

ISO New England Outlines Power Grid Preparedness for Summer Season

Holyoke, MA—June 3, 2024—New England’s power system is prepared to meet the peak demand for electricity [this](#) summer, according to ISO New England (ISO-NE), operator of the region’s electric grid.

This summer, assuming typical weather conditions, ISO-NE predicts electricity demand will reach 24,553 megawatts (MW). However, above-average summer weather, such as an extended heat wave coupled with high humidity, could push demand up to 26,383 MW, tightening supply margins. ISO-NE is prepared to take steps to maintain the region’s power system reliability if needed.



[Step into ISO New England’s control room and discover how forecasting the weather drives the preparations for summer power system operations in this ISO Minute video.](#)

Planning for the summer

ISO-NE creates forecasts of demand and available capacity for each summer and winter season, taking into account estimated contributions from all resources; unplanned resource outages; imports from neighboring regions; and resource additions and retirements. These estimates will help ISO-NE operators prepare and plan for the increase in electric demand over the summer months.

Weather is [the largest driver](#) of energy use and the ISO uses average summer weather to develop what is known as the 50-50 forecast, meaning there is a 50 percent chance that peak demand will be above or below the forecast. Above-average heat and humidity are used to generate what is known as the 90-10 forecast, which means there is a 10 percent chance that peak demand will surpass the forecast.

Tools in place to maintain reliability

While ISO-NE expects the region to have adequate supplies of electricity this summer, abnormal conditions could force system operators to take action to maintain system reliability. System operators have numerous tools to balance load, including increasing production of online generation or dispatching stand-by units, and energy conservation such as voluntary reductions of energy use. In worst-case circumstances, ISO-NE could be forced to call for controlled power outages to maintain system reliability and safeguard the infrastructure of the grid. With the possibility of more extreme and less predictable weather conditions, there is an increased potential for system operators to activate emergency procedures.

How the region will meet this summer's electricity demand

Approximately 30,000 MW of capacity is expected to be available to meet New England consumer demand for electricity and required reserves. ISO New England employs a variety of resources to meet demand: generators that produce electricity using fuels such as natural gas, nuclear, oil, coal, hydro, biomass, wind, and sun; demand-response resources that reduce their energy use; and power imported into New England from New York and Canada.

This summer's forecasts incorporate the demand-reducing effects of approximately 2,085 MW of energy efficiency measures. This decrease is made up of resources, such as energy efficient appliances and lighting, that are designed to save electricity across many hours, but cannot be dispatched by system operators. The ISO accounts for active demand response resources, meaning those who can quickly reduce energy consumption when called upon, as part of the capacity analysis, as these resources participate directly in the region's wholesale energy markets.

The forecasts also include a reduction of an estimated 999 MW during the peak hour of energy demand, which can be attributed to the region's behind-the-meter solar photovoltaic (BTM PV) installations. New England has approximately 7,000 MW of BTM solar PV installed, and these systems produce their highest output in the early afternoon hours. In the summer of 2023, solar panels produced an average of 3,500 to 5,000 MW during the middle of the day. The increase of solar power in New England has effectively pushed the peak hour of grid demand later in the day, when the sun is lower in the sky and production from solar PV systems is also lower. Instead of peaking in the mid-afternoon, as was common during summers before widespread solar panel installations, grid demand now peaks in the early evening hours.

New England's power grid is undergoing a transformation as older units retire and newer resources connect to the system. The Mystic Generation Station, once among the region's largest power plants, retired on June 1, 2024, so this will be the first summer without this large natural gas facility. The ISO is not projecting any capacity issues during the summer based on this retirement.

Historical patterns

Consumer demand for electricity peaked during the summer months on July 6, 2023, at 22,975 megawatts (MW). However, for the first time since 1983, the region saw its annual peak occur outside of this period, with consumer demand reaching 23,521 on September 7. The all-time record for electricity demand was set on August 2, 2006, when demand reached 28,130 MW after a prolonged heat wave. In New England, consumer demand for electricity is highest during the summer because of air conditioning use.

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Created in 1997, ISO New England Inc. is the independent, not-for-profit corporation responsible for the reliable operation of New England's electric power generation and transmission system, overseeing and ensuring the fair administration of the region's wholesale electricity markets, and managing comprehensive regional electric power planning.