Transmission Cost Figures

December 2024 Update

Provided by David Gardiner and Associates

This document provides updates to the charts and graphs that were included in CAPS February 2024 "PJM Transmission Handbook" where new data was made available. This interim update is to help consumer advocates, and others, stay on top of the latest transmission cost trends in the region; a broader update is planned for Spring, 2025.

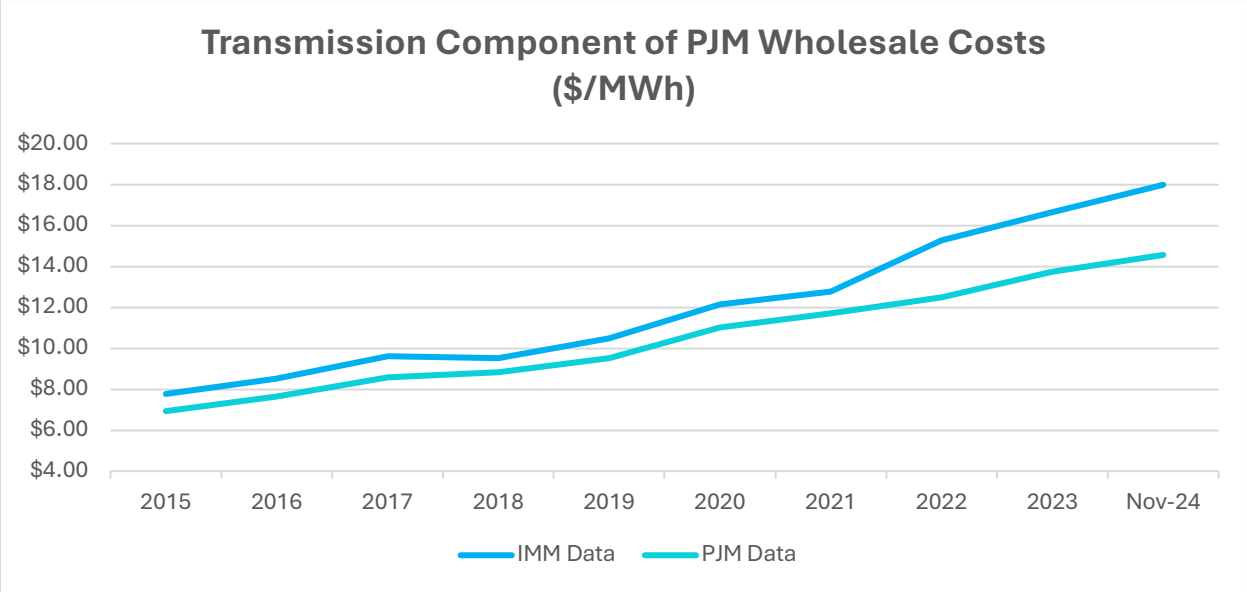
The charts and graphs below indicate the handbook volume in which each chart originally appeared. The DGA-CAPS handbook is available here.

Figures included in this update:

- Overall transmission costs in PJM since 2015
- Wholesale costs by category since 2018
- Baseline and supplemental transmission project costs since 2013
- State by state project investment since 2018
- Baseline and supplemental projects by voltage since 2018
- NITS and TEC rates by transmission zone since 2015
- Network service peak loads

OVERALL TRANSMISSION COSTS IN PJM FROM 2015 (VOL. 1)

