

# Memorandum

**To:** Strategic Advisory Committee

**From:** Beverly Nollert, Director, Transmission Planning

**Date:** October 16, 2025

**Re:** IESO Business Update – Transmission Planning

This memo provides an update to members of the Strategic Advisory Committee (SAC) on the development of IESO's transmission plans. Collectively, these plans will ensure Ontario's transmission system is poised to maintain reliability, enable growth and economic development, and facilitate connection of supply resources, through recommendations for additional infrastructure.

## **Summary**

The IESO's Annual Planning Outlook, released in April, identifies in-flight and forthcoming transmission plans based on known bottlenecks on the high-voltage transmission system<sup>1</sup> that require resolution to maintain reliability, enable growth and economic development and facilitate connection of supply resources. Five of these transmission plans are underway, and focus on large swaths of the province, including Northern, Central, Eastern and Southwestern Ontario. An additional bulk plan will be initiated in Q4 this year focusing on the Niagara area given prospective demand growth. Refer to Table 1 for details on the timing and scope of these plans.

Since the last update, the IESO published the Northern Ontario Bulk Plan in September, which recommends a new 500 kV circuit from Sudbury to Barrie, with development of a second circuit to prepare for potentially higher growth scenarios. The Ministry of Energy and Mines has

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<sup>1</sup> These are called Bulk Transmission Plans.

proposed to designate this work to Hydro One, as well as prioritize the need for the line. The IESO continues to make progress on the remaining in-flight plans with technical findings forming a vision for how the Ontario transmission system will evolve, informed by key feedback from Indigenous communities, municipalities and stakeholders alike. The IESO hosted a public webinar on September 30, as well as an Indigenous community webinar on October 8, to provide an update on several of these plans, with a focus on the needs identified in the North of Sudbury and Eastern Ontario Bulk Plans, and the ongoing analysis of the portfolios of options in the South and Central Bulk Plan<sup>2</sup>. The IESO also hosted a webinar on October 15 to seek feedback on which transmission options contemplated in the South and Central Bulk Plan would be candidates for the Transmitter Selection Framework. Refer to Table 1 for details on the timing and scope of these plans.

The IESO also has a number of transmission plans underway to enable growth and economic development in specific regions across Ontario<sup>3</sup> by resolving bottlenecks on the local transmission systems that supply them. The IESO is active in various phases of planning in 14 of Ontario's 21 regions. Since the last business update memo, the IESO has published the Ottawa, North of Dryden and York (GTA North) plans. The IESO will publish the Toronto plan at the end of October. Additional details for these plans are provided below and in Table 2. Other regional plans underway that are due for completion in 2026 include GTA West, London, East Lake Superior, Peterborough-Kingston, GTA East and Northwest Ontario regions, 4 of which were initiated ahead of schedule due to high-growth.

- The Greater Ottawa regional plan was published at the end of July. It recommends various new supply stations and circuits, upgraded circuits and electricity demand side management (eDSM) to enable demand growth in the region.
- The North of Dryden regional plan was published in early September. The plan recommends a new 230 kV double circuit from Dryden to Red Lake via Ear Falls.
- The York (GTA North) regional plan was published in October. The recommendations include a new 230 kV transmission line to parallel the 413 highway from Kleinburg to

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<sup>2</sup> The future-ready reinforcements and portfolios of transmission options contemplated in the South and Central Bulk Plan are described in the previous business update memo, presented in July.

<sup>3</sup> These are termed Regional Plans, or more formally, Integrated Regional Resource Plans (IRRPs).

Kirby Junction in Vaughan, as well as upgraded circuits, new supply stations and eDSM to enable growth in Northern York, Markham and Aurora.

- The Toronto regional plan will be published at the end of October. In late September, the IESO presented draft recommendations to enable the full suite of Toronto's electricity needs which reflect an "all of the above" approach. Anchored by a draft recommendation for a new underwater high voltage direct current supply line from Bowmanville to the Hearn SS in the Port Lands to meet needs in the eastern downtown area over the medium to long term, the plan also proposes to leverages targeted demand side management, strategically deployed battery energy storage, upsizing existing assets at end of life, and new load supply stations to power growing communities such as the Port Lands, Downsview and the Golden Mile.

Additional details regarding these transmission planning activities can be found on the [IESO's Planning and Forecasting website](#).

