

# South Georgian Bay/Muskoka Region Scoping Assessment Outcome Report

November 25, 2025



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#### 1. Introduction

This Scoping Assessment Outcome Report is part of the Ontario Energy Board's regional planning process, as defined through the Transmission System Code, Distribution System Code, and Independent Electricity System Operator (IESO) license.

This is the third cycle of regional planning for the South Georgian Bay/Muskoka Region (SGBM Region). It was initiated in April 2025 with a Needs Assessment led by Hydro One Networks Inc. (Hydro One) and a Technical Working Group (TWG) comprised of Hydro One, the IESO and the Local Distribution Companies (LDCs) with assets in the region. A Needs Assessment Report was published on August 27, 2025 and is available at the South Georgian Bay/Muskoka link, where needs that require further regional coordination were identified. In this Scoping Assessment, the TWG reviewed the nature and timing of all the needs identified in the region through the Needs Assessment process, to determine the most appropriate planning approach.

The Scoping Assessment process considers which of three potential planning approaches is most appropriate for addressing the region's needs, including: an Integrated Regional Resource Plan (IRRP) – where both wires and non-wires solutions have the potential to address the needs and are considered as alternatives; a Regional Infrastructure Plan (RIP), which considers only wires (transmission and distribution) solutions; or a local plan undertaken by the transmitter and the affected local distribution company or customer, where no further regional coordination is needed.

#### This Scoping Assessment report:

- Lists the needs requiring more comprehensive planning, as identified in the Needs Assessment report.
- 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 the Terms of Reference for an IRRP.
- Establishes the composition of the IRRP Technical Working Group.

## 2. Technical Working Group

The Scoping Assessment was carried out with the following participants:

- Independent Electricity System Operator (IESO)
- Hydro One Networks Inc. (Transmission), as the lead transmitter
- Alectra Utilities Corporation (Alectra)
- Hydro One Networks Inc. (Distribution)
- Newmarket-Tay Power Distribution Ltd (NT Power)
- InnPower Corporation
- Orangeville Hydro
- Elexicon Energy
- Lakeland Power
- EPCOR Electricity Distribution Ontario Inc. (EPCOR)
- Wasaga Distribution Inc.

## 3. Categories of Needs, Analysis and Results

#### 3.1 Overview of the SGBM Region

The South Georgian Bay/Muskoka Region, shown in Figure 1, roughly comprises the cities of Barrie, Kawartha Lakes, and Orilla, the Districts of Muskoka and Parry Sound, the region of Durham and the counties of Grey, Dufferin, Haliburton and Simcoe.

Indigenous communities that may be potentially impacted or may have an interest based on treaty territory, traditional territory, or traditional land uses, include:

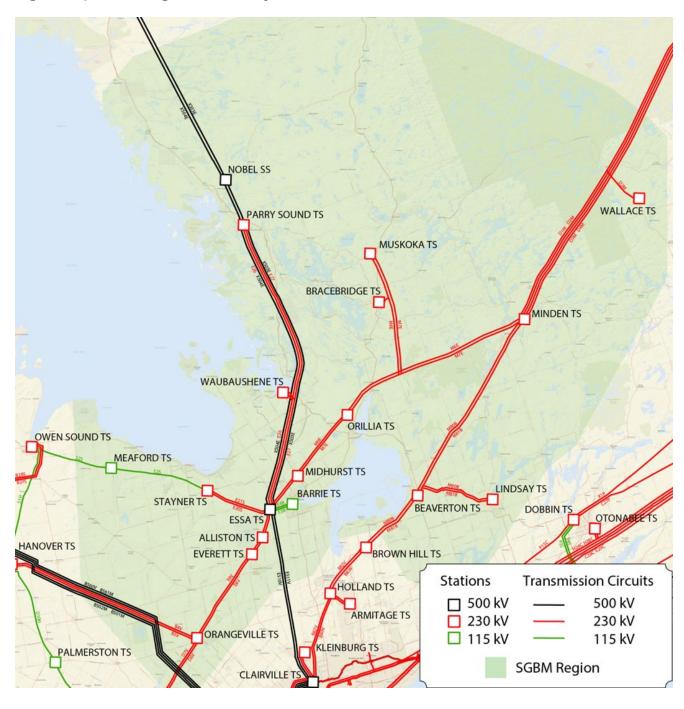
- Alderville First Nation
- Algonquins of Ontario
- Algonquins of Pikwakanagan First Nation
- Beausoleil First Nation
- Chippewas of Georgina Island First Nation
- Chippewas of Nawash First Nation
- Chippewas of Rama First Nation
- Chippewas of Saugeen First Nation
- Curve Lake First Nation
- Dokis First Nation
- Haudenosaunee Confederacy Chiefs Council
- Henvey Inlet First Nation
- Hiawatha First Nation
- Kawartha Nishnawbe
- Magnetawan First Nation
- Mississaugas of Scugog Island First Nation
- Mississaugas of the Credit First Nation
- Moose Deer Point First Nation
- Nipissing First Nation
- Shawanaga First Nation
- Six Nations of the Grand River as represented by Six Nations Elected Council
- Wahta Mohawks
- Wasauksing First Nation
- Whitefish River First Nation
- Métis Nation of Ontario
- Métis Nation of Ontario Region 7

