PJM Interconnection, L.L.C.
2750 Monroe Blvd.
Audubon, PA 19403

September 4, 2026

Honorable Chris Wright, Secretary of Energy
Department of Energy
Forrestal Building
1000 Independence Ave SW
Washington DC, 20585

Re: ***Comments of PJM Interconnection, L.L.C. on the U.S. Department of Energy Draft National Transmission Needs Study***

Dear Secretary Wright:

PJM Interconnection, L.L.C. ("PJM") appreciates this opportunity to comment on the United States Department of Energy's ("DOE") draft National Transmission Needs Study ("Draft Needs Study").[1] PJM supports the DOE's effort to assess the current and anticipated transmission needs nationwide and agrees that additional transmission, when appropriately planned and sited, can enhance the reliability, resilience, and efficiency of the electric grid and help meet growing demand at a reasonable cost.

The Draft Needs Study recognizes that accelerating electricity demand, including demand associated with data centers, is creating significant new transmission needs. The Draft Needs Study also recognizes that transmission needs driven by data center development, imports into load centers, generator retirements, and other reliability concerns, led PJM to open its 2022 Window 3 competitive transmission solicitation process and it reflects the projects selected through that process.[2] The study's discussion of PJM, however, does not reflect the significant additional transmission needs PJM has since identified, or the projects approved, through PJM's 2023

[1] The draft National Transmission Needs Study is available at: https://www.energy.gov/documents/national-transmission-needs-study-draft-july-2026.

[2] *See* Draft Needs Study at 69.

Windows 1 and 2, 2024 Window 1 and 2025 Window 1 processes, as well as certain Immediate-need Reliability Projects developed after 2023.[3] Collectively, the projects approved through these processes, together with the 2022 Window 3 projects reflected in the Draft Needs Study, represent approximately $25 billion in transmission development approved by the PJM Board of Managers ("PJM Board") since 2023.

The omission materially understates both the magnitude of current and near-term transmission needs within PJM and the extent of PJM's response to those needs. The omitted projects are designed to support rapid load growth, maintain reliability as the generation fleet evolves, alleviate internal transmission constraints, strengthen PJM's extra-high-voltage ("EHV") backbone, and enhance power transfer capability within PJM. PJM respectfully requests that the DOE revise the final Needs Study to reflect these recent developments and the substantially changed conditions they address.

PJM also recognizes that grid-enhancing and other advanced transmission technologies can play an important role in maximizing the capability of the transmission system where their use is efficient, cost-effective, and appropriate for the particular system need. PJM has already implemented advanced technologies that make more efficient use of existing transmission infrastructure, including Dynamic Line Ratings ("DLR") and Ambient Adjusted Ratings ("AAR"). For example, PJM began utilizing DLR in 2022, and in March 2026 became the first RTO to implement hourly AARs under FERC Order No. 881, allowing transmission ratings to better reflect actual and forecast ambient conditions. PJM also considers advanced transmission technologies, including advanced conductors and high-voltage direct current ("HVDC") facilities,

[3] *See* PJM's RTEP, https://www.pjm.com/library/reports-notices/rtep-documents (linking to PJM's 2023-2025 annual RTEP Reports which summaries the transmission studies conducted, planning results, and Board-approved transmission upgrades during each year).

where appropriate as potential solutions to identified transmission needs. These technologies can complement necessary transmission expansion and should continue to be evaluated based on their ability to address identified transmission needs efficiently and cost-effectively.

I. DESCRIPTION OF PJM

Pursuant to the Federal Energy Regulatory Commission's ("Commission" or "FERC") Order Nos. 2000,[4] 890,[5] and 1000,[6] PJM is the independent regional transmission planner for the PJM Region. In that capacity, PJM is responsible for identifying transmission system enhancements and expansions needed to keep electricity flowing to 67 million people throughout 13 states and the District of Columbia.[7] PJM directs the operation of more than 88,000 miles of transmission lines across 369,054 square miles of territory, interconnecting with more than 182,000 megawatts ("MW") of power generation. Within the PJM Region, 325 transmission tie lines connect each Transmission Owner Zone to adjacent Zones within the PJM Region, thereby permitting the flow of power between the 21 PJM Zones.[8] This essential aspect of the PJM grid gives rise to the benefits of shared capacity, power markets and mutual support under stressed

