GTA West Region

Scoping Assessment Outcome Report (DRAFT FOR REVIEW)

October 23, 2024

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1. Introduction

This Scoping Assessment Outcome Report is produced as part of the Ontario Energy Board's regional planning process, as defined through the Transmission System Code, Distribution System Code, and IESO license. This third cycle of regional planning for the GTA West region was initiated in Summer 2024, with a Needs Assessment, initiated and led by Hydro One Networks Inc. (Hydro One), and establishment of a Technical Working Group (TWG) comprised of Hydro One, the Independent Electricity System Operator (IESO) and the Local Distribution Companies with assets in the region. A Needs Assessment Report was published on August 30, 2024. The 2024 Needs Assessment identified several power system needs which are key input to this Scoping Assessment. The TWG reviewed the nature and timing of these needs to assess and determine the appropriate planning approach to address them. The Scoping Assessment also considered past or ongoing energy initiatives in the region, including drivers such as the Ontario government's recent Powering Ontario's Growth (POG) plan, and local policies concerning the future of natural gas fired generation.

The Scoping Assessment considers three potential planning approaches including: an Integrated Regional Resource Plan (IRRP) – where wires and non-wires both have potential to address the needs and regional coordination is needed; a Regional Infrastructure Plan (RIP) – which is limited to wires only but still requires regional coordination; or a local plan undertaken by the transmitter where no further regional coordination is needed.

This Scoping Assessment Outcome Report:

- Summarizes the power system needs, as identified in the Needs Assessment report, that require further planning.
- Reviews the areas to be studied and the potential for grouping of needs on a geographic basis if splitting the region into sub-regions would be beneficial). This Scoping Assessment does not recommend splitting the region into sub-regions.
- Considers impacts on planning assumptions and potential outcomes on needs resulting from local and provincial policy goals.
- Determines if an IRRP is the appropriate regional planning approach where there are needs requiring regional coordination or more comprehensive integrated planning; this Scoping Assessment recommends an IRRP.
- Establishes a draft Terms of Reference for the IRRP.
- Establishes the composition of the Technical Working Group for the IRRP.

2. Technical Working Group

The Scoping Assessment was carried out with the following participants:

- Independent Electricity System Operator (IESO)
- Hydro One Networks Inc. (Transmission)
- Hydro One Networks Inc. (Distribution)
- Alectra Utilities Corporation
- Burlington Hydro Inc.
- Milton Hydro Distribution Inc.
- Oakville Hydro Electricity Distribution inc.
- Halton Hills Hydro