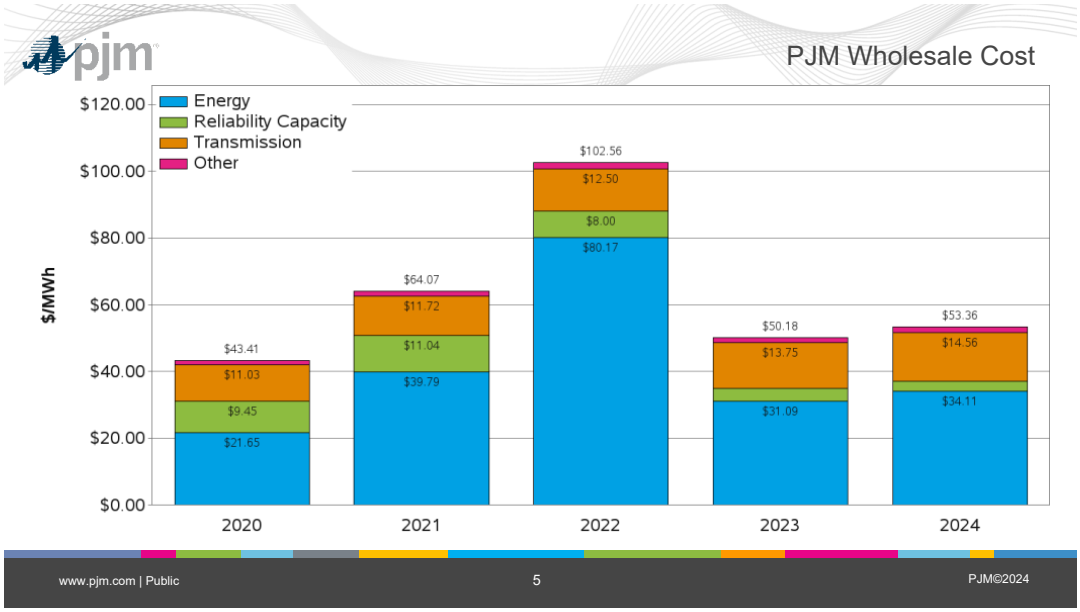
Overall transmission costs in PJM have been rising over the past decade, according to data from PJM and its independent market monitor. (PJM and the IMM use different cost data; specifically, PJM does not include transmission enhancement charges in its numbers.)



(Source Data: IMM Data - Monitoring Analytics, "Data: Components of PJM Price, 2015-2024," last accessed Dec. 18, 2024; PJM Data - PJM, "Markets Report," MC Webinar at slide 5, Nov. 19, 2024; Warner-Freeman, "Markets Report," MC Information Webinar, Jan. 21, 2019.)

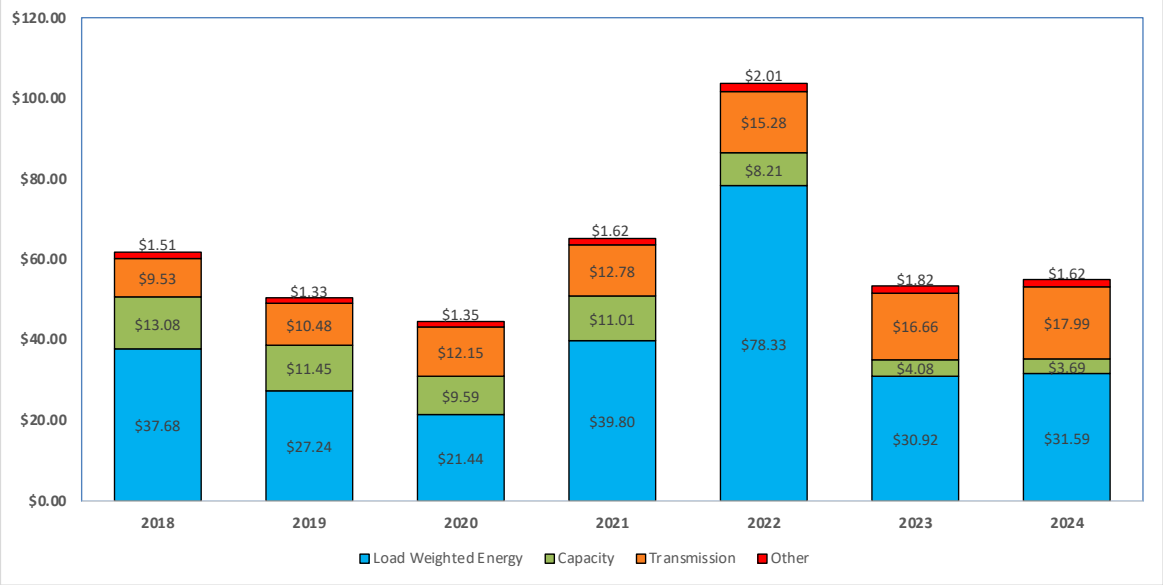
WHOLESALE COSTS BY CATEGORY SINCE 2018 (VOL. 6)