Electrically, the SGBM region includes 16 transformer stations that serve distribution systems at the 44 kV level, with the exception of Orangeville TS which serves 44 kV and 27 kV voltage levels. These transformer stations are supplied from:

 Two 500/230 kV autotransformers at Essa TS which receive power from generation in the North of the Province through Hanmer TS, and aggregated generation incoming from Claireville TS in the Toronto Region.

- Four 230 kV transmission lines that channel power through Minden TS from Des Joachims TS in the North.
- Two 230 kV transmission lines from Orangeville TS to Essa TS, that convey power predominantly from Bruce Generation Station in the West.
- One 115 kV transmission line from Owen Sound TS to Essa TS, which delivers power from Bruce and other generation sources in the South Georgian Bay.

Figure 1 | SGBM Region Electricity Infrastructure



Additionally, the SGBM Region has an internal wind-based generation source in the Henvey Inlet area. The single-line diagram of the SGBM region is shown in Figure 2.

According to the load forecasts produced for the Needs Assessment, the coincident, normal-weather, net demand of the SGBM Region is expected to grow from 1,300 MW in 2025 to 1,600 MW in 2034.

To Hamner TS Muskoka TS Parry Sound TS △ Autotransformer X503E X504E Bracebridge TS Waubashene TS Transformer Station Transmission Circuits Stavner TS Essa TS E26 E27 E205 500kV M6E M7E 230kV 115kV E215 Midhurst TS Orillia TS Minden TS D1M Stayner DESN D2M To Des Joachims TS D3M D4M E28 Orangeville TS Barrie TS E29 B4V E8V M81B M80B NC NO To Bruce A TS B5V E9V D6V Minden DESN To Detweiler TS D7V Alliston TS E511V Wallace TS Everett TS To Brown Hill TS Lindsay TS To Claireville TS Orangeville DESN Beaverton TS

Figure 2 | Single Line Diagram of SGBM Region

#### 3.2 Previous Regional Plans

For the first cycle of the regional planning process for SGBM Region, the IESO recommended that two Integrated Regional Resource Plans (IRRP) should be developed to address the identified needs: one for the Barrie/Innisfil sub-region and one for the Parry Sound/Muskoka sub-region. For the Barrie/Innisfil sub-region it was recommended to upgrade Barrie TS to a 230 kV supply to meet the capacity and end-of-life needs, and to rebuild and upgrade circuits supplying Barrie TS to 230 kV level. For the Parry Sound/Muskoka sub-region the IRRP recommended to upgrade Parry Sound TS and Minden TS transformers to 83 MVA, and to address load restoration criteria violations with the installation of 230 kV switches on M6E and M7E at Orillia TS.

Following the first IRRP, a Regional Infrastructure Plan was published in August 2017 to address transmission needs identified in the Needs Assessment and the IRRP. Some of these needs were further refined and developed in the RIP.

The second cycle of regional planning concluded in December 2022 with the publication of the RIP, where the following needs and action plans were determined:

**Everett TS Station Capacity** – Modify CT ratio of the low voltage transformer breaker (modified in 2024)

**Barrie TS Station Capacity** - Construct new 230/27.6 kV 83 MVA Inn Power MTS and extend 230 kV E28B/E29B circuits to connect. Planned in-service year: 2027.

**Waubaushene TS Station Capacity** – Replace and upgrade existing 230/44 kV 83 MVA T5/T6 transformers with 125 MVA units. Planned in-service year: 2027.

**M6E/M7E (Orillia TS x Coopers FLS JCT) Asset Replacement** – Replace end-of-life (EOL) transmission line conductor (25 km). Planned in-service year: 2026.