[4] *Regional Transmission Organizations*, Order No. 2000, 65 Fed. Reg. 809 (Jan. 6, 2000), FERC Stats. & Regs., Regulations Preambles July 1996-December 2000 ¶ 31,089 (1999), *order on reh'g*, Order No. 2000-A, 65 Fed. Reg. 12,088 (Mar. 8, 2000), FERC Stats. & Regs., Regulations Preambles July 1996-December 2000 ¶ 31,092 (2000), *affirmed sub nom. Public Utility District No. 1 Snohomish County Washington, et al., v. FERC*, 272 F.3d 607 (D.C. Cir. 2001) (Order No. 2000).

[5] *Preventing Undue Discrimination & Preference in Transmission Serv.*, Order No. 890, 72 Fed. Reg. 12,266 (Mar. 15, 2007), 118 FERC ¶ 61,119, *order on reh'g*, Order No. 890-A, 73 Fed. Reg. 2,984 (Jan. 16, 2008), 121 FERC ¶ 61,297 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 74 Fed. Reg. 12,540 (Mar. 25, 2009), 126 FERC ¶ 61,228, *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009).

[6] *Transmission Planning & Cost Allocation by Transmission Owning & Operating Pub. Utils.*, Order No. 1000, 76 Fed. Reg. 49,842 (Aug. 11, 2011), 136 FERC ¶ 61,051 (2011), *order on reh'g*, Order No. 1000-A, 77 Fed. Reg. 32,184 (May 31, 2012), 139 FERC ¶ 61,132, *order on reh'g and clarification*, Order No. 1000 -B, 141 FERC ¶ 61,044 (2012), *aff'd sub nom. S.C. Pub. Serv. Auth.* v. *FERC*, 762 F.3d 41 (D.C. Cir. 2014).

[7] The PJM Region encompasses all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

[8] *See* PJM Open Access Transmission Tariff, Attachment J.

system conditions – extreme weather, for example. While PJM coordinates the flow of electricity on its transmission system, PJM also works cooperatively with the transmission-owning utilities that operate and maintain the equipment that makes up the Transmission System in their respective Zones.[9]

As the regional transmission planner, PJM identifies transmission system enhancements and expansions necessary to maintain the reliability of the PJM transmission system and to address other needs through its Regional Transmission Expansion Plan ("RTEP"). PJM's regional planning role gives it direct visibility into the pace, geographic concentration, and operational consequences of changing demand and generation patterns across a large and diverse footprint. PJM evaluates identified system violations and other transmission needs, solicits potential solutions, and recommends the more efficient or cost-effective transmission enhancements to the PJM Board for approval. The planning process is necessarily forward-looking: years may pass between identification of a need, development and evaluation of a solution, regulatory and siting approvals, construction, and energization.

II. COMMENTS

A. The Draft Needs Study Does Not Capture the Fundamental Change in Conditions and Transmission Development Within PJM Since 2023

The Draft Needs Study assesses historic and anticipated future transmission needs using operational data and more than 120 publicly available reports.[10] Its historical transmission-investment discussion relies on projects energized between 2016 and 2024.[11] That information is

[9] PJM's relationship with the PJM Transmission Owners ("TOs") is codified in the following PJM Governing Documents: the Consolidated Transmission Owners Agreement ("CTOA"), Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement") and PJM Open Access Transmission Tariff ("OATT" or "Tariff"). These Governing Documents can be found on the PJM website, https://pjm.com/library.

[10] *See* Draft Needs Study at iii, 1.

[11] *See* Draft Needs Study at 26-27.

useful for describing past investment, but it does not necessarily reflect needs more recently identified or major facilities that have been approved but are not yet in service. This distinction is especially important in PJM, where the drivers of transmission need and the scale of regional planning activity changed dramatically beginning in 2022. Between 2022 and 2026 load forecasts, PJM's projected peak load increased by approximately 40 GW, or nearly 20 percent. That extraordinary increase has materially changed the needs for which PJM must plan and provides essential context for understanding the scale of PJM's recent transmission development.