The following chart comes from PJM's Market Report for November 2024, showing a comparison of average wholesale costs in dollars per megawatt hour ($/MWh) between 2019 and 2024 plus the portion attributable to each cost component (energy, transmission, capacity, and other). While energy continues to make up the highest percentage of regional wholesale costs, transmission service costs have been steadily rising over time. It's important to note that PJM's transmission cost data is underreported as it does not include the costs imposed by transmission enhancement charges.



(Source: PJM Data - PJM, "Markets Report," MC Webinar at slide 5, Nov. 19, 2024.)

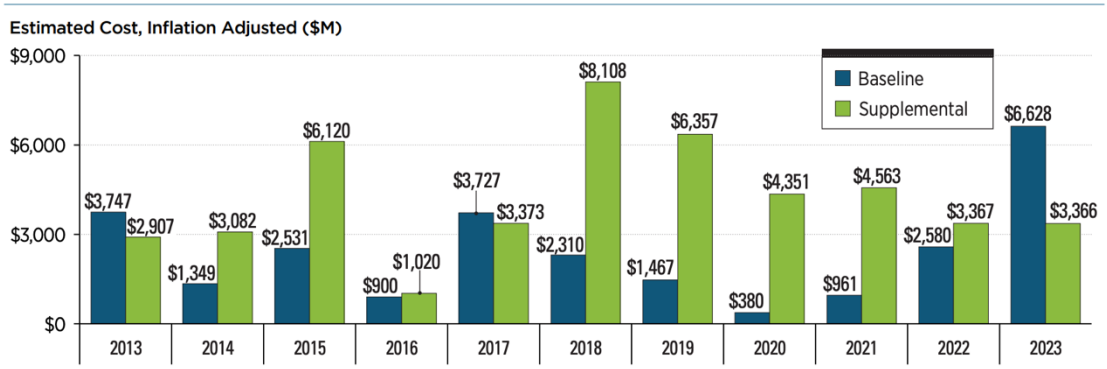
The following is another version of the same chart, with data from PJM's independent market monitor. PJM and the IMM use different methodologies to calculate their figures, the most important of which is that the IMM data *does* include transmission enhancement charges. As a result, the market monitor shows higher transmission costs — offering a more accurate snapshot of costs in the region.



(Source Data: Monitoring Analytics, "Data: Components of PJM Price, 2018-2024," last accessed Dec. 18, 2024.)

BASELINE AND SUPPLEMENTAL PROJECT COSTS BY YEAR (VOL. 4)

The chart below provides data on the level of investment in **baseline** and **supplemental** transmission projects, the two largest categories of transmission projects in PJM.

