

## Energy Insights -- May 2014

### Briefing on Energy Issues and Trends

#### **Annual Assessment Forecasts Adequate Electricity Supplies this Summer**

New England is expected to have the resources needed to meet consumer demand for electricity this summer, according to ISO New England, Inc., the operator of the region's bulk power system and wholesale electricity markets.

Under weather conditions of about 90 degrees Fahrenheit, electricity demand is forecasted to peak at about 26,660 megawatts (MW). If an extended heat wave occurs, the peak could rise to about 28,965 MW. Both forecasts include demand-reducing, region-wide energy efficiency measures. (The all-time record for peak demand was set on August 2, 2006 when demand reached 28,130 MW).

If all the region's generators are operating at maximum capability this summer, the total amount of generation available will total 30,900 MW. In addition, 1,280 MW of electricity imports and 700 MW of demand-response resources will be on-call to meet electricity demand if needed.

Beginning June 1, the remaining units of Salem Harbor power station in the Greater Boston area will retire, representing a reduction of 585 MW of generating capacity. This retirement is the first in a series expected in the coming years that will reduce the available generating capacity in New England, resulting in the need for new resources.

Source: "2014 Summer Outlook: ISO-NE Expects Adequate Resources to Meet Demand for Power," press release, ISO New England, Inc., April 29, 2014.

#### **FERC Order on Demand Response Compensation Overturned**

The Federal Energy Regulatory Commission's (FERC) Order No. 745 requiring independent regional grid

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operators to compensate providers of demand response resources participating in wholesale electricity markets the same amount as electricity generators was vacated on May 23 by the U.S. Court of Appeals for the D.C. Circuit.

Demand response (DR) is a means of reducing electricity demand during times of high electricity demand. Typically, large customers are offered incentives to reduce consumption during peak demand periods. These demand reductions can be bundled or aggregated together and offered in blocks into the wholesale electricity markets.

Recognizing the benefits of DR to the wholesale power system such as improving grid reliability and reducing costly peak demand, FERC issued Order No. 745 in 2011, which has been credited with spurring growth in demand response resources.

While noting the importance of DR, the Electric Power Supply Association (EPSA), argued that the Order required generators to subsidize payments to DR providers and that it encroached on state authority over retail electricity markets.

The court sided with EPSA and found that FERC, the regulator of the wholesale electricity market, lacked authority to issue the Order as demand response involves the retail market which is regulated on the state level.

The ruling will not take effect immediately as the decision is likely to be appealed. Even if it stands, it may not slow down the role DR plays in energy markets - particularly in New England where the states are leaders in energy efficiency and demand management efforts.

Sources: "U.S. Appeals Court Throws Out FERC Order 745 on DR", SmartGrid Today, May 27, 2014; "Court Tosses Out Federal Rule to Reduce Energy Use", Associated Press, May 23, 2014.

## **U.S. Has Potential to Double Hydropower Capacity**

According to a recent assessment funded by the U.S. Department of Energy, more than 65 gigawatts (GW) of sustainable hydropower potential still exists in this country - nearly equivalent to the current U.S. hydropower capacity.

Hydropower currently makes up 7% of total U.S. electricity generation and continues to be the largest source of renewable electricity, avoiding over 200 million metric tons of carbon emissions each year.

The assessment, conducted by Oak Ridge National Laboratory, leveraged recent advancements in geographic datasets on topography, hydrology, and environmental characteristics to develop the highest resolution and most rigorous national evaluation of U.S. hydropower potential to date.

DOE said in its assessment report that there are still many opportunities to develop new hydropower projects around the country, most of which would be smaller, run-of-river facilities that could utilize new low-impact designs and technologies.

While the highest potential among states was found largely in the western U.S., over 2,000 MW of hydropower capacity potential was identified to be located New England.

Source: "Identifying and Evaluating New Hydropower Resources", U.S. Department of Energy, Energy Efficiency & Renewable Energy, April 2014.

### **New England's Wholesale Electricity Markets Operated Competitively in 2013**

According to an independent report by the Internal Market Monitor of ISO New England, Inc., the \$8.8 billion wholesale electricity markets in the region operated efficiently and competitively last year.

The report concluded that higher wholesale electricity prices in the region were largely due to higher prices for natural gas, the predominant fuel used for generation in New England. Key economic findings are as follows:

- Energy prices: The average price for wholesale electric energy increased 55%, from \$36.09 MWh in 2012 to \$56.06 MWh in 2013.
- Fuel costs: The average price of natural gas, which set the wholesale electricity price in 69% of the hours in 2013, rose 76% last year, from \$3.95 per MMBtu in 2012 to \$6.97 MMBtu in 2013.

Independent market monitors review and report on the region's wholesale electricity market annually, the results of which are submitted to ISO New England,

Inc. and the Federal Energy Regulatory Commission.

Source: "Annual Review Concludes that New England's Wholesale Power Markets Operated Competitively in 2013," press release, ISO New England, Inc., May 6, 2014.

### **Consumers Spent \$14 Billion More for Home Heating This Past Winter**

U.S. consumer energy expenditures this past winter (fourth quarter of 2013 and first quarter of 2014) were \$14 billion higher than the previous winter as cold weather in parts of the country led consumers to pay more to heat their homes:

- Electricity expenditures increased \$7.9 billion (10% higher) - nearly two-thirds of the homes that use electricity for home heating are concentrated in the South, which has lower heating demand than other parts of the country.
- Natural gas expenditures increased by \$5.8 billion (16% increase) for home heating and appliances.
- Heating oil and propane expenditures combined were \$6.0 billion higher (27% increase) than the previous winter. Heating oil and propane are used to heat a relatively small number of homes across the country - but are concentrated in areas that were hit the hardest with cold weather.

Source: U.S. Consumers' Energy Spending Rose This Winter,"U.S. Energy Information Administration, May 21, 2014.

### **U.S. Nuclear Plants Posted Strong Performance in 2013**

U.S. nuclear energy facilities continued operating at high levels of safety and reliability in 2013, according to data monitored by the World Association of Nuclear Operators and the Institute of Nuclear Power. Key metrics include:

- Capacity factor: In 2013, U.S. facilities operated at a median capability factor of 91% -- the tenth straight year that a median capability factor of 91% or higher has been achieved. Capability factors measure the amount of time a plant is on line and producing electricity.
- Safety system performance: Nuclear power plants are constructed with multiple safety systems and backup power supplies so these

systems are available if needed. These systems were concurrently available 94% of the time in 2013, continuing a decade long trend above 93%.

Nuclear power plants generated 2.6% more electricity in 2013 than in 2012, at a cost of 2.4 cents per kWh compared to electricity generated at coal-fired power plants at 3.27 cents per kWh and natural gas-fired power plants at 3.4 cents/kwh. Nuclear power generates approximately 19% of the nation's electricity.

Source: "US Nuclear Power Plants Posted Strong Performance in 2013", media release, Nuclear Energy Institute, April 14, 2014.

### **President Nominates Cheryl LaFleur to Another Term at FERC**

On May 1, President Obama nominated Cheryl LaFleur, acting chair of the Federal Energy Regulatory Commission, to another term at FERC. Her current term expires on June 30.

LaFleur has served as FERC's acting Chairwoman since Jon Wellinghoff resigned last fall. President Obama has nominated FERC enforcement chief Norman Bay to become the agency's chairman.

### **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](http://www.newenglandenergyalliance.org) for more information on the Alliance.**