ISO New England’s 2018 Summer Outlook

**SUMMER READINESS**

☀ **Adequate electricity supplies are expected.**

☀ **Tight supply margins could develop if forecasted extreme peak demand occurs.**

1,630 megawatts (MW) of new generation is expected: 1,490 MW of natural gas and 140 MW of grid-scale solar and wind.

Should unexpected generator or transmission line outages occur, the ISO can call on resources held in reserve, import emergency power from neighboring regions, ask businesses and residents to voluntarily conserve electricity, or implement emergency procedures to stabilize the grid.

**As Solar Photovoltaic (PV) Systems Proliferate, Summer Electricity Demand Will Peak Later When Daylight Fades**

New England currently has more than 130,000 PV installations, totaling about 2,400 MW (nameplate), with most connected behind the meter (BTM).

Learn more at www.iso-ne.com/solar-impact.

**SUMMER STATS**

- **WEATHER FORECAST:** Warmer than average

- **SUMMER PEAK DEMAND FORECAST:** 25,729 MW (with temperatures of about 90°F)

- **EXTREME SUMMER PEAK DEMAND FORECAST:** 28,120 MW (with an extended heat wave of about 94°F)

- **LAST SUMMER’S PEAK DEMAND:** 23,968 MW (June 13, 2017, with temperatures of about 91°F)

- **ALL-TIME HIGHEST SUMMER PEAK DEMAND:** 28,130 MW (set on August 2, 2006, after a prolonged heat wave)

**EE and BTM PV Are Forecasted to Reduce the Summer Peak by 3,330 MW in 2018**

Energy efficiency (EE) measures are forecasted to shave 2,700 MW off of the 2018 summer peak. BTM PV, which reduces demand from the grid on clear, sunny days, is forecasted to shave off 630 MW.

New England’s Non-Gas-Fired Resources Can Be Critical on the Summer Peak, but Are Retiring

For example, on the 2016 summer peak day shown here, a nuclear generator was unexpectedly off line, with coal and oil filling the gap. Within a decade, though, the region may have little to no generating capacity left fueled by coal and oil, and is also at risk of losing more nuclear generators.
The ISO Uses OP 4 Actions to Increase Supply or Reduce Demand to Maintain Operating Reserves

Operating Reserves Are Essential to a Reliable Power System
ISO New England must carry a reserve of electricity supply that can be called on to produce electricity should a contingency occur on the power system, such as:

- Unexpected high demand due to extreme weather
- A generator goes out of service for mechanical problems
- A transmission line or circuit breaker trips due to lightning strike or other issue or becomes overloaded
- A neighboring grid requests assistance
- A serious threat is made to the power system

The ISO maintains two categories of reserves: resources that can provide energy within 10 minutes and resources that can provide energy within 30 minutes. Typically, the ISO maintains an operating reserve of between 1,560 MW and 2,250 MW in 10-minute reserve, plus an additional 625 MW or so in 30-minute reserve.

The ISO implements OP 4 when available resources are insufficient to meet anticipated electricity demand plus required operating reserves—called a “capacity deficiency”—so that we can ensure a continuous, reliable flow of electricity.

The Scope and Sequence of OP 4’s 11 Actions
- The ISO can implement OP 4 actions New England-wide, by local control center area, by state, or targeted to a specific area
- Actions can be implemented in any order; some actions can be implemented in advance of an anticipated capacity deficiency
- The ISO can skip OP 4 actions and move immediately to emergency actions such as controlled power outages (under OP 7) if necessary

Four Types of Public Notifications During OP 4

1. Implement Power Caution and begin to allow depletion of 30-minute reserves
2. Declare Energy Emergency Alert (EEA) Level 1**
3. Request voluntary load curtailment of market participants’ facilities
4. Implement Power Watch, a notification that additional OP 4 Actions may be taken; if conditions warrant, issue a public appeal for voluntary conservation
5. Schedule Emergency Energy Transactions and arrange to purchase energy and capacity from other control areas
6. Implement voltage reductions of 5% of normal operating voltage requiring more than 10 minutes
7. Declare Energy Emergency Alert (EEA) Level 2**
8. Request resources without a capacity supply obligation to provide energy for reliability purposes
9. Implement a voltage reduction of 5% of normal operating voltage requiring 10 minutes or less
10. Request activation of transmission customer generation not contractually available to market participants during a capacity deficiency, and request voluntary load curtailment by large industrial and commercial customers
11. Implement Power Warning and issue urgent public appeal for voluntary conservation
12. Request state governors’ support for ISO appeals for conservation

Ways to Monitor Power System Conditions
- Data portal: www.iso-ne.com/isoexpress
- Mobile app: iso-ne.com/isotogo
- Twitter: @isonewengland

*ISO New England’s External Affairs and Corporate Communications teams will activate bridgelines to update OP 4 contacts on power system conditions. We will send dial-in info by email for each event.

**These alerts do not trigger any additional communications with OP 4 contacts.