3. Categories of Needs, Analysis and Results

3.1 Overview of the GTA West Region

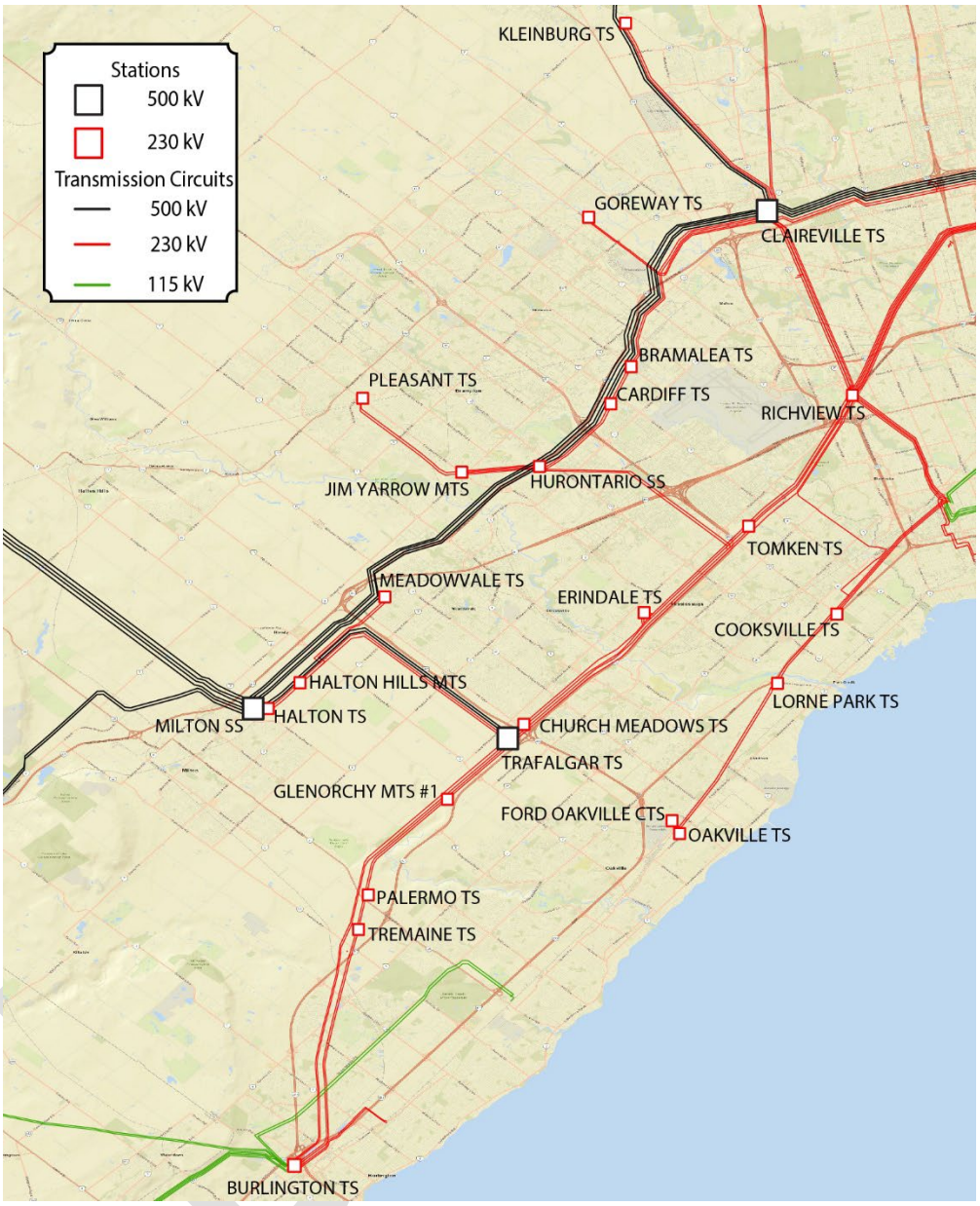
The GTA West region comprises the Regional Municipalities of Peel and Halton, which include the City of Brampton, City of Mississauga, Town of Caledon, Town of Halton Hills, Town of Milton, and Town of Oakville. Geographically, the area is roughly bounded by Highway 27/Highway 427 to the east, Regional Road 25 to the west, King Street to the north, and Lake Ontario to the south.

Electrically, the GTA West Region is defined by the high-voltage transmission within an area between the Claireville Transformer Station (TS) and Richview TS and Manby TS to the east, and Burlington TS to the west. Transmission infrastructure in the northern reach of the GTA West region is sparse. Many of the 230 kV transmission circuits in this area provide services for the bulk network and provide regional supply. That is, in addition to supplying the local area, the transmission also forms part of the integrated network facilitating large transfers of power through the region to other regions of the province. The 500 kV transmission facilities in are generally considered bulk network assets. Although the bulk transmission system is not the focus of regional planning, it impacts how the system is modelled and contingencies evaluated.

The local distribution systems in this region operate at two voltage levels - 44 kV and 27.6 kV. Local generation in the area includes two gas fired plants: the 880 MW Goreway generating station (GS) in Brampton and the 673 MW Halton Hills GS in Halton Hills. Customers are served by Local Distribution Companies (LDCs) including Burlington Hydro Inc., Alectra Utilities Co., Halton Hills Hydro Inc., Hydro One Networks Inc., Milton Hydro Distribution Inc., and Oakville Hydro Electricity Distribution Inc.

