

AUGUST 11, 2020

Summer Operations Review

Stakeholder Advisory Committee

Summary

- Ontario experienced its first heat wave of the summer at the beginning of July, with peak of 24,446 MW on July 9
- Coordination and preparation with market participants, ensured that, while the system was strained, the majority of resources performed well to meet peak demands
- IESO continues to monitor risks to grid operations as a result of COVID-19

Summary (continued)

- Potential supply risks in summer 2020 and summer 2021 expected to be mitigated by outage rescheduling.

The IESO continues to monitor the situation and will provide updated assessments when more information becomes available.

- Ontario's electricity system is well-positioned for the next 18 months and expected to be adequate under both the normal weather and extreme weather scenarios.

Evolving Demand Outlook

- As the actions to mitigate the spread of COVID-19 evolve and impact demand, the IESO continues to update its summer 2020 forecast

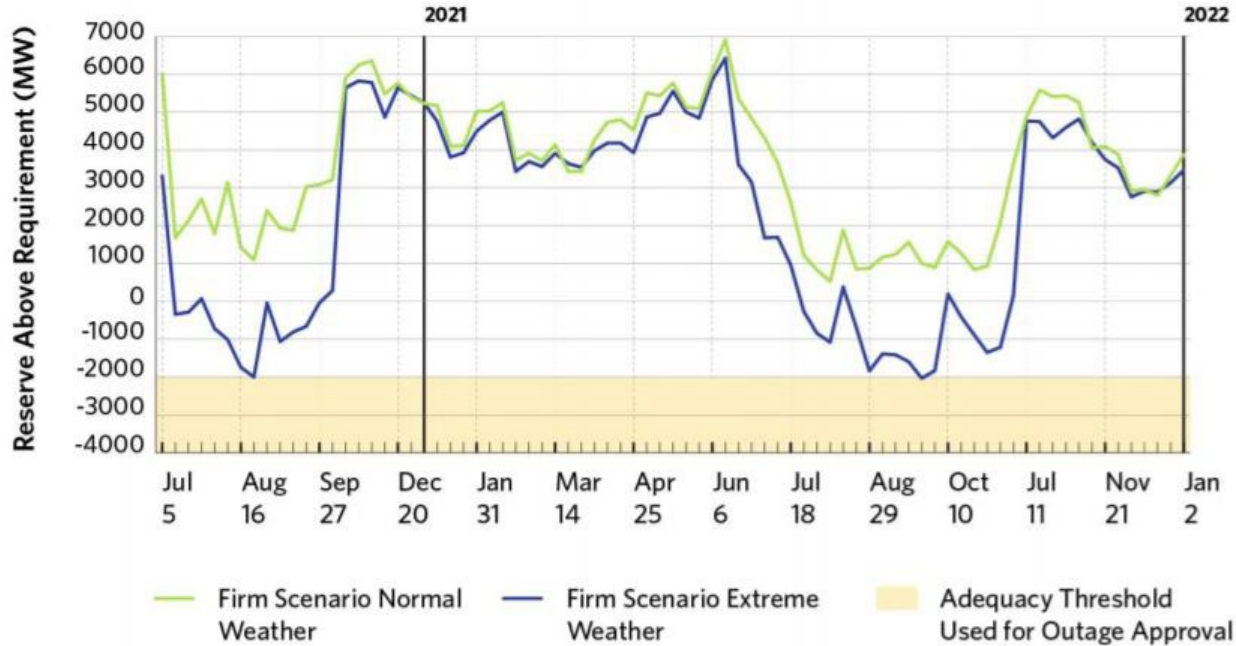
Battery	Spring 2020 Reliability Outlook	Interim Reliability Outlook	Summer 2020 Reliability Outlook	Adequacy Report (today's forecast + 34 days)
Summer 2020 Normal Peak	22,195 MW	20,722 MW	23,602 MW	N/A
Summer 2020 Extreme Peak	24,584 MW	22,364 MW	24,731 MW	25,640 MW

Evolving Demand Outlook (continued)

- 2020 Reliability Outlook
 - Varying impact on system demand (up to 1600 MW) depending on numerous factors

* Spring Reliability Outlook was released March 26, 2020
Interim Reliability Outlook was released May 20, 2020
Summer Reliability Outlook was released June 29, 2020
The Adequacy Report was updated with new extreme peak values on July 27, 2020

Revised Outlook: Ontario Well-positioned for Next 18 Months



Summer 2020: Preparations

- Implemented readiness processes/procedures with the sector by:
 - Testing generators for readiness
 - Coordinating outage plans with the transmitter, gas pipelines operators and neighbouring areas
 - Communicating with participants through ongoing engagement activities (e.g. monthly stakeholder engagement days)

