

# Adequacy Report

## Help File

### Purpose of the Adequacy Report

The purpose of this report is to provide detailed forecasts of load, energy and available generation capacity conditions, as well as information on resource outages, aimed to aid Market Participants with offer and bid submissions to meet system reliability requirements. It publishes information on Ontario's electricity requirements for the current dispatch day and subsequent 34 calendar days. The resources that offered, forecasted and who submitted bids are included for the hours of today and the next day<sup>1</sup>. The report identifies the capacity and energy excesses or shortfalls in all hours.

### Confidentiality Classification

Public

### Frequency

#### **Day 0:**

- After the Pre-dispatch run has finished at xx:15 and xx:45 for every hour of the day

#### **Day 1:**

- 5:30 EPT
- 9:00 EPT
- After the successful completion of DAM (typically 13:30EPT)
- After the successful completion of Pre-dispatch for Day 1 starting at 20:00 EST, this report will be issued hourly about 15 minutes past the hour.

#### **Day 2 to 34:**

8:45 EST and 15:00 EST

---

<sup>1</sup> Resource offers are only published for the next day after the completion of the Day-Ahead Market

## Granularity

Hourly

### Description of the Adequacy Report Fields

| Report Field Title | Definition of Report Field Title                                                                                                                   |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Created at         | This field displays the date and time that the report was created in EST. It is displayed as mmm dd, yyyy hh(24):mm:ss.                            |
| For                | This field displays the date for which the data applies for, from midnight (EST) to the following midnight (EST). It is displayed as mmm dd, yyyy. |
| Hour               | This field displays the hour the data on the report pertains to.                                                                                   |

The following information is included in this report:

1. Capacity – the net amount of generation capacity in-service in Ontario from nuclear, gas, hydro, wind, solar, biofuel, storage and other resources.
2. Energy – the amount of energy available from generation sources in Ontario plus estimated imports and capacity imports from other control areas.
3. Internal Resources Capacity – the net amount of capacity from generation facilities in Ontario, subdivided by types such as nuclear, gas, hydro, wind, solar, biofuel, storage and other fuel types.
4. Internal Resources Outages – the total amount of MW from generation facilities that are unavailable due to outage or de-rating, subdivided by type as nuclear, gas, hydro, wind, solar, biofuel, storage and other fuel types. The amount also reflects the unscheduled amount of variable, intermittent and self-scheduling generation.
5. Internal Resources Offered<sup>2</sup> – the internal generation offered, subdivided by type as nuclear, gas, hydro, biofuel, storage and other fuel types.
6. Internal Resources Forecasted – the internal generation forecasted for hydro, wind, solar and storage. The hourly value for wind, solar and storage will be blank if the forecast is unavailable or disabled for that hour.

---

<sup>2</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

7. Internal Resources Scheduled<sup>3</sup> – the internal generation scheduled, subdivided by type as nuclear, gas, hydro, wind, solar, biofuel, storage and other fuel types.
8. Total Internal Resources Outages – the sum of internal resources outages for all fuel types, increased by 2% of available dispatchable capacity<sup>4</sup>.
9. Total Internal Resources Offered/Forecasted – the sum of internal generation offered plus forecasted wind and solar generation.
10. Total Internal Resources Scheduled<sup>5</sup> – the sum of internal generation scheduled for all fuel types.
11. Offered Imports<sup>6</sup> – the sum of imports offered, by intertie zone (Manitoba, Minnesota, Michigan, New York, Quebec).
12. Scheduled Imports<sup>7</sup> – the sum of imports scheduled by intertie zone (Manitoba, Minnesota, Michigan, New York, Quebec).
13. Total Imports Offered<sup>8</sup> – the total imports offered on all intertie zones.
14. Total Imports Scheduled<sup>9</sup> – the total imports scheduled on all intertie zones.
15. Estimated Imports – the number of potential imports from other control areas that are assumed to be available.
16. Total Capacity Imports – the quantity of capacity imports that can be relied upon from other control areas.
17. Bottled Capacity – the total estimated quantity of bottled generation capacity.
18. Regulation – the amount of regulation range available based on the amount of regulation range contracted.
19. Total Supply – the total forecasted number of available resources, equal to the total capacity plus estimated imports and capacity imports, minus total internal resources outages and bottled capacity.
20. Forecast Ontario Demand<sup>10</sup> – the forecast of Ontario’s hourly peak or average demand. The value will include non-dispatchable load, dispatchable load, system losses and is adjusted to reflect the wind and solar embedded forecasts. The values represent the forecast used in pre-dispatch scheduling.