The electricity demand in the region currently peaks in the summer season. In summer 2023, the peak demand in GTA West was approximately 2,700 MW. A map of the electricity infrastructure supplying GTA West is shown in Figure 1.

Figure 1 | Electricity Infrastructure of the GTA West Region



3.1.1 Indigenous Communities

The GTA West region is home to Indigenous peoples from across Canada. Located within and around the region are the Mississaugas of the Credit First Nation, Six Nations of the Grand River, the Haudenosaunee Confederacy Chiefs Council (HCCC), Métis Nation of Ontario (MNO), Alderville First Nation, Chippewas of Beausoleil First Nation, Chippewas of Georgina Island First Nation, Chippewas of Rama First Nation, Curve Lake First Nation, Hiawatha First Nation, and Mississaugas of Scugog Island First Nation. The IESO will notify these communities that regional planning for the GTA West region is underway and will invite them to participate in engagement activities.

3.2 Previous Regional Planning Cycles in GTA West

Two cycles of regional planning preceded the present cycle. The first cycle of the regional planning process for the GTA West region was completed in January 2016, and the second cycle was completed in February 2022. In both the first and second cycles, an IRRP was completed as well as a Regional Infrastructure Plan (RIP).

Previous planning recommendations for the region focused on accommodating the near and medium -term forecasted demand growth, maintaining system reliability, optimizing end-of-life asset replacements as an opportunity to upsize transmission infrastructure, and to closely monitor growth in the region in advance of planning for larger electricity infrastructure needs. As acknowledged in the previous planning cycle, rapid community growth is expanding northward in the region where there is presently no transmission infrastructure to support it. Therefore, the IESO and the Ministry of Energy and Electrification are engaged in a joint study to identify a suitable corridor of land that can be preserved for future transmission infrastructure should the need arise. This work is ongoing.

3.3 Needs Identified in the 2024 Needs Assessment

The Needs Assessment provided an update on recommendations from the previous planning cycles, identified new needs in the GTA West region based on updated transmission assumptions (including end-of-life sustainment activities planned by the transmitter), and a revised 10-year demand forecast. A summary of the current projects and plans underway to address previously identified needs, plus the new needs identified in the Needs Assessment are outlined below.

3.3.1 Projects and Plans Underway or Complete to Address Previously Identified Needs

The Needs Assessment report lists the needs identified from the previous planning cycle and provides an update on the status of project implementation for the options recommended to address them (Table 1). These projects provide a starting point for subsequent assessments and will be accounted for in this planning cycle.

Table 1 | Needs Identified in the Previous Cycle with Implementation Plan Update

Need	Plan Update and Timing
Palermo TS transformer replacement with larger capacity transformers (T3, T4)	Project in progress, Expected in-service Q4, 2027
Tomken TS transformer replacement (T1, T2)	Expected in-service Q4, 2035
Lorne Park TS transformer replacement (T2)	Expected in-service Q4, 2034
Bramalea TS transformer replacement with larger capacity transformers (T3, T4)	Expected in-service Q2, 2040
Pleasant TS transformer replacement (T1, T2)	Expected in-service TBD

Need	Plan Update and Timing
Erindale T5/T6 capacity need	Timing of need revised to beyond 2033
H29/H30 capacity need	Reconductoring in progress, Expected in-service Q2, 2028
T38B/T39B Lantz JCT to Trafalgar DESN overload	Expected in-service to be confirmed in this plan cycle

Additionally, since the previous regional planning cycle, Hydro One has implemented an operating procedure under which the Jim Yarrow MTS load can be transferred to different transmission circuits if the normal supply to the station is out of service. This operational measure is a low-cost way to address the risk of overloading of key 230 kV transmission circuits under certain pre-contingency outage conditions (i.e., maintenance outages).

3.3.2 Needs Requiring Further Coordination or Study in the Current Planning Cycle

The Needs Assessment identified new system needs in the GTA West region using the 10-year station-level demand forecast provided by the local distribution companies, updated end-of-life asset information from Hydro One, as well as the conservation and demand management (CDM) and distributed generation (DG) forecasts developed by the IESO. Several needs were assessed and the TWG determined that they either fall outside the Needs Assessment ten-year window (Table 2), or will not require further coordinated study through the regional planning process (Table 3). In a subsequent planning study these needs may be considered in relation to the broader needs in the region.

