ENOL IRP-Technical Meeting #2—Load Forecast Question Follow-up

Rooftop Solar PV Assumption in BP19 Load Forecast

As of early 2018, nearly 7,500 ENO customers had rooftop solar installations totaling approximately 39MW. These solar installations have decreased the electricity consumption for ENO in total and are embedded in the historical consumption data used to develop the BP19 load forecast.

The forecast also includes an assumption for future levels of rooftop solar adoption by ENO's customers. By 2038, the ENO BP19 load forecast Reference Case assumed an addition of an additional 43MW of rooftop solar. See the accompanying Excel File for a year by year breakdown of the cumulative additions for the Reference Case.

The High and Low load forecast sensitivities did not include specific adjustments to the projected annual counts of solar PV additions. These sensitivities included adjustments to other inputs that were more general in nature. For example, the Low scenario assumed that year-over-year declines in average residential kWh consumption from the Reference Case were greater by 25%. To illustrate, if the average residential consumption in the Reference Case decreased from 13,000 kWh in one year to 12,900 kWh in the following year, the Low sensitivity would reduce the average consumption by an additional 25 kWh (a 25% greater decrease than the decrease in the reference case) in year two to 12,875 kWh. These declines were intended to represent multiple factors that could reduce average residential kWh including greater adoption of rooftop solar, increases in the effects of energy efficiency due to appliance change-outs, greater LED lighting penetration, and increasing mix of residential customers in multi-family dwellings (apartments) instead of single-family dwellings. The list below shows the other adjustments to the year-over-year changes from the Reference Case used for the Low scenario:

- Increases in residential customer count growth were 15% lower.
- Increases in commercial customer count growth were 25% lower.
- Declines in average commercial kWh consumption were 25% higher.
- Commercial electricity rates were 10% higher.
- Increases in industrial kWh consumption were 20% lower.

These changes taken together for the Low scenario resulted in a decline in overall kWh usage that was 3% lower in 2020 and 6.1% lower in 2038 as compared to the Reference Case.

For the High scenario, there were similar general levers used to develop the changes in load. The High scenario assumed that year-over-year declines in average residential kWh consumption from the Reference Case were less by 25%. To illustrate, if the average residential consumption in the Reference Case decreased from 13,000 kWh in one year to 12,900 kWh in the following year, the High sensitivity would reduce the decline in average consumption by 25 kWh (25% less of a decrease than the decrease in the reference case) in year two to 12,925 kWh. These lessened declines were intended to represent multiple factors that could slow the

declines in average residential kWh consumption, including slower adoption of rooftop solar, decreases in the effects of energy efficiency due to fewer appliance change-outs, slower adoption of LED lighting, and increasing mix of residential customers in single-family dwellings (houses) instead of multi-family dwellings (apartments). The list below shows the other adjustments to the year-over-year changes from the Reference Case used for the High scenario:

- Increases in residential customer count growth were 25% higher.
- Increases in commercial customer count growth were 10% higher.
- Declines in average commercial kWh consumption were 25% lower.
- Increases in industrial kWh consumption were 10% higher.

These changes taken together for the High scenario resulted in an increase in overall kWh usage that was 0.7% higher in 2020 and 1.9% higher in lower in 2038 as compared to the Reference Case.