**E8V / E9V (Orangeville TS x Essa JCT) Asset Replacement** – Replace EOL transmission line conductor and associated assets (56 km). Planned in-service year: 2027.

**D1M/D2M (Minden TS x Otter Creek JCT)** – Replace EOL transmission line conductor and associated assets (62 km). Planned in-service year: 2028.

**Wallace TS Asset Replacement** – Replace existing EOL 230/44 kV 42 MVA transformers (T3/T4) with new 230/44 kV 42 MVA units. Planned in-service year: 2025.

**Midhurst TS Asset Replacement** – Replace existing 230/44 kV 125 MVA EOL transformer (T4) with a new 230/44 kV 125 MVA unit. Planned in-service year: 2026.

**Orillia TS Asset Replacement** – Replace existing EOL 230/44 kV 125 MVA transformer (T2) with new 230/44 kV 125 MVA unit. Planned in-service year: 2025.

**Bracebridge TS Asset Replacement** – Replace existing EOL 230/44 kV 83 MVA transformer (T1) with new 230/44 kV 83 MVA unit. Planned in-service year: 2026.

**Alliston TS Asset Replacement** – Replace existing EOL 230/44 kV 83 MVA transformer (T3/T4) with new 230/44 kV 83 MVA units. Planned in-service year: 2030.

#### 3.3 Needs Identified

The Needs Assessment for the third planning cycle, led by Hydro One, provided an update on needs identified in the previous planning cycle and the implementation of projects recommended to address them. Furthermore, it identified a number of new needs in the South Georgian Bay/Muskoka region based on the most up-to-date sustainment plans and a new 10-year demand forecast, and based on a sensitivity analysis that considered uncertainty in the load forecast as well as variability of drivers such as electrification. A summary of the current projects and plans underway to respond to existing needs, plus the new needs, are outlined below.

#### 3.3.1 Station Capacity Needs

Station Capacity Needs refer to the ability of a station to deliver power from the grid down to the distribution system. Table 1 shows the status of the needs including how they have been addressed, if they are new or updated, and the recommended action.

**Table 1 | Station Capacity Needs** 

#	Station / Equipment	New or Updated Need	Recommendation	Status
1	Everett TS	Exceeds normal supply capacity arround 2030 - 2033 (or arround 2027 - 2029 in high-growth scenario)	Assess and reaffirm the need in the next phase of this regional planning cycle	To be studied further
2	Midhurst TS	T1/T2 projected to reach capacity by 2030 (or 2028 in high-growth scenario).  T3/T4 projected to reach capacity by 2029 (or 2027 in high-growth scenario).	Assess and reaffirm the need in the next phase of this regional planning cycle	To be studied further
3	Alliston TS	Previous regional planning cycle identified these transformers would be replaced in 2030, however Hydro One has since revised its assessment on the condition of these units and delayed the replacement outside of the study period to 2040.	Assess and reaffirm the need in the next phase of this regional planning cycle	To be studied further
4	LindsayTS	High-growth scenario shows capacity concerns within study period.	Reassess the high-growth scenario needs in the next phase of the regional planning cycle	Reassess growth
5	Muskoka TS	High-growth scenario shows capacity concerns within study period.	Reassess the high-growth scenario needs in the next phase of the regional planning cycle	Reassess growth
6	Barrie TS	N/A	Construct new 230/27.6 kV 83 MVA Innpower MTS and extend 230 kV E28B/E29B circuits to connect. The planned in-service year is 2029.	Resolved
7	Waubaushene TS	N/A	Replacing and upgrading existing 230/44 kV, 83 MVA T5/T6 transformers with 125 MVA units. The planned in-service year is 2028.	Resolved

#### 3.3.2 Supply Capacity Needs

Supply Capacity Needs refer to the ability of the system to supply power through the transmission lines to a local area. Table 2 shows two transmission line-related needs that have also been identified in previous planning cycles. The status of the needs and the recommended action are also specified in the table.