Several needs identified in the Needs Assessment will require further planning or have a shared impact with other system assets or needs. For example, infrastructure needs impacting existing rights-of-way, such as asset renewal or replacement, may have an impact on shared, downstream, or alternate facilities, or they may present opportunities to do something different (i.e., non-like-for-like). A need for additional step-down capacity could interact with a broader need, if the station is located within an area with limited bulk transmission capacity to accommodate station growth. These types of needs may or may not require coordinated study through an IRRP.

The remaining needs determined through the Needs Assessment to require further coordinated study are listed in Table 4. Most needs deal with infrastructure capacity constraints. Additionally, transmission upgrades may be required to accommodate rapid load growth being experienced in the Milton area.

Table 2 | Needs Determined to be Outside Needs Assessment Forecast (i.e., >10 years)

Need #	Station/Circuit	Description of Need
1	Halton TS: T3/T4	• Asset renewal

Need #	Station/Circuit	Description of Need
2	Pleasant TS: T5/T6	• Asset renewal
3	Lorne Park TS: T2	• Asset renewal
4	Tomken TS: T1/T2	• Asset renewal
5	Bramalea TS: T3/T4	• Asset renewal

Table 3 | Needs Determined in the Needs Assessment to not Require Further Coordinated Planning

Need #	Station/Circuit	Description of Need
1	Bramalea TS: T3/T4	• Station capacity
2	Lorne Park TS	• Station capacity
3	Pleasant TS: T1/T2	• Station capacity

Table 4 | Needs identified in the Needs Assessment as Requiring Further Study

Need #	Station/Circuit	Description of Need
1	Halton TS	• Station capacity
2	Bramalea TS: T1/T2	• Station capacity
3	Erindale TS: T1/T2	• Station capacity
4	Cardiff TS	• Station capacity
5	Cooksville TS	• Station capacity
6	Pleasant TS: T5/T6	• Station capacity

Need #	Station/Circuit	Description of Need
7	Jim Yarrow TS: T1/T2	• Station capacity
8	Goreway TS: T5/T6	• Station capacity
9	T38B/T39B	• Load security
10	T38B/T39B	• System capacity

3.3.3 Analysis of Needs and Planning Approach

The TWG reviewed the needs in the GTA West region and the different possible planning approaches to address them. The preferred planning approach is generally informed by:

- Timing of the need, including the available lead time to develop solutions
- The potential linkages between needs and the level of coordination required to assess possible solutions, particularly if they overlap across LDC territories or planning regions
- The opportunity for community and stakeholder engagement to inform the assessment
- The potential for different types of options to address the needs, including non-wires alternatives
- The potential for interaction between regional needs and the upstream bulk power system

In general, the greater the complexity and need for regional coordination and engagement, the more likely an IRRP will be the preferred planning approach. If needs have few available solutions, are relatively straight forward, and can be implemented without affecting neighbouring areas or the bulk power system, then a more streamlined planning approach with a narrower scope may be appropriate.

The TWG agreed that for each of the identified needs requiring further study, a range of alternatives including wires and non-wires solutions should be assessed. Additionally, several needs were identified which do not require further coordinated planning but should still be considered in scope of further study as the implementation and timing of solutions have the potential to affect other needs in the area. These include needs whose previously recommended solutions are already underway, and asset renewal needs with the potential to affect overall capacity needs in the area.

Based on discussions, the TWG agreed that an IRRP is the preferred planning approach. The scope of an IRRP will include an assessment of Demand-side Management, Distributed Energy Resources (DERs), and other community-based solutions, in addition to transmission infrastructure. A Draft Terms of Reference for the IRRP is attached in Appendix B.