The Draft Needs Study's region-specific discussion illustrates the resulting gap. Under the heading "PJM," the Draft Needs Study begins with projects planned "[a]s of 2023," describes PJM's initiation of the 2022 Window 3 process and a 2023 planning window, and discusses certain supplemental projects and the PJM–MISO interregional transfer-capability study.[12] Although the Draft Needs Study includes projects selected through the 2022 Window 3 process, it does not reflect significant transmission development that occurred thereafter, including certain immediate need projects developed beginning in 2023 and major solutions ultimately selected through subsequent processes initiated in 2023 and beyond, including those selected through the 2024 Window 1 and 2025 Window 1 processes. The Draft Needs Study thus does not capture the full magnitude of transmission investment the PJM Board has approved since 2023 to address the identified needs.[13]

The treatment of PJM also contrasts with the Draft Needs Study's discussion of other regions. For example, the Draft Needs Study describes the Midcontinent Independent System Operator's recent long-range, local, and interregional portfolios and Southwest Power Pool's 2024

[12] Draft Needs Study at 69-70.

[13] *See* Draft Needs Study at 69-70.

Integrated Transmission Plan, including the dollar value, number, mileage, voltage, and purpose of significant projects.[14] Similar current information is available for PJM[15] and should be included so the final Needs Study presents a comparable and accurate account of transmission development across regions.

B. Rapid Load Growth and an Evolving Generation Fleet Have Produced Significant New Transmission Needs Across PJM

Until the early 2020s, PJM experienced relatively modest load growth and a comparatively stable generation fleet. Transmission development during that period included substantial work to rebuild aging lines and substations, improve local reliability, and enhance performance across the interconnected system.

Beginning in 2022, however, conditions within PJM began to change significantly. PJM started experiencing rapid and geographically concentrated load growth driven substantially by data center development and other large load connection requests. At the same time, PJM's generation mix continued to evolve through the retirement of aging resources and the proposed interconnection of new resources. Together, these developments have changed both the amount of electricity the transmission system must deliver and the locations from which that electricity must be supplied.

The resulting transmission needs extend across the PJM Region. PJM's recent planning activity has identified substantial reliability needs in the western, southern, and eastern portions of the PJM Region. That activity also reflects the need to reinforce major transmission paths, accommodate changing power flows, and maintain the reliability delivery of electricity to the PJM

[14] *See* Draft Needs Study at 67-71.

[15] *See* Attachment A, Letter from PJM Interconnection, L.L.C. in response to a DOE Information Request for Transmission Planning and Interconnection Study Data (please note, all CEII information has been removed from the attachment). *See also infra* section II.D.

Region. PJM's recent planning results therefore provide important evidence supporting the Draft Needs Study's broader conclusion that accelerating load growth and an evolving generation mix are creating a pressing need for transmission development. They also provide the DOE with more current information about the location, scale, and nature or those needs within one of the nation's largest organized electricity markets.

C. PJM Has Approved Approximately $25 Billion in Transmission Development to Address the Reliability Needs Identified Beginning with 2022 Window 3

To address the reliability needs identified through its regional planning analyses, PJM conducted the largest competitive RTEP solicitations in its history. Projects approved through the 2022 Window 3, 2024 Window 1, and 2025 Window 1 processes total approximately $25 billion in transmission upgrades and new facilities. The approved portfolios include significant new 765 kV, 500 kV, 345 kV, and 230 kV facilities that reinforce existing infrastructure and expand PJM's EVH backbone. In 2026, PJM also selected a 3,000 MW, ±525 kV high-voltage direct-current ("HVDC") link through the 2025 Window 1 process to support south-to-north transfers in Virginia. This competitively procured HVDC facility is the first of its kind selected through PJM's regional planning process.

Table 1. Summary of Major Greenfield PJM RTEP Transmission-Line Projects[16]
(Required in-service dates 2027 through 2032; approximate line miles)

RTEP	HVDC	765 kV	500 kV	345 kV	230 kV	EHV Total Ckt Miles (greenfield/new developments only)
2025 W1	185 (±525 kV; 3,000 MW)	514	70.5	77	N/A	**846.5**
2024 W1	N/A	376	67	N/A	82	**525**
2022 W3	N/A	N/A	399	N/A	41	**440**

[16] Table 1 includes major greenfield transmission-line mileage and does not reflect every approved substation, rebuild, reconductoring, or other upgrade.