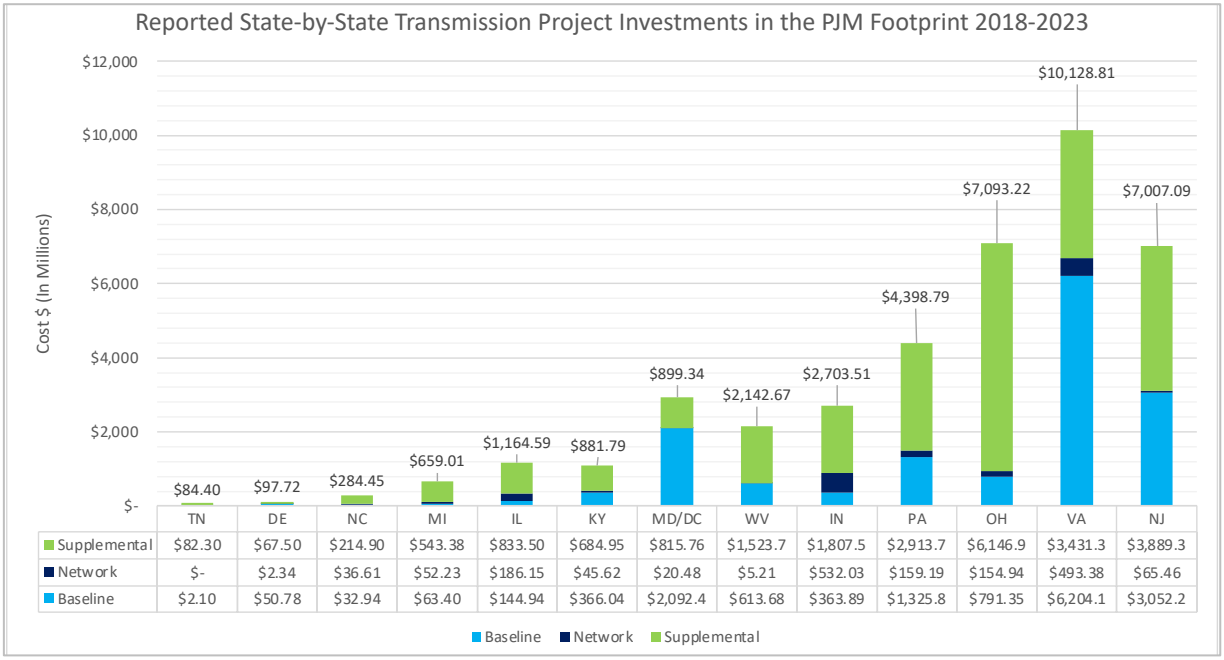


(Source: 2023 Regional Transmission Expansion Plan (RTEP) at 297.)

STATE BY STATE PROJECT INVESTMENT SINCE 2018 (VOLS. 1 AND 4)

PJM's footprint encompasses all or portions of 13 states and D.C. The following graph gives an overview of transmission investment across the PJM footprint since 2018 (the oldest data available). While the charts provide a helpful comparison between states, the annual data is not fully comparable year-to-year because PJM's reporting methodology differs between reports. Specifically, from 2018 to 2020, PJM only included project investments greater than $5 million in the system-wide RTEP figures and project investments greater than $10 million in the state infrastructure reports. As of 2021, however, PJM began included all transmission projects in the RTEP and state infrastructure.

This chart is based on the last available RTEP report (which was issued in March 2024 for Calendar Year 2023).