3.3.5 Additional Planning Considerations

It is widely recognized that the energy transition will shape the ways that electricity is produced and consumed. In July 2023, the Ministry of Energy and Electrification published its Powering Ontario's Growth Report (POG). The POG report was created in response to the expected demand increase resulting from the province's rapid economic development, decarbonization, and electrification efforts. It speaks to reducing the province's reliance on natural gas generation, and strategically planning transmission to unlock future opportunities.

Accordingly, the GTA West IRRP will evaluate a scenario in which the two local gas-fired generation plants are phased out and identify the magnitude of system investments needed to accommodate this scenario. Consideration will also be given to a "high electrification" demand forecast scenario. This scenario will evaluate the potential impact to the regional electricity system to accommodate electrification.

3.3.6 Northwest GTA Transmission Corridor

The IESO and the Ministry of Energy and Electrification are conducting a joint study to identify land to be protected for a future transmission corridor to support anticipated long-term growth in demand for electricity in the GTA West region. This initiative will ensure that transmission in the study area can be accommodated if and when they arise in an effort to plan today to keep future options alive.

3.3.7 South and Central Ontario Bulk Planning Study

This study will review the capability of the bulk system to support future generation connections and demand growth in key areas throughout the province, to enable a decarbonized power system in the future. This work will also consider opportunities to preserve additional new or expanded linear corridors for future transmission development.

As the South and Central Bulk Study will be conducted in parallel with regional planning in GTA West, its findings (i.e., needs and recommended solutions) will be coordinated with the GTA West IRRP, and vice-versa.

4. Conclusion and Next Steps

The Scoping Assessment concludes that:

- Based on the available information, an IRRP is to be undertaken for the GTA West region;
- The implementation of recommendations from the previous planning cycle should continue;
- The composition of the IRRP Working Group will include the IESO, Hydro One Transmission, Hydro One Distribution, Alectra Utilities, Burlington Hydro, Milton Hydro, Oakville Hydro, and Halton Hills Hydro.
- Given the significant anticipated scope of the study, the full 18-month timeline for completion of the IRRP is expected to be required;
- The GTA West IRRP will co-ordinate its findings with the South and Central Bulk Study, and vice-versa;

All IRRPs will include opportunities for engagement with local communities and stakeholders, as well as include discussion of any local initiatives focused on energy and/or reducing GHG emissions, and how the IRRP can coordinate with these plans. This could include Community Energy Plans, Net-Zero strategies, or similar. Particular attention will be paid to opportunities for information sharing and/or coordination of goals and outcomes.

The draft Terms of Reference for the GTA West IRRP is attached in Appendix B.

Appendix A – List of Acronyms

Acronym	Definition
APO	Annual Planning Outlook
CDM	Conservation and Demand Management
DER	Distributed Energy Resource
DG	Distributed Generation
EA	Environmental Assessment
FIT	Feed-in-Tariff
IESO	Independent Electricity System Operator
IRRP	Integrated Regional Resource Plan
kV	Kilovolt
LDC	Local Distribution Company
MW	Megawatt
NERC	North American Electric Reliability Corporation
NPCC	Northeast Power Coordinating Council
OEB	Ontario Energy Board
ORTAC	Ontario Resource and Transmission Assessment Criteria
POG	Powering Ontario's Growth
RIP	Regional Infrastructure Plan
TS	Transformer Station
TWG	Technical Working Group

Appendix B – GTA West Region Integrated Regional Resource Plan (IRRP) DRAFT Terms of Reference

1. Introduction

These DRAFT Terms of Reference establish the objectives, scope, key assumptions, roles and responsibilities, deliverables and engagement timelines for an Integrated Regional Resource Plan (IRRP) for the GTA West region.

Based on the power system needs identified throughout the region, an IRRP is the appropriate planning approach for this region.

2. Objectives

1. Assess the adequacy and reliability of the portion of the IESO-controlled grid[1] that provides electricity supply to the GTA West region over the next 25 years.
2. Account for major asset renewal/end-of-life needs, capacity needs, enhancing reliability and resilience, uncertainty in the outlook for electricity demand, and local priorities in developing a comprehensive plan.
3. Consider potential impacts of electrification targets and other policy decisions on needs identified and recommended outcomes, consistent with provincial direction.
4. Evaluate opportunities for cost effective non-wires alternatives, including conservation and demand management (CDM) and distributed energy resources (DER), as well as wires approaches for addressing the needs identified.
5. Develop an implementation plan that maintains flexibility in order to accommodate changes in key assumptions over time. The implementation plan should identify actions for near-term needs, preparation work for medium-term needs, and planning direction for the long-term.

