72%	68%
Offshore Wind ($P_{80\%}$)	68%	98%	94%

*** Not applicable**

****CIR level will be used for summer, single contingency testing**

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Wind & Solar Helper Dispatch
As Percent of Maximum Facility Output

MAAC	Summer $P_{20\%}$	Winter $P_{20\%}$	Light Load ($P_{20\%}$)
Solar Fixed	27%	0%	23%
Solar Tracking	42%	0%	26%
Onshore Wind	2%	14%	5%
Offshore Wind	4%	15%	7%

PJM West	Summer P20%	Winter $P_{20\%}$	Light Load ($P_{20\%}$)
Solar Fixed	44%	0%	33%
Solar Tracking	49%	0%	28%
Onshore Wind	2%	12%	6%
Offshore Wind	N/A	N/A	N/A

DOM	Summer P20%	Winter $P_{20\%}$	Light Load ($P_{20\%}$)
Solar Fixed	32%	0%	33%
Solar Tracking	46%	0%	34%
Onshore Wind	4%	14%	6%
Offshore Wind	1%	13%	5%

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Generator Deliverability: Generic EEFORds

- Generic EEFORd values developed for 2031 RTEP base case 5.18%

- Capacity weighted by fuel type
  - Each unit within a given generator class is assigned the average EEFORd for that class

Gen Class	Avg EEFORd
Diesel	13.57%
Fossil Steam	12.11%
Hydro	8.15%
Combustion Turbine	7.52%
Pumped Storage	5.57%
Combined Cycle	4.46%
Nuclear	1.42%
Wind	0.00%
Solar	0.00%
Battery	5.00%

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24 Month RTEP

- As part of the 24-month RTEP cycle, a year-8 (2034) base case will be developed and evaluated part of the 2026 RTEP

- The purpose of the study is to identify and develop longer-term needs and right size near-term upgrades accordingly

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FERC 1000 Process

- Per the PJM Operating Agreement, a proposal window will be conducted for all reliability needs that are not designated as Immediate Need reliability upgrades or are otherwise ineligible to go through the window process.

- FERC 1000 implementation will follow;
  - Advance notice and posting of potential violations
  - Advance notice of window openings
  - Window administration

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Locational Deliverability Areas (LDAs)

- Includes the existing 27 LDAs
- Total of 27 LDAs
  - All 27 to be evaluated as part of the 2026 RTEP

LDA	Description
EMAAC	Global area - PJM 500, JCPL, PECO, PSEG, AE, DPL, RECO
SWMAAC	Global area - BGE and PEPCO
MAAC	Global area - PJM 500, Penelec, Meted, JCPL, PPL, PECO, PSEG, BGE, Pepco, AE, DPL, UGI, RECO
PPL	PPL & UGI
PJM WEST	APS, AEP, Dayton, DUQ, Comed, ATSI, DEO&K, EKPC, Cleveland, OVEC
WMAAC	PJM 500, Penelec, Meted, PPL, UGI
PENELEC	Pennsylvania Electric
METED	Metropolitan Edison
JCPL	Jersey Central Power and Light
PECO	PECO
PSEG	Public Service Electric and Gas
BGE	Baltimore Gas and Electric
PEPCO	Potomac Electric Power Company
AE	Atlantic City Electric
DPL	Delmarva Power and Light
DPLSOUTH	Southern Portion of DPL
PSNORTH	Northern Portion of PSEG
VAP	Dominion Virginia Power
APS	Allegheny Power
AEP	American Electric Power
DAYTON	Dayton Power and Light
DLCO	Duquesne Light Company
Comed	Commonwealth Edison
ATSI	American Transmission Systems, Incorporated
DEO&K	Duke Energy Ohio and Kentucky
EKPC	Eastern Kentucky Power Cooperative
Cleveland	Cleveland Area

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- PJM will account for the PJM States (ISAC) input towards the development of the 2026 RTEP Scenarios.

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Contact

Facilitator:
Eric Hsia, Eric.Hsia@pjm.com

Secretary:
Joshua Stephenson,
Joshua.Stephenson@pjm.com

SME/Presenter:
Yiming Mao, Yiming.Mao@pjm.com

2026 RTEP Assumptions

Member Hotline

(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com

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Revision History

Version No.	Date	Description
1	01/29/2026	• Original slides posted
2	01/30/2026	• Add slides #10 and #11 • Add EEFORd values on slide #17

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