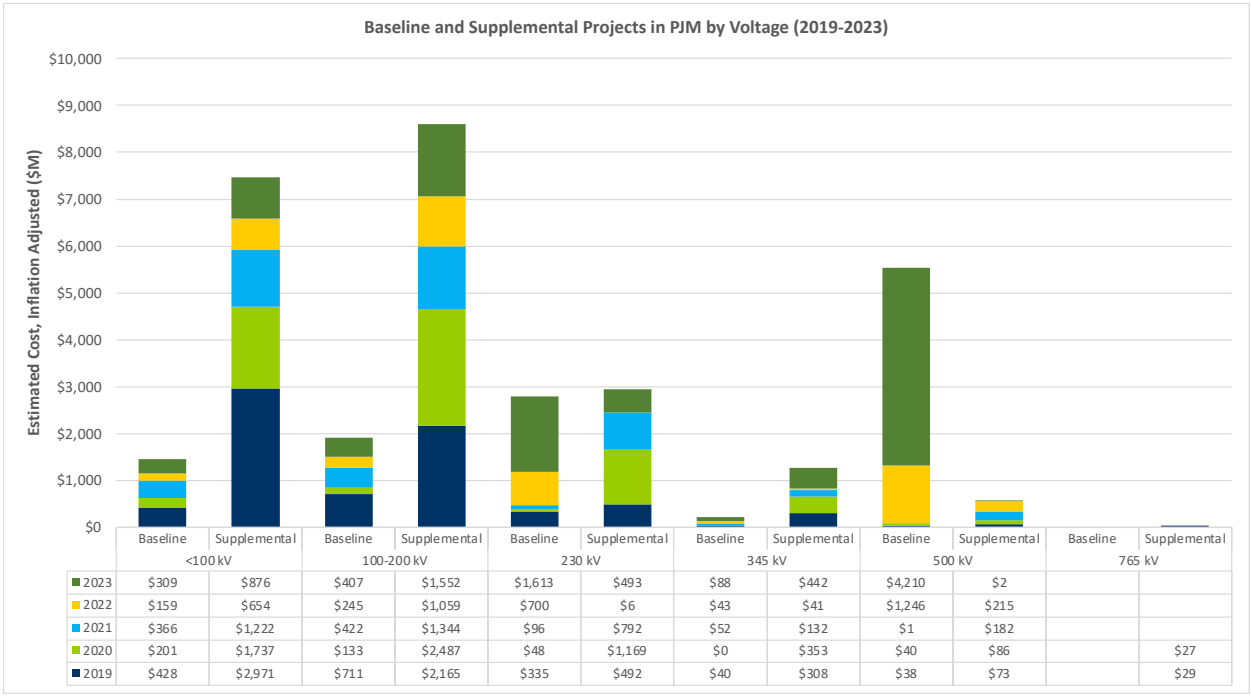


	TN	DE	NC	MI	IL	KY	MD/DC	WV	IN	PA	OH	VA	NJ
Supplemental	$82.30	$67.50	$214.90	$543.38	$833.50	$684.95	$815.76	$1,523.7	$1,807.5	$2,913.7	$6,146.9	$3,431.3	$3,889.3
Network	$-	$2.34	$36.61	$52.23	$186.15	$45.62	$20.48	$5.21	$532.03	$159.19	$154.94	$493.38	$65.46
Baseline	$2.10	$50.78	$32.94	$63.40	$144.94	$366.04	$2,092.4	$613.68	$363.89	$1,325.8	$791.35	$6,204.1	$3,052.2

(Source Data: 2018-2023 PJM Annual RTEP Reports and Annual State Infrastructure Reports.)

BASELINE AND SUPPLEMENTAL PROJECTS BY VOLTAGE SINCE 2018 (VOLS. 1 AND 4)

In addition to high levels of investment in supplemental projects, it's notable that most transmission investment has gone toward lower-voltage lines. These low-capacity lines are primarily to transport energy within a single utility's footprint. Long-distance and high-capacity lines, meanwhile, can improve connectivity



	<100 kV		100-200 kV		230 kV		345 kV		500 kV		765 kV	
	Baseline	Supplemental	Baseline	Supplemental	Baseline	Supplemental	Baseline	Supplemental	Baseline	Supplemental	Baseline	Supplemental
2023	$309	$876	$407	$1,552	$1,613	$493	$88	$442	$4,210	$2		
2022	$159	$654	$245	$1,059	$700	$6	$43	$41	$1,246	$215		
2021	$366	$1,222	$422	$1,344	$96	$792	$52	$132	$1	$182		
2020	$201	$1,737	$133	$2,487	$48	$1,169	$0	$353	$40	$86		$27
2019	$428	$2,971	$711	$2,165	$335	$492	$40	$308	$38	$73		$29