These projects do more than respond to discrete violations. Collectively, they strengthen the reliability and resilience of the regional transmission system, reinforce heavily used internal transfer paths, support service to rapidly growing load, and facilitate the reliable integration of new generation. The approved projects also illustrate why a backward-looking measure based on facilities already energized cannot, by itself, present a complete picture of current transmission need. The scale of a recently-approved portfolio is itself evidence of the needs identified through the regional planning process, even though many of the facilities will not enter service until later in the decade or the early 2030s.

D. PJM Requests that the DOE Revise the Final Needs Study to Incorporate PJM's Most Recent Planning Results

PJM respectfully requests that DOE update the PJM discussion in the final Needs Study to include the needs identified and projects approved through the 2023 Windows 1 and 2, 2024 Window 1, and 2025 Window 1 processes, or projects identified as immediate need reliability projects since 2023.[17] At a minimum, the revised discussion should recognize:

- the significant acceleration and concentration of demand growth within PJM;
- the interaction between that demand growth and the continued evolution and retirement of portions of PJM's generation fleet;
- the approximately $25 billion in transmission development approved through PJM's most recent competitive RTEP windows;
- the extent to which those portfolios reinforce and expand PJM's 765 kV and 500 kV backbone and add a competitively selected 3,000 MW HVDC link; and
- the projects' role in maintaining reliability, addressing internal constraints and congestion, integrating generation, supporting economic development, and improving power transfer capability.

[17] *See* PJM's RTEP, https://www.pjm.com/library/reports-notices/rtep-documents (linking to PJM's 2023-2025 annual RTEP Reports which summaries the transmission studies conducted, planning results, and Board-approved transmission upgrades during each year).

Updating the Draft Needs Study in this manner would not require the DOE to endorse any particular project or displace PJM's regional planning process. Rather, it would align the final study with DOE's stated purpose of assessing existing and near-term future transmission needs using current information. It would also provide policymakers, states, market participants, and the public with a more accurate account of how rapidly conditions have changed in PJM and of the transmission development already underway in response.

III. CORRESPONDENCE AND COMMUNICATION

Correspondence and communications with respect to these comments should be sent to the following persons:

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IV. CONCLUSION

For the reasons set forth above, PJM respectfully requests that the Needs Study authors consider the comments set forth above as they finalize the study. PJM stands ready to continue to serve as a resource to the DOE and the Study's authors to ensure that the Needs Study remains thorough and factually accurate and provides a strong record for future decision-making by the DOE.

Respectfully submitted,

/s/ Jessica M. Lynch

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cc: Catherine Jereza, Assistant Secretary, Office of Electricity
Holly Rachel Smith, Deputy Assistant Secretary for Electricity, Office of Electricity

ATTACHMENT A

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Thomas DeVita
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thomas.devita@pjm.com

VIA ELECTRONIC FILING

May 26, 2026

Ms. Catherine Jerza
Assistant Secretary
Office of Electricity
1000 Independence Ave., SW
Washington, DC 20585

RE: ***Information Request for Transmission Planning and Interconnection Study Data***

CEII ATTACHMENTS HAVE BEEN OMITTED FROM THIS DOCUMENT

Dear Ms. Jerza,

Pursuant to the Department of Energy's ("DOE" or the "Department") May 4, 2026 Request for Information ("RFI"), PJM Interconnection, L.L.C. ("PJM") hereby submits the following responses and data files.

Many of the files contained within this submission constitute Critical Electric Infrastructure Information ("CEII"), including:

1. Powerflow cases
2. Contingency files
3. Monitor files
4. Subsytem files
5. Additional supporting files used to run analysis (GD data sheets and exclude files)
6. Case and contingency update files
7. GIS files related to competitive windows

The files containing CEII are designated by the following indicator in their filename:

CONTAINS CEII—CRITICAL ELECTRIC INFRASTRUCTURE INFORMATION—DO NOT RELEASE

PJM respectfully requests that the Department designate the files with this identifier as Critical Electric Infrastructure Information, and protect them from unauthorized disclosure pursuant to 10 C.F.R. § 1004.13. These files contain modeling assumptions and data inputs that are treated as CEII by PJM in the normal course of business, and in PJM's determination cannot be meaningfully segregated or sanitized without eliminating their usefulness.

