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## Contact:

Ellen Foley, ISO New England Inc. (413) 535-4139

Marcia Blomberg, ISO New England Inc. (413) 540-4555

Lacey Ryan, ISO New England Inc. (413) 540-4483

## ISO New England Forecasts Adequate Capacity to Meet Consumer Demand for Electricity this Winter

Holyoke, MA—December 4, 2013—Resources needed to meet consumer demand for electricity are expected to be adequate during the 2013/2014 winter season in New England, according to ISO New England Inc., the operator of the region’s bulk power system and wholesale electricity markets.

However, New England’s reliance on natural gas power plants to produce more than half of the electricity generated in the region, combined with the “just-in-time” fuel delivery system to these power plants, can challenge the reliable operation of the power system. These reliability risks are especially acute during cold weather when demand for natural gas for heating and electricity generation is high.

This winter, ISO New England has implemented a Winter Reliability Program to run from December 1, 2013, to February 28, 2014, as an interim solution to help improve resource availability and power system reliability in the event of colder-than-normal weather. The program was put into place to address concerns about the ability of resources to perform as needed, particularly during stressed system conditions. Through a competitive bidding process, the program successfully procured nearly 2 million megawatt-hours of incremental energy from oil-fired generators and dual-fuel generators (power plants that can run on either oil or natural gas), and demand-response resources that can reduce power consumption.

**2013/2014 Winter Forecast: By the Numbers**

At normal winter temperatures of about 7 degrees Fahrenheit (°F), the peak demand is projected to be about 21,300 megawatts (MW). If extreme winter weather of 2°F occurs, demand could reach 21,935 MW. Both forecasts take into account reductions in electricity demand from regionwide energy-efficiency (EE) programs. Without the effect of about 1,145 MW from EE acquired through the region’s Forward Capacity Market (FCM), the forecast for peak demand during normal winter weather would be 22,445 MW, and the peak demand forecast for extreme winter weather conditions would be 23,080 MW.

Generation totaling about 29,835 MW has an obligation through the FCM to be available this winter; however, a generator’s maximum possible output may be greater than its capacity supply obligation. When possible, generators typically offer the additional power they can generate, above their obligation, into the electric energy market, particularly when consumer demand for electricity is peaking. If all the region’s power plants were available and operating at maximum output, the total amount of electricity produced would be approximately 34,360 MW.

Through the FCM, the region has also procured about 1,080 MW of net electricity imports from neighboring power systems and about 565 MW of demand-response resources that can be called on to reduce electricity use during tight system conditions.

### **Natural Gas Dependence and its Effect on Grid Reliability**

In recent years, the demand for natural gas has significantly increased in New England, driven by customer conversions to natural gas for heating and the increased use of the fuel to generate electricity. Nevertheless, the natural gas pipeline infrastructure used to serve this demand has not been expanded, resulting in periodic pipeline constraints. When the pipelines are operating at maximum capacity, natural gas to generators can be restricted because of the generators' fuel-arrangement strategies. Most natural-gas-fired generators do not hold long-term fuel-delivery contracts but instead rely on the release of unneeded pipeline capacity by local gas distribution companies, which is capacity that may not be available when the demand for natural gas is high. The ISO hedges this risk by dispatching oil- and coal-fired power plants, but because these units have higher fuel and operating costs, they run infrequently and many, as the ISO has observed, keep limited fuel inventory on site.

### **Winter 2012/2013 Operational Challenges**

During a cold spell in January 2013 and Winter Storm Nemo the following month, generators' inability to secure the fuel they needed to operate when called by the ISO played out in real time and threatened the reliability of the regional power system. In some instances, natural-gas-fired generators were not able to run because they could not get the fuel they needed; in addition, many oil-fired units had limited oil inventories and, in some instances, ran out of fuel. ISO system operators were able to maintain grid reliability without resorting to formal emergency procedures, but the operating conditions last winter further exposed the vulnerabilities of the fuel supply situation in New England. See the [Winter Operations Summary: January – February 2013](#) for more information.

### **Efforts Continue to Bolster Reliability**

While the [Winter Reliability Program](#) has been designed as an insurance policy for New England to improve the availability of resources in the event of cold weather conditions, even if more prolonged than experienced last winter, a number of other changes have been made over the past year to the wholesale power markets and operations to improve grid reliability.

For example, the timing of the Day-Ahead Energy Market has been adjusted to better align with the natural gas trading market, giving generators more time to make fuel and delivery arrangements and system operators more time to schedule generators that have long start-up times. The ISO also has increased the operating reserve requirement to ensure that the availability of reserves is adequate for the region to recover from unplanned outages. Further, the ISO expects to have additional market rule changes in place by the 2014/2015 winter and is working on longer-term wholesale market solutions through its Strategic Planning Initiative to address resource performance issues.

### **Operational Procedures to Maintain Reliability**

In planning for the winter season, ISO New England takes into account a number of outage scenarios, including the potential for some natural gas resources to be temporarily unavailable during cold or extreme winter conditions. Should unexpected generator or transmission line outages occur, ISO New England has procedures in place to maintain reliability, including calling on demand-response resources to curtail their energy use, importing emergency power from neighboring regions, and asking businesses and residents to voluntarily conserve electricity.

Last winter, the demand for electricity peaked at 20,887 MW on January 24, 2013. The all-time winter peak of 22,818 MW was set on January 15, 2004, during a cold snap. The highest demand ever recorded in New England was 28,130 MW, reached on August 2, 2006.