**Table 2 | Supply Capacity Needs** 

#	Station / Equipment	New or Updated Need	Recommendation	Status
8	M6E/M7E	Essa x Midhurst and Coopers Fls JCT x Minden sections will exceed their LTE supply capacity during the study period and will require mitigating solutions to allow for increased flow.	Flows on this path are heavily influenced by area load and generation both within and outside of the SGBM region. To be further explored in the next phase of this regional planning cycle.	To be studied further
9	E8V/E9V	N/A	Upgrade of these circuits is presently underway with an in-service date planned for 2029.	Resolved

#### 3.3.3 Bulk System Considerations

Bulk System Considerations refer to CLAN (Claireville Area North) and CLAS (Claireville Area South) limits that can affect broader economic operation by potentially affecting local system reliability. Local reliability adverse effects might be due to remedial actions which may be required to manage limits (e.g., remedial action schemes or load rejection), or to limitations of procurement opportunities

which would further introduce economic constraints and limit available options for addressing local needs. Further study in the next phase of the planning cycle is recommended (Table 3).

**Table 3 | Bulk System Considerations** 

#	Station / Equipment	New or Updated Need	Recommendation	Status
10	CLAN/Flow North	Operational concerns on area interface limits on the Claireville Area North (CLAN) and Flow North (FN) limits were identified.	To be further analyzed in bulk and IRRP studies.	To be studied further

#### **3.3.4 Asset Replacement Needs**

Asset Replacement Needs are identified when the equipment is at the end of life or when its condition is deteriorated enough to require replacement with no capacity increase. Table 4 lists the asset replacement needs identified in previous planning cycles, which have scheduled plans of replacement, and the recommendation for updated needs at Wallace TS.

**Table 4 | Asset Replacement Needs** 

#	Station / Equipment	New or Updated Need	Recommendation	Status
11	Wallace TS	High-growth scenario shows capacity concerns within study period.	T3/T4 transformers will be replaced with like for like 230/44 kV, 42 MVA standard step-down transformer. The planned in-service year is in 2034. Reassess the high-growth scenario needs in the next phase of the regional planning cycle.	Reassess growth
12	Orillia TS	N/A	T2 transformer will be replaced with like for like 230/44 kV 125 MVA standard step-down transformer. The planned in-service year is in 2026.	Resolved
13	Bracebridge TS	N/A	T1 transformer will be replaced with like for like 230/44 kV 83 MVA standard step-down transformer. The planned in-service year is in 2026.	Resolved

The geographic location of the assets and the respective needs listed in tables 1 to 4, are shown in Figure 3.



Figure 3 | Identified Needs in the SGBM Region

#### 3.3.5 Determination of Study Scope

The TWG has discussed the identified needs in SGBM Region and potential planning approaches to address them. The preferred planning approach is generally informed by:

- Timing of the need, including lead time to develop solutions
- The potential linkages between needs and their required coordination, particularly if across overlapping LDC territories or planning regions
- The opportunity for public engagement to inform outcomes
- The potential for exploring multiple types of options to meet the needs (including non-wires solutions)
- The potential for implications on the upstream bulk power system.
- The opportunity to explore effects of different load forecast scenarios.

As recommended in the Needs Assessment, many of the needs identified for the SGBM Region require further consideration to:

- Account for updated load forecasts that include high, reference, and low growth scenarios, which encompass a long-term planning horizon (20 years to the future).
- Comprehensively integrate the potential of distributed energy resources (DER), and Demand-Side management (DSM), as non-wires solutions into the local demand of each distribution station.

- Reevaluate the timing of needs.
- Consider and coordinate the effects of Flow North, Claireville-North (CLAN) and Claireville-South (CLAS) power transfers at the bulk system level, in the transmission corridors of the SGBM Region.

According to these reasons and considering the additional need to incorporate input from community engagement activities, the TWG recommends developing an Integrated Regional Resource Plan for the SGBM Region, as the next step of the third planning cycle.

The TWG has also determined that, as the identified needs span all areas of SGBM Region, bulk system planning is current underway with the potential to affect the entire area, and there may be alternatives that address multiple needs across the region, there is no benefit to defining sub-regions for separate study within this IRRP process. Therefore, the recommended IRRP scope covers the SGBM Region in its entirety. A Draft Terms of Reference for the SGBM Region IRRP is attached in Appendix B.

### 4. Conclusion and Next Steps

The Scoping Assessment concludes that:

- An IRRP is to be undertaken for the SGBM Region.
- The IRRP Technical Working Group will include the IESO, Hydro One Distribution, and Hydro One Transmission, Alectra, InnPower, Orangeville Hydro, Elexicon Energy, Lakeland Power, EPCOR Electricity Distribution, Newmarket-Tay Power Distribution, and Wasaga Distribution.
- The IRRP will coordinate its findings with the South & Central Ontario Bulk Supply Study, and vice-versa.
- A 13-month timeline for completion of the IRRP is expected.