Please do not hesitate to contact the undersigned with any questions regarding this submission.

Regards,

/s/ Thomas DeVita
Thomas DeVita
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(610) 635-3042
Thomas.DeVita@pjm.com

I. General Overview

The PJM Regional Expansion Transmission Plan (RTEP) is updated on an annual basis covering a 5 year forward looking planning horizon with longer-term 7/8 years and 15 year-out assessments to ensure planned upgrades are right sized, efficiently and cost effectively selected to meet the needs of the PJM Region in both the near and longer terms.

Since 2022, PJM has forecasted strong growth of load, together with impacts of resource mix evolution, covering both old fleet retirements and new resource entry. PJM developed 3 main expansion plans, namely 2022 RTEP Window 3, 2024 RTEP Window 1 and 2025 RTEP Window 1, all of which combined competitively selected more than $20 billion of regional transmission upgrades to meet the evolving system needs to ensure the reliability of the system is maintained and enable the forecasted load and generation development growth.

Although all of these upgrades are identified as 5-year out transmission needs (starting in 2027 as a result of the 2022 RTEP Window 3 and ending with the most recent 2025 RTEP for 2030 + needs), they are collectively needed to address the combination of violations identified by PJM since 2022 until now.

The three aforementioned RTEPs in terms of drivers, needs, competitive window submissions, evaluation criteria and selected transmission enhancements are summarized in the following reports published publicly on the PJM website:

2025 RTEP Needs and Solutions (2025 RTEP Window 1)

2025 RTEP - Reliability Analysis Report;

https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2026/20260106/20260106-2025-rtep-window-1-reliability-analysis-report.pdf

2025 RTEP – Constructability and Cost Analysis Report;

https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2026/20260106/20260106-2025-rtep-window-1-constructability-and-cost-analysis-report.pdf

2024 RTEP Needs and Solutions (2024 RTEP Window 1)

2024 RTEP - Reliability Analysis Report;

https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2025/20250107/20250107-2024-rtep-window-1-reliability-analysis-report.pdf

2024 RTEP – Constructability and Cost Analysis Report;

https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2025/20250107/20250107-2024-rtep-window-1-constructability--financial-analysis.pdf

2022 RTEP Needs and Solutions (2022 Window 3 RTEP)

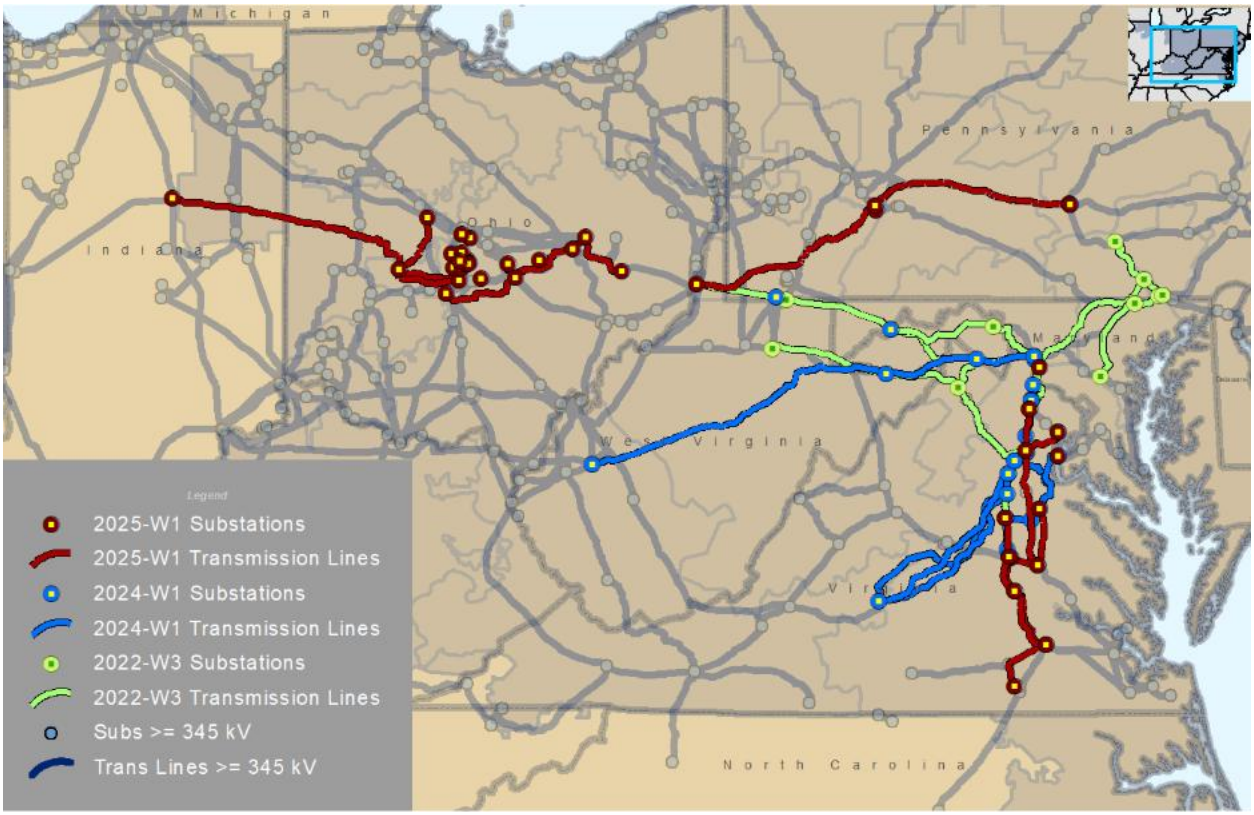
2022 RTEP - Reliability Analysis Report;