3. Scope

3.1 Needs to be Addressed

The IRRP will develop and recommend an integrated plan to meet the needs of the GTA West region. The plan is a joint initiative involving Hydro One Transmission, Hydro One Distribution, Alectra Utilities, Burlington Hydro, Milton Hydro, Oakville Hydro, Halton Hills Hydro, and the IESO, and will account for input from the community through engagement activities. The plan will integrate the electricity demand outlook scenarios, Conservation and Demand Management, Distributed Energy

[1] The scope of the assessment includes transmission stations.

Resource uptake, transmission and distribution system capabilities, and align with relevant community plans, bulk system developments, and policy direction as applicable.

The scope of the GTA West IRRP includes the following needs, as identified in the Needs Assessment:

Table 5 | Needs Identified in the Needs Assessment as Requiring Further Study

Facilities	Type of Need	Expected Timing
Halton TS	Station capacity	2026
Bramalea TS: T1/T2	Station capacity	2031
Erindale TS: T1/T2	Station capacity	2030
Cardiff TS	Station capacity	2030
Cooksville TS	Station capacity	2030
Pleasant TS: T5/T6	Station capacity	2026
Jim Yarrow TS: T1/T2	Station capacity	2030
Goreway TS: T5/T6	Station capacity	2026
T38B/T39B	Load security	2029
T38B/T39B	System capacity	TBD

Other identified needs in the Needs Assessment not listed in Table 5 will proceed with Local Planning or Regional Infrastructure Planning as appropriate. Hydro One will keep the Working Group informed on project development.

4. IRRP Activities

The development of the IRRP will consist of the activities as listed below. The activities and anticipated timelines are summarized in Table 6 at the end of this document. The first major planning activity following preparation of this Terms of Reference is the development of the 20-year electricity demand forecast to serve as the basis for conducting system assessments. The timing for initiating the assessment (Activity 3) and all subsequent plan development activities will be contingent on the TWG agreeing on the demand forecast and associated forecast scenarios to be considered in the plan.

1) Develop an electricity demand forecast for the GTA West region. This may be comprised of a number of electricity demand scenarios that account for uncertain elements that can impact the future electricity requirements in the region (Local Distribution Companies/LDCs provide forecast data).
2) Confirm baseline technical assumptions including infrastructure ratings, system topology and relevant base cases for simulating the performance of the electric power system. Collect information on:

    a. Transformer, line and cable continuous ratings, long-term and short-term emergency ratings;
    b. Known reliability issues and load transfer capabilities;
    c. Customer load breakdown by transformer station;
    d. Historical and present CDM peak demand savings and installed/effective DER capacity, by transformer station.
3) Perform assessments of the capacity, reliability and security of the electric power system under each demand outlook scenario.
    a. Confirm and/or refine the needs listed earlier in this section using the demand outlook; establish the sensitivity of each need to different demand outlook scenarios.
    b. Identify additional infrastructure capacity needs and any additional load restoration needs; if new needs are discovered, determine the appropriate planning approach for addressing them.
4) Identify options for addressing the needs, including, non-wires and wires alternatives. Where necessary, develop portfolios of solutions comprising a number of options that, when combined, can address a need or multiple needs.
    a. Collect information about the attributes of each option: cost, performance, timing, risk, etc.
    b. Develop cost estimates for all screened-in options as a means of informing further evaluations of alternatives.
    c. Seek cost-effective opportunities to manage growth, by identifying opportunities to reduce electricity demand.
5) Evaluate options using criteria including, but not limited to the areas of: technical feasibility and timing, economics, reliability performance, risk, environmental, regulatory, and social factors. Evaluation criteria will be informed through community engagement activities and reflect attributes deemed important to the community-at-large.
6) Develop recommendations for actions and document them in the plan, to address needs in the near-term and medium-term (generally up to ten years out).
7) Develop a long-term plan for the electricity system in GTA West region to address the identified long-term needs, considering uncertainty inherent in long-term planning, local and provincial policy goals, commitments, and climate change action plans.
    a. Discuss possible ways the power system in GTA West could evolve to address potential long-term needs, support the achievement of local and provincial long-term policy goals and plans, and support the achievement of the long-term vision for the electricity sector.
    b. During the development of the plan, seek community and stakeholder input to confirm the long-term vision, expected impacts on the electricity system, and inform the recommended actions through engagement.
8) Complete an IRRP report documenting the near-term and medium-term needs, recommendations, and implementation actions; and long-term plan recommendations.