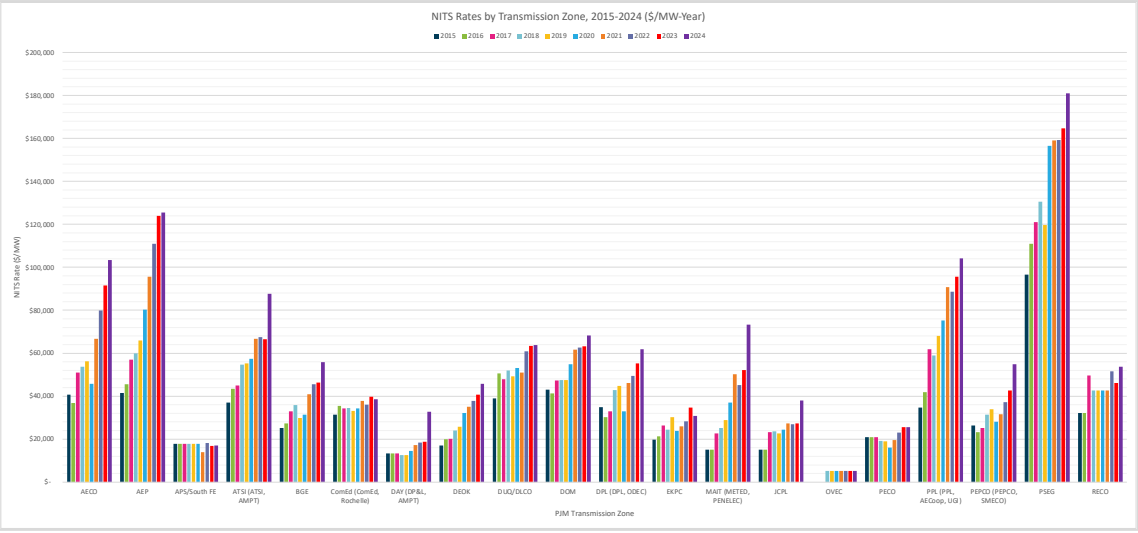
across PJM's 21 transmission zones and the larger electric grid. These larger lines allow new resources to come online and play a crucial role in ensuring long-term electric reliability.

(Source Data: PJM, Baseline and Supplemental Projects by Voltage, 2024.)

NITS AND TEC RATES BY TRANSMISSION ZONE SINCE 2015 (VOLS. 1 AND 6)

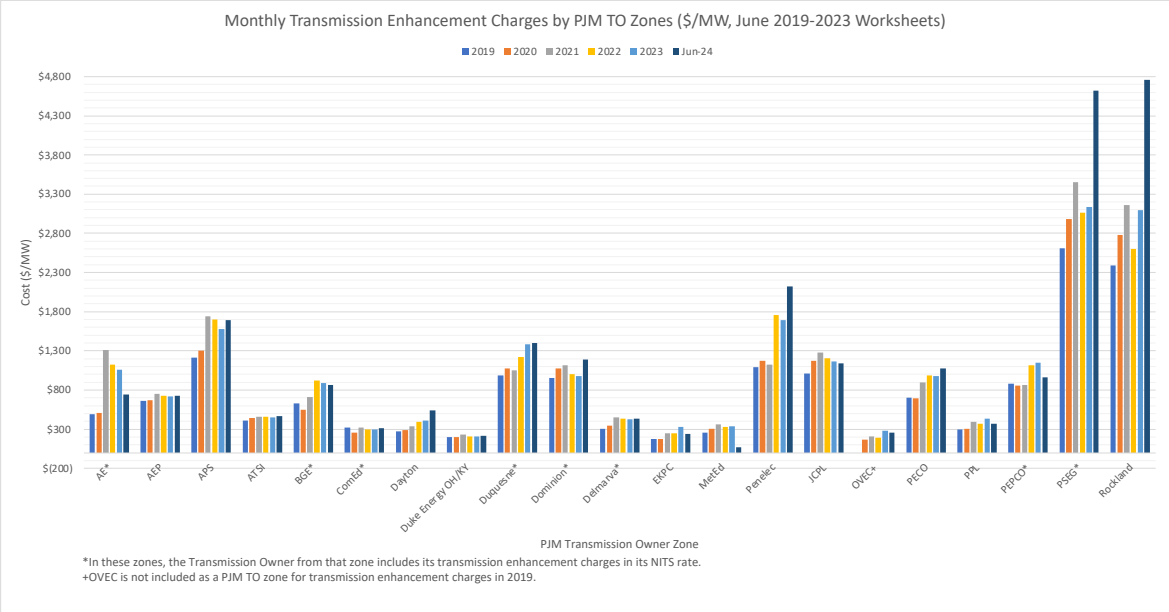
Two of the main transmission charges assessed to PJM customers are **Network Integration Transmission Service (NITS) charges** and **Transmission Enhancement Charges (TEC).**

