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# Winter 2015/2016: Sufficient Power Supplies Expected to be Available

## Natural gas pipeline constraints continue to challenge reliable operations

**Holyoke, MA—December 1, 2015**—Electricity supplies should be sufficient to meet consumer demand for electricity in New England this winter, but constraints on the region's natural gas pipelines could pose a challenge to reliable operations, according to ISO New England, the region's grid operator. Because of this concern, ISO New England has put into place a Winter Reliability Program that will help protect overall power system reliability.

"Winter has become a challenging time for New England grid operations," said Vamsi Chadalavada, executive vice president and chief operating officer of ISO New England Inc. "Especially during the coldest weeks of the year, the natural gas infrastructure in New England is inadequate to meet the demand for gas for both heating and power generation. In fact, we've identified over 4,000 megawatts (MW) of natural-gas-fired generating capacity at risk of not getting sufficient fuel on any given day."

A study conducted by ICF International for the ISO in 2013, and updated after the operational challenges experienced during the winter of 2013/2014, provides more detail regarding the natural gas supply constraints that can be expected in New England under various conditions.

"To address the serious challenge these constraints create for reliable power system operation and to ensure that generators can run during times of system stress, ISO New England will again employ a Winter Reliability Program to incentivize oil-fired generators and generators that can access liquefied natural gas to procure sufficient fuel before winter begins. The program has been a key factor in our ability to keep the lights on the last two winters," Chadalavada said.

More than 45%—about 13,650 MW—of the total generating capacity in New England uses natural gas as its primary fuel, and natural gas generated 44% of the region's power in 2014. Currently, most natural gas pipeline capacity is committed for commercial and residential heating use. Any pipeline capacity remaining after heating customers are served can be sold for power generation; however, multiple studies and experience show that the natural gas pipelines are operating at or near full capacity to serve heating demand during most of the winter.

#### 2015/2016 Winter Outlook by the Numbers

- Peak demand forecast:
  - At normal winter temperatures of about 7 degrees Fahrenheit (°F): 21,077 megawatts (MW)
  - If extreme winter weather of 2°F occurs: 21,737 MW
  - Both forecasts take into account the **1,663 MW** in energy savings from energy-efficiency measures acquired through the region's Forward Capacity Market (FCM)
- Resources with an FCM capacity supply obligation to be available: 31,058 MW
  - Total includes 29,932 MW of generation, 587 MW of demand-response resources, and 1,226 MW of imports minus 687 MW unavailable due to maintenance or other reasons





- Total resources, including both FCM obligations and capability without FCM obligations: 33,922 MW
  - A generator's maximum possible output may be greater than its FCM obligation
  - Total includes 32,872 MW of generation, 587 MW of demand-response resources, and 1,226 MW of imports minus 763 MW unavailable due to maintenance or other reasons
- Natural gas-fired generating capacity at risk of not being able to get fuel when needed: 4,220 MW
- Winter 2014/2015 peak demand: 20,583 MW on January 8, 2015, for 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

### **ISO New England Reliability Measures**

The ISO:

- Worked with stakeholders to design the Winter Reliability Program, a short-term wintertime program to ensure system reliability until performance incentives go into effect in 2018
- Communicates frequently with natural gas pipeline operators to monitor conditions on the pipeline network and assess how these conditions may affect the natural-gas-fired generators in the region
- Coordinates with pipelines on system maintenance
- Meets with generators and conducts audits to determine winter readiness and checks fuel inventories monthly, then weekly or daily as winter progresses
- Reviews preparations by transmission owners and coordinates equipment tests
- Conducts regular, frequent calls with pipeline operators, national and regional power system reliability coordinators, and neighboring power grids
- Developed a specialized software tool for ISO control room operators to determine whether natural gas-fired power plants scheduled to run will be able to obtain the gas they need
  - Software collects publicly available information about natural gas pipeline flows and calculates the likely total draw by natural gas utilities based on weather forecasts
- Changed the Day-Ahead Energy Market deadlines to more closely align with natural gas trading deadlines, making it easier for natural-gas-fired generators to obtain pipeline capacity for the next day
- Revamped its entire energy dispatch software to enable generators to enter hourly, rather than daily, offers that can reflect volatile fuel prices that change throughout the day

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

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

#### ABOUT ISO NEW ENGLAND

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Created in 1997, ISO New England 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.

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