To carry out this scope of work, the TWG will consider the data and assumptions outlined in Section 5.

5. Data and Assumptions

The plan will consider the following data and assumptions:

- Demand Data
  - Historical coincident and non-coincident peak demand information and trends for the region
  - Historical weather correction, for median and extreme conditions
  - Gross peak demand forecast scenarios by TS, etc.
  - Coincident peak demand data
  - Identified potential future load customers, including transit expansions, electrification of personal vehicles, space heating/cooling, water heating, and other end-uses due to provincial and local GHG emissions reduction policies and targets

- Conservation and Demand Management
  - LDC CDM plans
  - Incorporation of verified LDC results and other CDM programs/opportunities in the area
  - Long-term conservation forecast for LDC customers, based on region's share of the provincial target found in the 2021-2024 CDM Framework
  - Conservation potential studies, if available
  - Potential for CDM at transmission-connected customers' facilities, if applicable
  - Load segmentation data for each TS based on customer type (residential, commercial, institutional, industrial)
  - Local building codes, energy performance requirements, etc.

- Local resources
  - Existing local generation resources, including distributed energy resources, district energy resources, customer-based generation, as applicable
  - Existing or committed renewable generation procurements
  - Expected performance/dependability/output of local generation resources coincident with the local peak demand period
  - Future district energy plans, combined heat and power, energy storage, or other generation proposals, including requirements for on-site back-up and emergency generation

- Relevant local and provincial plans and studies, as applicable
  - LDC Distribution System Plans
  - Community Energy Plans and Municipal Energy Plans
  - Municipal and community policies with an impact on electricity usage
  - Municipal Growth Plans
  - Future transit plans impacting electricity use, including personal vehicle electrification, transit expansion and electrification (e.g. GO train electrification)
  - Pathways to Decarbonization Report

- Criteria, codes and other requirements
  - Ontario Resource and Transmission Assessment Criteria (ORTAC)
    - Supply capability
    - Load security
- Load restoration requirements

    - NERC Reliability Standards and NPCC Reliability Criteria and Directories, as applicable
    - OEB Transmission System Code
    - OEB Distribution System Code
    - Reliability considerations, such as the frequency and duration of interruptions to transmission delivery points
    - Other applicable requirements, including municipal requirements

- Existing system capability
    - Transmission line ratings as per transmitter records
    - System Limits as modelled, defined and determined by the IESO and incorporated into the IESO Power Flow base cases
    - Transformer station ratings (10-day LTR) as per asset owner
    - Load transfer capabilities
    - Technical and operating characteristics of local generation

- End-of-life asset considerations/sustainment plans
    - Transmission assets
    - Distribution assets, as applicable

- Other considerations, as applicable

6. Technical Working Group

The IRRP Technical Working Group will consist of planning representatives from the following organizations:

- Independent Electricity System Operator *(Lead for the IRRP)*
- Hydro One Networks Inc. (Transmission)
- Hydro One Networks Inc. (Distribution)
- Alectra Utilities Corporation
- Burlington Hydro Inc.
- Milton Hydro Distribution Inc.
- Oakville Hydro Electricity Distribution Inc.
- Halton Hills Hydro

6.1 Authority and Funding

Each entity involved in the study will be responsible for complying with regulatory requirements as applicable to the actions/tasks assigned to that entity under the implementation plan resulting from this IRRP. For the duration of the study process, each participant is responsible for their own funding.