NITS charges are assessed to PJM customers for use of the transmission system. NITS charges vary by zone, but many areas within PJM have seen significant increases to their NITS rates in recent years. The following chart provides NITS rates over the past 10 years for each transmission zone.



(Source Data: For 2018-2024, PJM's ATRR and NITS Rates reports; For 2015-2017, data was sources from Transmission Owner rate filings which were collected for CAPS by GT Power Group.)

Transmission enhancement charges reflect the FERC-approved costs a transmission owner may recover for building and upgrading transmission infrastructure that was approved through the RTEP process. These charges do *not* reflect supplemental transmission projects that are developed outside the RTEP process.



(Source Data: PJM, "Billing, Settlements & Credit," Transmission Enhancement Worksheets, 2019-2024.)

NETWORK SERVICE PEAK LOADS (VOL. 6)

Zonal peak service load refers to the highest peak load within that territory. These figures are used to calculate NITS rates.

PJM Network Service Peak Loads (NSPL) for 2025

(Metered Demand Coincident with Zonal Peak Load Hour for Period 11/1/23-10/31/24)

Transmission Zone Short Name	Transmission Zone	Zonal Peak (MW)	Date	HourEnding (EPT)
AECO	Atlantic City Electric Company	2,566.0	7/16/2024	19
AEP	AEP East Zone	22,318.0	1/17/2024	9
APS	Allegheny Power	8,937.6	1/22/2024	8
ATSI	American Transmission Systems, Inc.	12,508.3	6/20/2024	15
BGE	Baltimore Gas and Electric Company	6,765.9	7/16/2024	18
COMED	Commonwealth Edison Company	21,559.6	8/27/2024	18
DAY	The Dayton Power and Light Company	3,365.0	8/6/2024	17
DEOK	Duke Energy Ohio, Inc. and Duke Energy Kentucky, Inc.	5,170.9	8/28/2024	17
DOM	Virginia Electric and Power Company	23,117.8	7/16/2024	18
DPL	Delmarva Power & Light Company	4,188.5	7/16/2024	18
DUQ	Duquesne Light Company	2,690.7	7/15/2024	17
EKPC	East Kentucky Power Cooperative	3,748.3	1/17/2024	8
JCPL	Jersey Central Power and Light Company	6,183.6	7/16/2024	18
METED	Metropolitan Edison Company	3,066.9	7/16/2024	16
OVEC	Ohio Valley Electric Cooperative	104.0	11/7/2023	12
PECO	PECO Energy Company	8,651.5	7/16/2024	17
PENELEC	Pennsylvania Electric Company	2,953.2	7/10/2024	15
PEPCO	Potomac Electric Power Company	6,161.7	7/16/2024	18
PPL	PPL Electric Utilities Corporation	7,459.6	7/16/2024	16
PSEG	Public Service Electric & Gas Company	10,151.7	7/16/2024	18
RECO	Rockland Electric Company	403.6	7/16/2024	16

(Source: PJM, "PJM Network Service Peak Loads (NSPL) for 2025," 2024.)