#### An IRRP was recommended based on:

- 1. The potential for diverse types of solutions (including wires and non wires), and long-term uncertainty associated with regional development plans and the potential impact of municipal, provincial, and federal decarbonization and electrification policies.
- 2. Consideration of Bulk-level power transfer which can affect the SGBM transmission corridors, and
- 3. The opportunities for engagement with local communities and stakeholders.

The draft Terms of Reference for the SGBM Region IRRP is attached in Appendix B.

# Appendix A – List of Acronyms

Acronym	Definition
CLAN	Claireville Area North
CLAS	Claireville Area South
DER	Distributed Energy Resource
DSM	Demand-Side Management
EOL	End of Life
FIT	Feed-in Tariff
GTA	Greater Toronto Area
IESO	Independent Electricity System Operator
IRRP	Integrated Regional Resource Plan
kV	Kilovolt
LDC	Local Distribution Company
LMC	Load Meeting Capability
MW	Megawatt
NERC	North American Electric Reliability Corporation
NPCC	Northeast Power Coordinating Council
OEB	Ontario Energy Board
ORTAC	Ontario Resource and Transmission Assessment Criteria
RIP	Regional Infrastructure Plan
SGBM	South Georgian Bay / Muskoka
TS	Transformer Station
TWG	Technical Working Group

# Appendix B – SGBM Region Integrated Regional Resource Plan (IRRP) Terms of Reference

#### 1. Introduction and Background

The South Georgian Bay/Muskoka Region (SGBM Region) is one of the 21 electricity planning regions in Ontario as identified through the Ontario Energy Board's (OEB) Regional Planning Process.

These Terms of Reference establish the objectives, scope, roles and responsibilities, deliverables and timelines for an Integrated Regional Resource Plan (IRRP) for SGBM Region.

#### 1.1 South Georgian Bay/Muskoka Region (SGBM Region)

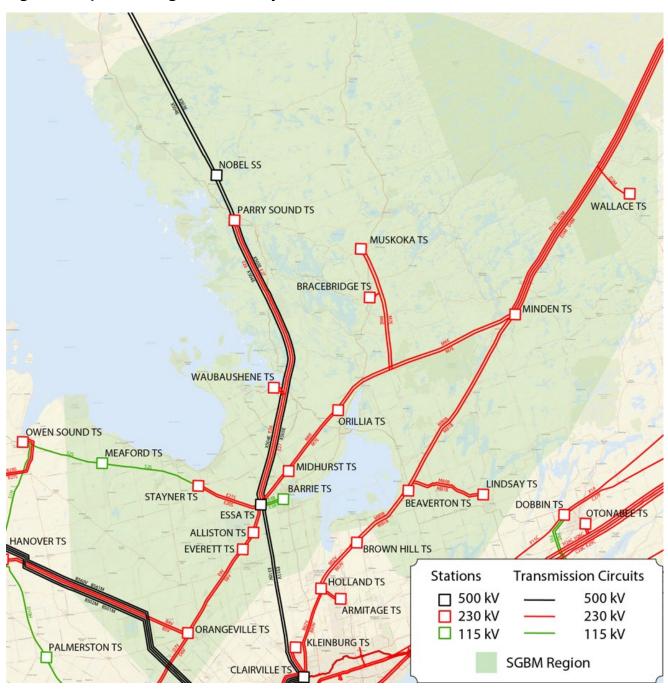
The South Georgian Bay/Muskoka Region, shown in Figure B-1, roughly comprises the City of Barrie, the Districts of Muskoka and Parry Sound, the region of Durham and the Counties of Grey, Dufferin, Haliburton and Simcoe.

Indigenous communities that may be potentially impacted or may have an interest based on treaty territory, traditional territory, or traditional land uses, include:

- Alderville First Nation
- Algonquins of Ontario
- Algonquins of Pikwakanagan First Nation
- Beausoleil First Nation
- Chippewas of Georgina Island First Nation
- Chippewas of Nawash First Nation
- Chippewas of Rama First Nation
- Chippewas of Saugeen First Nation
- Curve Lake First Nation
- Dokis First Nation
- Haudenosaunee Confederacy Chiefs Council
- Henvey Inlet First Nation
- Hiawatha First Nation
- Kawartha Nishnawbe
- Magnetawan First Nation
- Mississaugas of Scugog Island First Nation
- Mississaugas of the Credit First Nation
- Moose Deer Point First Nation
- Nipissing First Nation
- Shawanaga First Nation
- Six Nations of the Grand River as represented by Six Nations Elected Council
- Wahta Mohawks
- Wasauksing First Nation
- Whitefish River First Nation
- Métis Nation of Ontario