https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2023/20231205/20231205-2022-rtep-window-3-reliability-analysis-report.pdf

2022 RTEP – Constructability and Cost Analysis Report;

https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2023/20231205/20231205-2022-rtep-window-3-constructability--financial-analysis-report.pdf

Major (500kV and 765kV) greenfield transmission developments resulting from the above competitive windows is shown in below.



II. Modeling Files Inventory

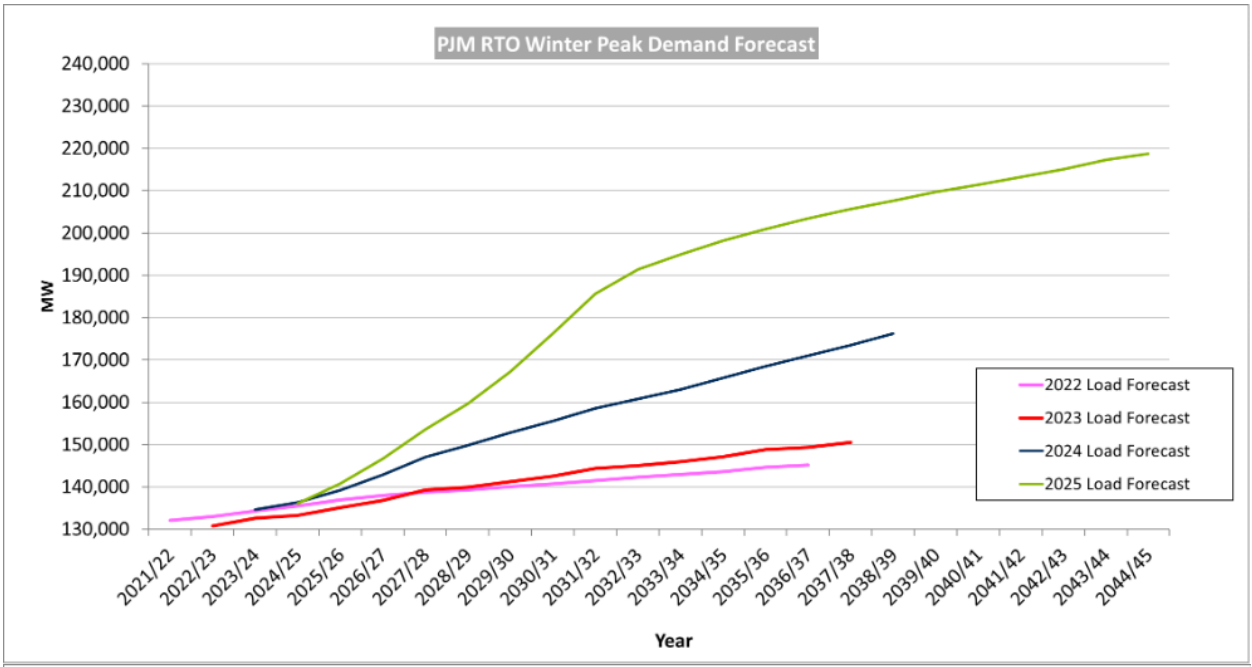
Please refer to the attached Excel Summary sheets for a description to all requested and provided modeling files.

