

Feedback Form

Regional Electricity Planning in Toronto – September 25, 2025

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To promote transparency, feedback submitted will be posted on this [engagement webpage](#) unless otherwise requested by the sender.

Following the Toronto Region electricity planning engagement webinar held on September 25, 2025, the Independent Electricity System Operator (IESO) is seeking feedback on the options analysis and draft recommendations. A copy of the presentation as well as a recording of the session can be accessed from the [engagement web page](#).

Please submit feedback to engagement@ieso.ca by October 9, 2025.

Topic	Feedback
What feedback is there on the options analysis?	Click or tap here to enter text.
What feedback is there on the draft recommendations?	Click or tap here to enter text.
What information needs to be considered regarding these draft recommendations?	Click or tap here to enter text.
What should be considered regarding the third supply line before the regional plan is released?	Click or tap here to enter text.
How can the IESO continue to engage with communities and stakeholders as these recommendations are implemented, or to help prepare for the next planning cycle?	Click or tap here to enter text.

General Comments/Feedback

1. System Performance and Grid Reliability

The HVDC submarine option provides superior controllability and operational flexibility. A VSC-based HVDC system not only transmits power efficiently but also actively supports voltage regulation and dynamic stability within the downtown Toronto load center. Unlike additional AC circuits, which increase reactive charging and exacerbate voltage management challenges, the HVDC link avoids adding charging to the system and can actively mitigate high-voltage conditions during low-load periods.

Furthermore, the HVDC connection can be designed to interface with both the Manby and Leaside networks, providing valuable operational redundancy and flexibility. This dual connection capability would enable maintenance switching, facilitate outage coordination, and enhance restoration efforts through black-start functionality a critical consideration for the aging infrastructure in the downtown core.

2. Infrastructure Constraints and Cost Avoidance

Onshore AC reinforcement would require substantial upgrades at Cherrywood and Leaside transformer stations, including potential 500/230 kV and 230/115 kV transformation additions. These upgrades would add cost, complexity, and disturbance, particularly given the physical limitations and expansion constraints at both stations.

By contrast, the HVDC submarine link bypasses these heavily constrained stations, directly injecting power into the downtown load center. This approach eliminates the need for additional

transformation capacity at Cherrywood and Leaside and defers costly reinforcements in the Greater Toronto Area (GTA).

3. Power Flow Optimization and Future Growth

A 900 MW HVDC injection into downtown Toronto would push back on east–west flows across the GTA, relieving loading on existing corridors and enabling further system growth. This capacity release allows for greater operational flexibility, facilitates planned maintenance, and defers future capital investments in transmission reinforcements.

Use of an HVDC system will support the proposed load growth without contributing to fault levels within the AC system thus avoiding the need for further reinforcement of the existing AC network.

4. Environmental, Permitting, and Community Considerations

The HVDC submarine option minimizes surface disruption by avoiding new overhead and underground AC corridors in dense urban and suburban areas. This reduces permitting complexity, community impact, and right-of-way acquisition challenges factors that often lead to extended project schedules and escalating costs for conventional onshore AC solutions.

Additionally, the submarine route provides geographic supply diversity, enhancing system resiliency and reducing vulnerability to extreme weather events that could affect land-based infrastructure.

5. Overall Recommendation

Considering technical performance, system resilience, infrastructure constraints, and environmental impact, the VSC-based HVDC submarine option represents the most robust, future-proof, and cost-effective solution for the Downtown Toronto 3rd Line. It provides the Toronto grid with the controllability, flexibility, and reliability required to meet future load growth while minimizing disturbance and maximizing system efficiency.

6. Timing

We consider that the proposed in-service dates, either 2038 or 2034, are achievable under current market conditions.

In summary, the HVDC submarine option not only addresses immediate system needs but also strengthens the foundation for long-term grid resilience and reliability in one of Canada’s most critical load centers.