---

<sup>3</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

<sup>4</sup> Available dispatchable capacity is Capacity minus total Internal Resources Outages minus Bottled Capacity.

<sup>5</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

<sup>6</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

<sup>7</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

<sup>8</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

<sup>9</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

<sup>10</sup> Please refer to the notes section to see when average demand and peak demand is used in the Forecast Ontario Demand calculation. For Day 0 and 1, Peak Demand will be used as the Forecast Ontario Demand if the difference between the Peak Demand and the Average Demand is greater than or equal to 300 MW. For Day 2 to 34, this value will just be the Average Demand.

21. Peak Demand<sup>11</sup> – the forecast of Ontario’s hourly peak demand. The value will include non-dispatchable load, dispatchable load, system losses and is adjusted to reflect the wind and solar embedded forecasts.
22. Average Demand – the forecast of Ontario’s hourly average demand. The value will include non-dispatchable load, dispatchable load, system losses and is adjusted to reflect the wind and solar embedded forecasts.
23. Forecast Area Demand at Time of Peak<sup>12</sup> – This field is split into the four Forecast Areas: Northeast Area, Northwest Area, Southeast Area, and Southwest Area. These fields display the corresponding Area demand at the time of Forecast Area Peak demand which is the highest forecasted demand value of the 5-minute intervals within the hour.
24. Forecast Area Average Demand – This field is split into the four Forecast Areas: Northeast Area, Northwest Area, Southeast Area, and Southwest Area. These fields display the forecast of Area hourly average demand (average of the twelve 5-minute intervals within the hour)
25. Wind Embedded Forecast – the forecast of embedded wind generation. The hourly value will be blank if the forecast is unavailable or disabled for that hour.
26. Solar Embedded Forecast – the forecast of embedded solar generation. The hourly value will be blank if the forecast is unavailable or disabled for that hour.
27. Dispatchable Load Capacity – the net amount of capacity from dispatchable load facilities in Ontario.
28. Dispatchable Load Bid/Forecasted – the sum of dispatchable load bid, or forecasted amount of dispatchable load that is expected to be available to be dispatched off. The amount of dispatchable load bid is presented in all reports published for today, and reports published for the next day subsequent to the Day-Ahead Market.
29. Dispatchable Load Scheduled ON – sum of dispatchable load scheduled on<sup>13</sup>.
30. Dispatchable Load Scheduled OFF – sum of dispatchable load scheduled off<sup>14</sup>.
31. Hourly Demand Response Bid/Forecasted – the sum of hourly demand response resources bid for days 0 and 1, or the forecasted amount of Hourly Demand Response load that is expected to be available to be dispatched off for days 2 to 34.
32. Hourly Demand Response Scheduled – the sum of hourly demand response resources scheduled on.
33. Hourly Demand Response Curtailed – the sum of hourly demand response resources scheduled off.
34. Exports Bid<sup>15</sup> – the sum of exports bid, by intertie zone (Manitoba, Minnesota, Michigan, New York, Quebec).

---

<sup>11</sup> Ontario Peak Demand is only published for Day 0 to Day 10. For Day 11 to Day 34, the field remains blank

<sup>12</sup> Forecast Area Peak Demand is only published for Day 0 to Day 10. For Day 11 to Day 34, the field remains blank

