

Announcement

Record Load Growth, High Temperatures Expected to Strain Grid This Summer

May 14, 2025

WASHINGTON, D.C. – Load growth is expected to drive higher peak demand this summer and could strain resources in some areas during certain periods. According to NERC’s [2025 Summer Reliability Assessment](#), aggregated peak demand is forecast to increase across all 23 assessment areas by 10 GW—more than double the increase from 2023 to 2024. New data centers, electrification, and industrial activity are contributing to higher demand forecasts.

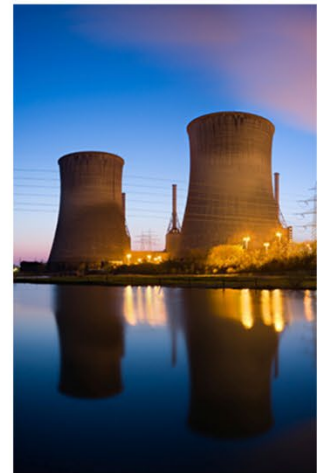
While all areas are projected to have adequate resources for normal summer conditions, above-normal electricity demand, periods of low wind and solar output, and wide-area heat events that disrupt available transfers and generator availability could leave system operators short on supply in at-risk areas, the assessment finds. New resource additions—primarily solar and some batteries—are helping to meet surging load growth. However, these additions are offset by ongoing generator retirements and introduce more complexity and energy limitations into the resource mix.

“While the grid faces several challenges this summer, areas such as Texas, California, and across the U.S. West have seen an influx of battery energy storage systems in recent years, which is reducing energy shortfalls associated with supply variability and demand spikes,” said Mark Olson, NERC’s manager of Reliability Assessments. “This is improving system operators’ ability to manage energy risks during challenging summer periods.”

NERC found several areas to be at risk of supply shortfalls during potential summer conditions:

- **Midcontinent Independent System Operator** has less supply capacity compared to last summer as a result of generator retirements and less firm imports; the area could face supply shortfalls during above-normal peak demand.
- In the **Southwest Power Pool**, wide-area heat events can drive high electricity demand and force generators off-line, leaving operators with insufficient flexible resources to counter wind resource variability.
- Continued growth in both loads and solar PV resources in Texas could leave the **ERCOT** system with energy shortages when solar generation ramps down and demand remains elevated.
- Reserve capacity in **NPCC New England** has fallen from the prior summer with the loss of resources and higher demand, increasing the area’s reliance on neighbors during stressful summer conditions.

CONTACT:
Communications@nerc.net



- New natural-gas-fired generators have increased capacity in SaskPower and improved area reserves, but unexpected forced generator outages at peak demand can cause shortfalls.
- In the **Baja-California Mexico** part of the bulk power system could experience a shortfall requiring emergency assistance from neighboring areas if generator outages occur during peak summer electricity demand.

The assessment identifies other reliability risks that should be taken into consideration before summer. Once again, the response by inverter-based resources to system disturbances, which affect solar facilities, battery storage, and traditional generation, is a concern. NERC's recent [Aggregated Report on NERC Level 2 Recommendation to Industry: Findings from Inverter-Based Resource Model Quality Deficiencies Alert](#) summarized the deficiencies identified in the Level 2 alert issued in June 2024. NERC's Board of Trustees approved a Level 3 Essential Actions to Industry alert on IBR performance and modeling at their meeting earlier in the month. The alert seeks to enhance technical requirements, study processes, and modeling accuracy to reduce risks, and will be released later this month.

"As solar, wind, and battery resources continue to be the predominant types of resources being added to the bulk power system, it is imperative for industry, vendors, and manufacturers to take the recommended steps for system modeling and study practices, and IBR performance," said John Moura, NERC's director of Reliability Assessments and Performance Analysis.

NERC's recommendations to industry and policymakers, described fully in the Summer Reliability Assessment, are intended to promote readiness for the summer season. They include seasonal operations planning practices and coordination actions that have helped reduce risks and mitigate impacts from past extreme weather events.

NERC's reliability assessment process is a coordinated reliability evaluation between the NERC Reliability Assessment Subcommittee, the Regional Entities, and NERC staff with demand and resource projections obtained from the assessment areas. This assessment is intended to inform industry leaders, planners, operators, and regulatory bodies so that they are better prepared to take necessary actions to ensure bulk power system reliability for the upcoming summer period.

###

Electricity is a key component of the fabric of modern society and NERC, as the Electric Reliability Organization, serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of NERC and the six Regional Entities, is a highly reliable and secure North American bulk power system. Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.