**Table 1: Bulk Transmission Plans**

Area	Plan Name	Start - End (Estimate)	Scope / Considerations
South and Central Ontario (including the GTA)	South and Central Ontario Bulk Plan ( <i>Powering Ontario's Growth</i> plan)	2024–Q1 2026 (ongoing)	<p>This study was initiated to review the capability of the bulk system to support future generation connections and demand growth in key areas throughout southern and central Ontario, including the GTA, to enable a decarbonized power system in the future. This study includes several considerations:</p> <ul style="list-style-type: none"> <li>• Sufficiency of the bulk transmission supply to the GTA given future growth in electrical demand, and reduced reliance on existing local natural gas-fired generation;</li> <li>• Expansion for the 500 kV transmission system between Cherrywood TS and Bowmanville to enable continued expansion of generation, including small modular reactors, in eastern Ontario;</li> </ul>

Area	Plan Name	Start - End (Estimate)	Scope / Considerations
			<ul style="list-style-type: none"> <li>Continuing the assessment of the bulk transmission system between the Hamilton and Windsor areas to understand future transmission needs that could result from further economic development; and</li> <li>Transmission needed to enable expansion of the Bruce NGS.</li> </ul> <p>This work also considers opportunities to preserve new or expanded corridors for future transmission development. Two new corridor studies, in addition to the ongoing northwest GTA corridor work, have recently been recommended as early outcomes of this work.</p>
Southern Ontario (including the GTA)	Niagara Bulk Plan	2025–2026	This study is proposed to review the capability of the bulk transmission system to continue to support economic development in the Niagara region, with consideration of the future role of the area’s intertie with New York.
Northern Ontario	Ontario-Manitoba Intertie Joint Study	2022–2025 (ongoing)	This study was initiated to proactively plan for the end of life of critical transmission intertie equipment on the Ontario-Manitoba interconnection. This is a joint study between the IESO, Hydro One Networks, Manitoba Hydro and Minnesota Power.
Northern Ontario	Northern Ontario System Bulk Plan ( <i>Powering Ontario’s Growth</i> plan)	2024–Q3 2025 (complete)	This study was initiated to review the capability of the bulk transmission system to facilitate additional power flows from northern Ontario to southern Ontario and vice versa, and to support future generation connection and demand growth to enable a decarbonized system. The bulk plan is ongoing and will continue to assess the medium- and long-term needs. This includes consideration of opportunities to preserve new or expanded corridors for future transmission development.
Northern Ontario	North of Sudbury Bulk Plan	2025–2026 (ongoing)	This study will examine the capability of the bulk transmission system’s ability to supply additional increasing levels of demand in the areas surrounding Timmins, Kirkland Lake, and Pinard. The study will also look at creating opportunities to potentially locate

Area	Plan Name	Start - End (Estimate)	Scope / Considerations
			new non-emitting resources and opportunities for new or upgraded interconnections with Quebec.
Northern Ontario	Northern Ontario Connection Study	2024–2025 (ongoing)	This study will evaluate transmission options for enabling connection of remote First Nations and prospective mining developments in remote northwestern Ontario.
Eastern Ontario (including Ottawa)	Eastern Ontario Bulk Plan	2024–2026 (ongoing)	This study will examine if the bulk transmission system is sufficient to reliably supply the demand growth expected in eastern Ontario and explore opportunities to improve the transmission system's capability to deliver new resources located in eastern Ontario and the capacity transfers to and from Quebec.

**Table 2: Regional Plans to be Completed in 2025**

Region	Plan Name	Start - End (Estimate)	Scope / Considerations
Greater Ottawa	Greater Ottawa IRRP	Q1 2023 – Q3 2025 (complete)	To ensure a reliable supply of electricity, and support local growth and economic development, regional electricity planning has commenced for the City of Ottawa.
Northwest (North of Dryden Sub-Region)	North of Dryden Addendum	Q3 2024 – Q3 2025 (complete)	To ensure emerging growth in the North of Dryden sub-region a local electricity infrastructure study has been initiated to address emerging local needs to ensure a reliable supply of electricity that supports local growth and economic development.
Toronto	Toronto IRRP	Q1 2023 – Q4 2025 (ongoing)	To ensure a reliable supply of electricity to the City of Toronto, and to reduce reliance on Portlands Energy Centre in meeting electricity needs.
GTA North	York IRRP	Q4 2023 – Q4 2025 (complete)	To ensure a reliable supply of electricity to York Region and to support growth and electrification. The plan will include a scenario to investigate the region's needs with reduced reliance on York Energy Centre.