<sup>13</sup> This value is negative

<sup>14</sup> This value is positive

<sup>15</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

35. Exports Scheduled<sup>16</sup> – the sum of exports scheduled, by intertie zone (Manitoba, Minnesota, Michigan, New York, Quebec).
36. Total Exports Bid<sup>17</sup> – the total exports bid on all intertie zones.
37. Total Exports Scheduled<sup>18</sup> – the total of all exports scheduled on all intertie zones.
38. Total Capacity Exports – the quantity of capacity exports that the IESO is obligated to provide to other control areas.
39. Total Operating Reserve Requirement – the total operating reserve requirement for Ontario, comprised of the 30-minute operating reserve requirement and the 10minute operating reserve requirement.
40. Minimum 10-Minute OR – the 10-minute operating reserve requirement for Ontario.
41. Minimum 10-Minute Spin OR – the 10-minute spinning operating reserve requirement for Ontario.
42. Load Forecast Uncertainty – the value representing a factor to account for the degree of weather-related uncertainties in the demand forecast.
43. Additional Contingency Allowance – the value to account for additional contingency not included in the demand forecast.
44. Total Requirement – the total forecasted requirement for each hour, equal to Forecast Ontario Demand (value same as Line 20 in the Help File) plus generation reserve holdback<sup>19</sup>, plus capacity exports, minus dispatchable load scheduled off or forecasted, minus hourly demand response resources curtailed. The amount of dispatchable load scheduled off and hourly demand response resources curtailed are used in the calculation for all reports published for today, and reports published for the next day subsequent to the Day Ahead Market.
45. Capacity Excess/Shortfall – the capacity excess or shortfall, calculated as the total supply minus the total requirement. Negative values indicate shortfalls.
46. Energy Capacity Excess/Shortfall – the energy excess or shortfall, in MWhr, calculated as the total energy minus Ontario demand plus dispatchable load forecasted plus Hourly Demand Response Forecasted. Negative values indicate shortfalls.
47. Offered Capacity Excess/Shortfall<sup>20</sup> – the sum of internal resources offered/forecasted plus import offers (minus linked wheels), plus dispatchable load bid and hourly demand response resources bid, minus demand and total operating reserve requirement. Negative values indicate shortfalls.

---

<sup>16</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

<sup>17</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

<sup>18</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

<sup>19</sup> Generation Reserve Holdback = Total Operating Reserve Requirement + Load Forecast Uncertainty (LFC) + Additional Contingency Allowance (ACA)

<sup>20</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

48. Resources Not Scheduled<sup>21</sup> – the total internal resources offered/forecasted plus dispatchable load and hourly demand response bid, minus internal generation scheduled, dispatchable loads scheduled off, and hourly demand response resources curtailed.
49. Imports Not Scheduled<sup>22</sup> – the sum of all imports offered, minus the sum of all imports scheduled.

Notes: There may be differences between the adequacy reported from the pre-dispatch results and the Adequacy report itself. These discrepancies exist because the Adequacy report is based on a mixture of pre-dispatch results and submitted bids, forecasts and offers, and can differ from the pre-dispatch schedules that can limit bids, forecasts and offers scheduled because of ramp constraints, energy limits, unavailable or disabled wind or solar forecasts, etc.

There may also be differences between the capabilities (capacity less outages and derates) by fuel type in the Adequacy report and the capabilities by fuel type in the Generator Output and Capability report. These discrepancies exist because the Generator Output and Capability report only displays resources with capacities of 20 MW or greater.

Average Demand values are used for the Forecast Ontario Demand. The only exception to this would be for Day 0 and 1, and the difference between the Peak Demand and the Average Demand is greater than or equal to 300 MW. If this occurs, Peak Demand values are used for the Forecast Ontario Demand. The Peak Demand is the highest forecasted demand value of the 5-minute intervals within the hour, and the Average Demand is the average forecasted demand of those 5-minute values over the hour.

## Contact Information

For additional information, please e-mail IESO Customer Relations at [customer.relations@ieso.ca](mailto:customer.relations@ieso.ca).

A Help File has been prepared for this report to provide the reader a brief overview on the report. The Help File will also outline what the purpose of the report is, the publication frequency of the report, how the report can be accessed, and a description of the report fields. Users of the Help File are reminded that they remain responsible for complying with all of their obligations under the market rules and associated policies, standards and procedures relating to the subject matter of this Help File, even if such obligations are not specifically referred to herein. While every effort has been made to ensure that any extracts

---

<sup>21</sup> The calculation in each report published at approximately 45 minutes past the hour on the current day (Day 0) is based on the offers, bids, forecasts and schedules from the pre-dispatch run at 02 minutes past the hour

<sup>22</sup> This field is only populated for Day 0 and Day 1. For Day 2 to Day 34, the field will remain blank.

from the market rules or other documents in this Help File are accurate and up to date, users must be aware that the specific provisions of the market rules or particular document posted on the web site of Ontario's Independent Electricity System Operator shall govern.