



Energy Insights -- May Update

Briefing on New England Energy Issues and Trends

Adequate summer electricity supplies projected for region

New England is projected to have the resources needed to meet demand for electricity this summer, according to ISO New England, the operator of the region's bulk electric system. Under normal weather of about 90 degrees, the summer reliability assessment forecasts demand for electricity to peak at 26,482 MW. An extended heat wave could push demand up another 9% to 28,865 MW, resulting in a tighter supply margin.

Under such peak demand conditions, it is possible that New England would have to rely on imports from neighboring regions, as well as the implementation of established operating procedures to maintain reliability. This is due to the retirement of one of New England's largest generating stations - Brayton Point, a 1,500 MW coal and oil power station located in Massachusetts - as well as delays in the commissioning of new facilities.

According to ISO New England, the region employs a variety of resources to meet consumer demand for power: generators that produce electricity from natural gas, nuclear, oil, coal, hydro, biomass and wind; demand-response resources that can be activated to reduce energy use; and electricity imported into New England from New York and Canada. The summer reliability assessment is based on thousands of simulations covering a wide range of system and weather conditions.

Sources: "ISO New England: Managing Power Grid Operations This Summer", media release, April 26, 2017; "Annual Assessment Forecasts Adequate Electricity Supplies for this Summer", media release, Northeast Power Coordinating Council, May 4, 2017.

MA electric companies propose RFP for offshore wind

A law passed last year requires Massachusetts utilities to purchase 1,600 MW of offshore wind by June 2027, with an initial solicitation of at least 400 MW during 2017.

MA electric distribution companies (Eversource Energy, National Grid and Unitil) are seeking regulatory approval for a request for proposals (RFP) to procure up to 800 MW of offshore wind generation. If approved, the RFP would be issued on June 30, with proposals due by December 20, 2017. The deadline for selecting projects would be May 22, 2018. The projects would have to be operational by January 1, 2027, and would be awarded long-term contracts of 15 to 20 years.

Source: "Massachusetts utilities seek nod for up to 800 MW offshore wind RFP", media release, May 2, 2017.

Winter 2016/2017 wholesale electricity prices 34% higher than last year

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Did You Know:

Boston was named the most energy efficient city in the U.S. again this year by the American Council for an Energy Efficient Economy (ACEEE).

ACEEE City Energy Efficiency Scorecard measures the progress of city policies and programs that save energy while benefiting the environment and promoting economic growth. Boston was ranked highest across five policy areas: local government operations, community-wide initiatives, buildings, energy and water utilities and transportation.

According to ISO New England, colder temperatures during the 2016-2017 winter led to higher natural gas and wholesale electricity prices compared to the previous winter.

While temperatures this past January and February were milder than normal, those in December 2016 were more than ten degrees colder on average than in December 2015. This led to increased demand for natural gas, resulting in higher prices. Since natural gas is the predominant fuel for electricity generation in New England, wholesale electricity prices also increased.

The total cost of wholesale electricity for the 2016/2017 winter season in New England (Dec - Feb) was \$1.37 billion, 34% more than for the same period the previous winter.

For the fourth year in a row, ISO New England's winter reliability program addressed seasonal reliability challenges created by constraints on New England's interstate natural gas pipeline system. The program incentivizes eligible power resources to secure sufficient oil and LNG as well as distributed resources at the beginning of the winter to address potential natural gas shortages caused by infrastructure constraints.

The 2017 winter reliability program cost over \$30 million (similar to last winter) primarily to purchase over 3 million barrels of oil - of which only about 114,000 were ultimately used due to the milder temperatures in January and February.

Source: "Winter 2017 markets report reviews wholesale market outcomes during December 2016 and January and February 2017," ISO New England, Inc., May 8, 2017.

U.S. households using less electricity than five years ago

Despite continued economic growth, U.S. households are using less electricity than five years ago, according to research by the Energy Institute at the Haas School of Business at University of California Berkeley.

Between 1950 and 2010, U.S. residential electricity consumption per capita increased ten-fold, an annual increase of 4 percent per year. But between 2010 and 2015, per capita residential electricity consumption declined in 48 out of 50 states. Only Rhode Island, Maine and the District of Columbia saw increases.

The decline in electricity use is attributed to energy-efficient lighting. The research shows over 450 million LEDs have been installed to date in the U.S., up from less than half a million in 2009. Nearly 70% of Americans have purchased at least one LED bulb. Compact fluorescent lightbulbs (CLFs) are also common, with 70% of households owning some CLFs. Energy efficient lighting now accounts for 80% of all U.S. lighting sales. It is estimated that there are now one billion energy efficient light bulbs installed in U.S. homes.

Source: Research by Lucas Davis at UC Berkeley using residential electricity consumption data from U.S. EIA, and population statistics from the U.S. Census Bureau.

Hydro and natural gas electricity generating facilities have lowest construction costs

According to data released by the U.S. Energy Information Administration, \$27.5 billion was spent in 2015 to construct electricity generating facilities in the U.S. Only 6% – or \$1.8 billion – was spent on generation infrastructure in the Northeast, which includes New England, New York, New Jersey and Pennsylvania.

Joining Boston in the top five energy efficient cities are New York, Seattle, Los Angeles, and Portland.

Source: [2017 ACEEE's City Energy Efficiency Scorecard](#)

The average construction cost (\$/kilowatt of installed capacity) by energy source was:

Hydro:	\$580
Natural Gas:	\$696
Petroleum Liquids:	\$1,021
Biomass:	\$1,531
On-Shore Wind:	\$1,661
Solar PV:	\$2,921

A total of 42 generating facilities were built in the Northeast in 2015 - of which 36 were solar photovoltaic facilities. The top 5 states with the most electricity generation construction activity in 2015 included Texas, New Jersey, California, Oklahoma and Colorado.

Source: U.S. Energy Information Administration, Construction Costs for Electric Generators, May 2017.

Nominees to potentially fill two of three FERC vacancies

President Trump has nominated two potential Federal Energy Regulatory Commission (FERC) commissioners which would reconstitute a quorum at the regulatory panel. Neil Chatterjee, a longtime energy policy adviser to Senate Majority Leader Mitch McConnell, was nominated for the term expiring June 30, 2021, that was previously held by Tony Clark who left FERC last September. Robert Powelson, a member of the Pennsylvania Public Utility Commission, was nominated for a term expiring June 30, 2020, that was previously held by Philip Moeller who left FERC in October 2015.

A third vacancy will arise with the expected exit of Colette Honorable at the end of June - at which time, FERC will be left with one member – Acting Chairman Cheryl LaFleur.

The nominations will need the approval of the Senate Committee on Energy and Natural Resources and the full Senate before they can take their seats at FERC, a process that could take several months.

FERC is an independent agency that regulates the interstate transmission of electricity, natural gas and oil. FERC also reviews proposals to build liquified natural gas (LNG) terminals and interstate natural gas pipelines as well as licensing hydropower projects.

About the New England Energy Alliance, Inc.

The New England Energy Alliance is a coalition of energy companies advocating to ensure the availability, reliability and affordability of future energy supplies which are vital to the region's economic growth and prosperity. Formed in 2005, the Alliance works to balance public debate about solutions to New England's energy infrastructure by providing information on the region's energy needs and the resources, technologies and policies needed to meet those needs.

Please visit www.newenglandenergyalliance.org for more information on the Alliance. Follow on twitter @NEEAlliance

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