PJM Summer Outlook 2025: Adequate Resources Available for Summer Amid Growing Risk

PJM Forecasts High Summer Peak Demand, Potential Need To Reduce Load With Contracted Demand Response

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(Valley Forge, PA – May 9, 2025) – PJM forecasts sufficient generation for typical peak demand this summer but is preparing to call on contracted demand response resources to reduce electricity use under more extreme scenarios featuring record demand.

For the season ahead, PJM forecasts summer energy use, or load, to peak at just over 154,000 MW, for which PJM should have adequate reserves to maintain reliability. This season also marks the first time in PJM's annual assessment, however, that available generation capacity may fall short of required reserves in an extreme planning scenario that would result in an all-time PJM peak load of more than 166,000 MW.

Under such circumstances, PJM would call on contracted demand response programs to meet its required reserve needs. Demand response programs pay customers who have opted in to reduce their electricity use in times of system emergencies.

The National Weather Service predicts hotter-than-normal summer conditions, especially in the Atlantic seaboard states. PJM's record summer peak load was set at 165,563 MW in 2006. Last year, PJM's summer peak was about 152,700 MW, and 147,000 MW in 2023. PJM has approximately 179,200 MW of generation capacity this summer, as well as approximately 7,900 MW of contracted demand response.

One megawatt can power about 800 homes.

PJM continues to voice concerns about the supply and demand imbalance driven by generator retirements and the slow build of new resources in the face of accelerating demand growth. PJM documented this confluence of trends in the 2023 PJM paper Resource Retirements, Replacements and Risks (PDF).

PJM and its stakeholders have taken a number of proactive measures to bring new generation

resources online and maximize the availability of existing resources in the short and long term, including:

- **Interconnection Process Reform** – PJM has streamlined its process through which new generation connects to the grid. Additional automation in the interconnection process, along with increased staffing over the past several years, has improved quality while reducing the backlog by 60%. PJM on April 10 also announced a multiyear collaboration with Google and Tapestry to deploy AI-enhanced tools to further streamline PJM's interconnection process.
- **Reliability Resource Initiative** – PJM on May 2 announced the projects chosen for this one-time program to boost reliability in the PJM footprint. It includes 51 shovel-ready generation projects with 9,300 MW in capacity that can come online by 2030 or 2031.
- **Surplus Interconnection Service** – PJM obtained FERC approval to streamline the use of the unused portion of interconnection service for facilities that cannot or do not operate continuously, every hour of every day, year-round (such as adding battery storage to a renewable site).
- **Capacity Interconnection Rights Transfer** – A reform package endorsed by PJM stakeholders and currently pending review by FERC would facilitate an expedited interconnection process for a replacement resource seeking to use the capacity interconnection rights of a retiring resource.
- **Demand Response Availability** – FERC on May 5 approved a PJM proposal that improves dispatch and accreditation of demand response resources. The proposal broadens the window for demand response participation from a limited set of hours during summer and winter to around-the-clock throughout the year, enhancing grid reliability and resource adequacy.

Renewable resources will be more important than ever this summer to maintain reliability. PJM plans to issue guidance for inverter-based resource owners, typically solar and wind, to take necessary steps so that units adhere to necessary standards and operational guidelines to support reliable grid operations.

"This outlook at a record peak heat scenario reflects our years-long and mounting concerns as we plan for enough resources to maintain grid reliability," said Aftab Khan, Executive Vice President – Operations, Planning & Security. "All resources within PJM's footprint should be prepared to respond when called upon." A dedicated team of operators uses sophisticated technology to balance supply and demand and direct the power grid 24/7 from PJM's control rooms. They prepare multiple potential scenarios that could be impacted by weather, emergency conditions or equipment failure. They adjust resource output with changes in demand and ensure that no transmission lines or facilities are overloaded. The team also watches for unusual conditions and reacts to them in order to protect the electricity supply.