7. Engagement

Integrating early and sustained engagement with communities and stakeholders is key to the planning process. As such, the Technical Working Group is committed to conducting plan-level engagement throughout the development of the GTA West IRRP.

The first step in engagement will consist of the development of a public engagement plan, which will be made available for comment before it is finalized. The data and assumptions, as outlined in Section 5, will help to inform the scope of community and stakeholder engagement to be considered for this IRRP.

8. Activities, Timeline, and Primary Accountability

Table 6 | IRRP Timelines & Activities

Activity	Lead Responsibility	Deliverable(s)	Timeframe
1. Prepare Terms of Reference considering stakeholder input	IESO	Finalized Terms of Reference	December 2024
2. Develop the planning forecast for the region		Long-term planning forecast scenarios	Q1-Q3 2025
a. Establish historical coincident peak demand information	IESO		
b. Establish historical weather correction, median and extreme conditions	IESO		
c. Establish gross peak demand forecast	LDCs		
d. Establish existing, committed, and potential DG	IESO, LDCs		
e. Establish near- and long-term conservation forecast based on planned energy efficiency activities and codes and standards	IESO		

Activity	Lead Responsibility	Deliverable(s)	Timeframe
3. Confirm load transfer capabilities under normal and emergency conditions – for the purpose of analyzing transmission system needs and identifying options for addressing these needs	LDCs/ Hydro One	Load transfer capabilities under normal and emergency conditions	Q4 2025
4. Provide and review relevant community plans, if applicable	LDCs, communities, stakeholders, and IESO	Relevant community plans	Q4 2025
5. Complete system studies to identify needs over a 20-year time horizon Obtain base case Apply reliability criteria as defined in ORTAC and other applicable criteria to demand forecast scenarios Confirm and refine the need(s) and timing/load levels	IESO	Summary of needs based on demand forecast scenarios for the 20-year planning horizon	Q4 2025 – Q1 2026
6. Develop options and alternatives		Develop flexible planning options for forecast scenarios	Q1 2026
a. Conduct a screening to identify which wires and non-wires options warrant further analysis	IESO		
b. Verify the LMC of the system to better determine timing of needs and support options development	IESO		
c. Develop screened-in energy efficiency options	IESO and LDCs		

Activity	Lead Responsibility	Deliverable(s)	Timeframe
d. Develop screened-in local generation/demand management options	IESO and LDCs		
e. Develop the screened-in transmission and distribution alternatives (i.e., alignment with EOL sustainment plans, load transfers)	IESO, Hydro One Transmission, and LDCs		
f. Develop portfolios of integrated alternatives	IESO, Hydro One Transmission, and LDCs		
g. Technical and economic comparison and evaluation of integrated alternatives	IESO, Hydro One Transmission, and LDCs		
7. Plan and undertake community and stakeholder engagement		Community and Stakeholder Engagement Plan Input from local communities, First Nation communities, and Métis Nation of Ontario	Ongoing as required IRRP engagement to be launched in Q1-Q2 2025
a. Early engagement including with local municipalities and First Nation communities within study area, First Nation communities who may have an interest in the study area, and the Métis Nation of Ontario	IESO, Hydro One Transmission, and LDCs		

Activity	Lead Responsibility	Deliverable(s)	Timeframe
b. Develop communications materials	IESO, Hydro One Transmission, and LDCs		
c. Undertake community and stakeholder engagement	IESO, Hydro One Transmission, and LDCs		
d. Summarize input and incorporate feedback	IESO, Hydro One Transmission, and LDCs		
8. Develop long-term recommendations and implementation plan based on community and stakeholder input	IESO	Implementation plan Monitoring activities and identification of decision triggers Procedures for annual review	Q4 2025 – Q1 2026
9. Prepare the IRRP report detailing the recommended near, medium, and long-term plan for approval by all parties	IESO	IRRP report	March 2026

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