ISO new england

PRESS RELEASE

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New England Expected to Have Adequate Resources This Winter

ISO New England has implemented near-term changes based on lessons learned from historic cold snap

Holyoke, MA—November 28, 2018— ISO New England, operator of New England's power system, expects the region to have the necessary resources this winter to meet consumer demand, which is expected to peak at 20,357 megawatts (MW) under normal weather conditions or 21,057 MW at extreme temperatures.

However, as seen during last year's two-week cold snap, power system operations could become challenging if demand is higher than projected, if the region loses a large generator, electricity imports are affected, or during periods of fuel delivery constraints. In those instances, the ISO could be required to implement emergency operating procedures to maintain reliability.

"Last winter demonstrated just how much the weather can impact power system operations, not just in terms of consumer demand for electricity, but in the ability of generators to access fuel," said Peter Brandien, ISO New England's vice president for system operations. "The ISO has learned lessons from this experience, and made near-term improvements to help address these energy security concerns."

Lessons from Winter 2017/2018

The ISO's preparations for this winter include new market and system operations initiatives based on lessons learned during last year's historic two-week cold snap, when the reliability of New England's power system rested heavily on power plants that can generate electricity with oil stored in onsite tanks. One of these initiatives will forecast the region's available energy supplies for the next 21 days, and the other will provide a market mechanism that will help ensure that limited fuel supplies are used when they are most valuable for system reliability and cost-effectiveness. In addition to these near-term initiatives, the ISO is working to develop long-term market-based ways to address future winter energy security.

Power resource capacity and fuel delivery constraints

The power plants and demand-side resources with obligations to be available are sufficient to meet the forecasted peak demand under both normal and extreme weather conditions. While New England has adequate capacity resources to meet projected demand, a continuing concern involves the availability of fuel for those power plants to generate electricity when needed. The region's natural gas delivery infrastructure has expanded only incrementally, while reliance on natural gas as the predominant fuel for both power generation and heating continues to grow. During extremely cold weather, natural gas pipeline constraints limit the availability of fuel for natural-gas-fired power plants. Inclement weather can also impact oil and liquefied natural gas (LNG) deliveries to the region, as well as generation from renewable resources.

Pay-for-performance implemented

This season marks the first winter under the ISO's pay-for-performance capacity market rules, which went into effect on June 1, 2018. The rules provide enhanced incentives, in the form of bonus payments and financial

penalties, for resource owners to ensure their resources are ready and able to meet their obligations to provide energy and reserves or reduce demand during times of stress on the regional power system.

The implementation of the pay-for-performance rules coincides with the end of the Winter Reliability Program, which incentivized generators to stock up on oil or contract for LNG before winter begins, as well as for demand-side resources to be available. The program, which ran for the past four years, was intended to be a stop gap as the longer-term pay-for-performance rules were put in place.

Demand

Total energy consumption and peak demand have remained flat in New England in recent years as a result of increased use of energy-efficiency measures and behind-the-meter solar photovoltaic (PV) systems. Both the normal and extreme peak demand forecasts take into account the 2,541 MW in energy savings from energy-efficiency measures acquired through the region's Forward Capacity Market. While PV helps reduce energy consumption during sunny winter days, electricity demand peaks in winter after the sun has set. By reducing demand on sunny days, PV can help preserve other fuels for use when demand is peaking.

Operational procedures to maintain reliability

Should unexpected generator or transmission line outages occur, the ISO has procedures in place to maintain reliability, including importing emergency power from neighboring regions, and asking businesses and residents to voluntarily conserve electricity.

2018/2019 winter outlook by the numbers

- Peak demand forecast:
  - At normal winter temperatures of about 7 degrees Fahrenheit (°F): **20,357 megawatts (MW)**
  - If extreme winter weather of 2°F occurs: **21,057 MW**
- Resources with a Forward Capacity Market (FCM) capacity supply obligation to be available: **32,300 MW**
  - Total resources, including both FCM obligations and capability without FCM obligations: **34,415 MW** (a generator's maximum possible output may be greater than its FCM obligation)
- Natural-gas-fired generating capacity at risk of not being able to get fuel when needed: **more than 4,500 MW**
- Winter 2017/2018 peak demand: **20,631 MW** on January 5, 2018, during the hour from 5 to 6 p.m.
- All-time winter peak in New England: **22,818 MW** on January 15, 2004
- All-time peak demand: **28,130 MW**, on August 2, 2006