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Ontario Reserve Margin Requirements for 2024 to 2028

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Purpose

- In accordance with Section 8.2 of the Ontario Resource and Transmission Assessment Criteria (ORTAC), the IESO annually publishes a five-year forecast of reserve margin requirements at the time of projected annual peak [1].

- Reliability standards require that the IESO maintain enough capacity such that the Loss of Load Expectation (LOLE) [2] is no more than 0.1 days/year.

- The IESO calculates LOLE and capacity requirements by performing a probabilistic resource adequacy assessment.

[1] Reserve margin requirements are generally published in the Annual Planning Outlook (APO). The 2023 APO is expected to be published in early 2024, the reserve margins requirements are posted in this standalone document to meet the requirements of ORTAC.

[2] LOLE is a measurement of resource adequacy, defined as the average number of days per year during which supply is expected to be insufficient to meet demand.

Assumptions and Results

- Adequacy assessments that determine reserve requirements incorporate only capacity from existing and committed resources until contract end, as well as the impact of government policy decisions.

- The assumptions for the calculation of the reserve margin is consistent with that of the Annual Planning Outlook expected to be published in early 2024. Reserve margin requirements vary from year to year. Reasons for variation are many fold: resource fleet composition, planned outage schedule of resources, inclusion of risks associated with nuclear refurbishments that vary from year to year, etc.

Meeting Reliability Requirements

Some recent activities and actions underway have not been included in the current assessment, but will contribute to reliability over the coming years, allowing Ontario to meet forecast requirements until the end of the decade. These include:

- Results from the Annual Capacity Auction, typically providing more than 1,000 seasonal MW and with targets expected to grow for the foreseeable future
- A 600 MW seasonal capacity exchange with Hydro Quebec, as well as a one-time 500 MW summer supply when needed
- The Long-Term RFP underway targeting about 2,500 MW of capacity to be in service by May 2028

Resources from recent competitive procurements and agreements, such as the first Medium-Term RFP and the Expedited Process, are expected to provide more than 2,400 MW of available capacity to the system beginning in 2024.

Reserve Margin Requirements

	2024	2025	2026	2027	2028
Summer Peak Demand (MW) [1]	23,845	24,636	25,125	25,398	25,751
Existing Summer Effective Capacity (MW) [1]	27,149	26,627	27,258	26,082	25,960
Total Resource Requirement (MW) [2]	27,454	27,489	28,395	29,336	28,577
Reserve Margin Available (MW)	3,304	1,991	2,133	684	209
Capacity Surplus (+) /Deficit (-) (MW)	-305	-862	-1,137	-3,254	-2,616
Reserve Margin Available (%) [3]	14%	8%	8%	3%	1%
Reserve Margin Requirement (%) [4]	15%	12%	13%	16%	11%

- Note 1: Peak demand and existing effective capacity is consistent with that of the Annual Planning Outlook expected to be published in early 2024. The summer effective capacity assumes resources are available until its contract expiry.
- Note 2: The total resource requirement is the amount of effective capacity needed to meet resource adequacy standards.
- Note 3: The reserve margin available is the amount of existing effective capacity available over and above the peak demand in normal weather conditions, represented as a percentage of peak demand.
- Note 4: The reserve margin requirement is the amount of resources Ontario needs over and above peak demand under normal weather conditions, represented as a percentage of peak demand.

Thank You

ieso.ca

1.888.448.7777

customer.relations@ieso.ca

engagement@ieso.ca

@IESO_Tweets

linkedin.com/company/IESO

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