Summer 2020: Preparations (continued)

- Continued to monitor for extreme conditions and issue alerts as appropriate:
 - Risk to transmission elements from forest fires continues to be monitored strong rainfall has mitigated this risk and has led to good water-flow conditions
 - Extreme hot weather conditions currently pose the most significant challenge

Early July Heat Wave

- Ontario experienced its first heat wave of the summer at the beginning of July, with peak of 24,446 MW on July 9
- Daily maximum temperatures were well into the 30s with some days exceeding the extreme peak temperatures forecasted in the Summer 2020 Reliability Outlook
- A heat warning was issued for Toronto by Environment Canada from July 2-10

Early July Heat Wave: Preparations

- Issued an Extreme Conditions Alert for July 8 to 10 and increased Operating Reserve requirements based on system conditions
- Worked with transmitters to bring equipment back ahead of schedule and defer outages
- Collaborated with generator fleet to get up-to-date information on availability and any limitations
- Conducted system studies to enhance power flows on the transmission system as much as possible

Early July Heat Wave: Preparations (continued)

- Coordinated with neighbouring areas on interties capability and available support

Early July Heat Wave: Operations

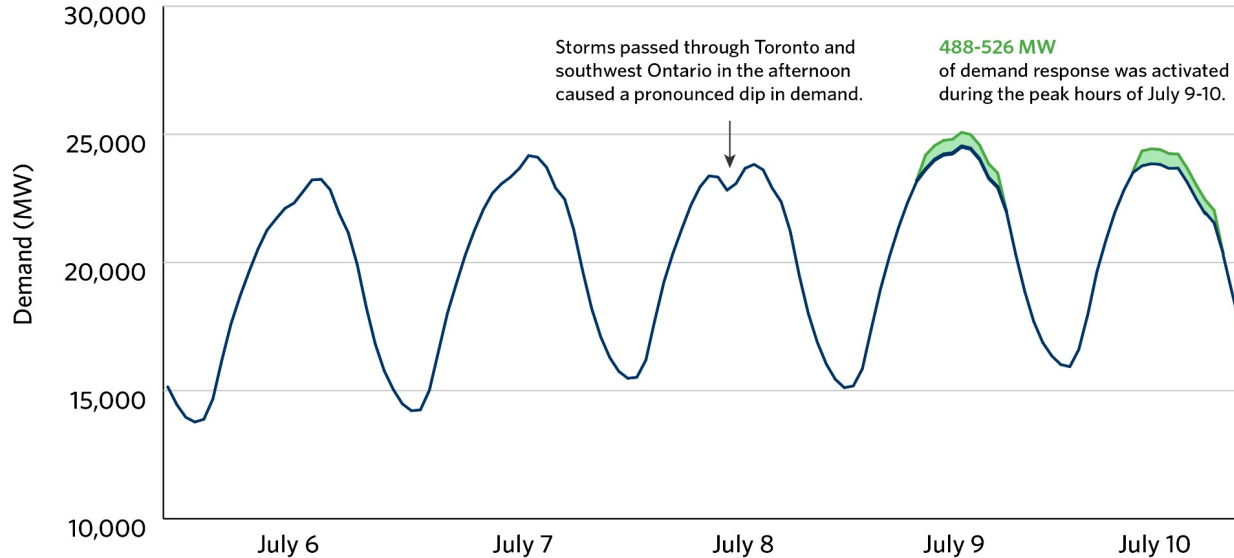
- While the system was strained, the majority of resources performed well to meet peak demands
 - Some gas units experienced operating challenges that resulted in significant reductions in their capacity being unavailable over peak on July 8th
- Issued a NERC Energy Emergency Alert level 1 and Extreme Conditions Alert on July 8, 9 and 10
 - Emergency Alert level 1 indicates that all available resources are in use or expected to be in use

Early July Heat Wave: Operations (continued)

- Extreme Conditions Alert advising additional generation may be committed and planned outages may be revoked/rejected
- Ontario was a net importer over the peak hours during the heat wave
 - Michigan and Minnesota were also experiencing tight supply conditions
- Increased Operating Reserve requirements as a result of increased imports from Quebec and increased hydroelectric generation in Northern Ontario
- Activated hourly demand response on July 9 (~600MW) and July 10 (~500MW)

System Demand Week of July 6

Demand Response During July 2020 Heatwave



Note: Preliminary demand response data.

Resource Output at Peak – July 9