- File Mapping_2022 RTEP W3.xlsx
- File Mapping_2023 RTEP W1.xlsx
- File Mapping_2024 RTEP W1.xlsx
- File Mapping_2025 RTEP W1.xlsx

Please refer to the file "PJM_RTO_2022LF to 2025LF_Summer and Winter.xlsx" summarizing the requested summer and winter peak load forecast information from 2026 through and including 2031.

Please refer to PJM's official Load Forecast reports summarizing the assumptions related to Load and Large Load Projections available at:

- 2022 Load Forecast Report
- 2023 Load Forecast Report
- 2024 Load Forecast Report
- 2025 Load Forecast Report


PJM RTO Winter Peak Demand Forecast
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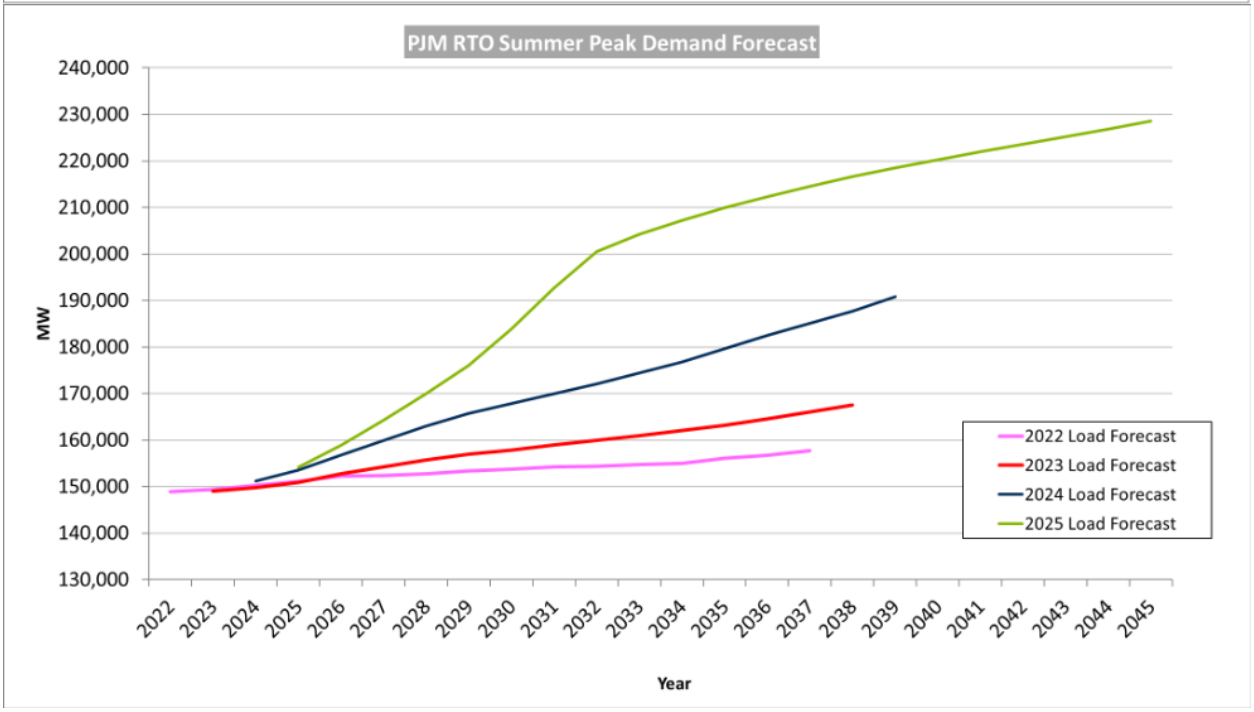
PJM RTO Summer Peak Demand Forecast
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