Métis Nation of Ontario Region 7

Figure B-1 | SGBM Region Electricity Infrastructure



#### 1.2 Background

In August 2025, Hydro One completed the <u>South Georgian Bay/Muskoka</u> Needs Assessment Report for the SGBM Region. Several needs were identified, and a Scoping Assessment was subsequently commenced to determine the preferred planning approach. An IRRP was recommended on the basis of the need to reassess the anticipated load growth, the potential for diverse types of solutions (including wires and non wires), and the possible effects of bulk-level power flow constraints, particularly along the North/South and CLAN/CLAS interfaces.

#### 2. Objectives

- 1. To assess the adequacy of electricity supply to customers in the South Georgian Bay/Muskoka (SGBM) Region over the next 20 years.
- 2. To address customer-driven electricity needs by developing a flexible, comprehensive, integrated electricity plan for the SGBM Region.
- 3. To develop an implementation plan, while maintaining flexibility in order to accommodate changes in key assumptions over time.

#### 3. Scope

#### **Needs to be Addressed**

The IRRP will develop and recommend an integrated plan to meet the needs of SGBM Region. The plan is a joint initiative involving the IESO, Hydro One Distribution, and Hydro One Transmission, Alectra, InnPower, Orangeville Hydro, Elexicon Energy, Lakeland Power, EPCOR Electricity Distribution, Newmarket-Tai Power Distribution, and Wasaga Distribution. As well, the plan will account for input from the community through engagement activities. The plan will integrate the electricity demand outlook scenarios, DSM, DER uptake, transmission and distribution system capabilities, and align with relevant community plans, bulk system developments, and policy direction as applicable.

#### The SGBM Region IRRP will:

- Prepare a 20-year electricity demand forecast for the Region's stations and establish needs over this timeframe.
- Examine the Load Meeting Capability and reliability of the existing transmission system supplying the SGMB Region, taking into account system reinforcements committed during the last planning cycle, facility ratings and performance of transmission elements, transformers, local generation, and other facilities such as reactive power devices.
- Establish feasible integrated alternatives to address remaining needs, considering a mix of DSM, generation, transmission and distribution facilities, and other electricity system initiatives in order to address the needs of the SGBM Region.
- Evaluate options using decision-making criteria including but not limited to: technical feasibility, economics, reliability performance, environmental and social factors.

The SGBM Region IRRP includes the following needs, that were identified in the Needs Assessment as requiring coordination:

Table B-1 | Needs Identified in the Needs Assessment as Requiring Coordination

Need #	Location of Need	Need Type	Need Description
1	M6E/M7E	Supply Capacity	Supply Capacity need identified on (Essa x Midhurst, Minden x Coopers Fls. JCT). Further coordination is required to reaffirm need, solution and timing.
2	Alliston T3/T4	Station Capacity	Alliston TS (T3/T4) is a 230-44 kV 83 MVA transformer station and will exceed its normal supply capacity within the study period. Further coordination is required to reaffirm need, solution and timing.
3	Everett T1/T2	Station Capacity	Everett TS (T3/T4) is a 230-44 kV 83 MVA transformer station and will exceed its normal supply capacity within the study period. Further coordination is required to reaffirm need, solution and timing.
4	Midhurst T1/T2, T3/T4	, Station Capacity	Midhurst TS (T1/T2) and (T3/T4) are 230-44 kV 125 MVA transformer stations and will both exceed their normal supply capacity within the study period. Further coordination is required to reaffirm need, solution and timing.
5	Claireville Area Flow North	Bulk System Considerations	Operational issues identified, will be studied in Bulk System Plan and IRRP

In addition to the needs described in Table B-1, the Needs Assessment identified future loading issues at Lindsay TS, Muskoka TS, and Wallace TS, that would occur in high load growth scenarios. The IRRP will reassess these needs with updated load forecasts, DER and DSM considerations.

Other identified needs in the Needs Assessment not listed in Table B-1 above will proceed with Local Planning or Regional Infrastructure Planning as appropriate. Hydro One will keep the Working Group informed on project development.

#### 4. 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
  - o Historical weather correction, for median and extreme conditions
  - o 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 DSM plans
- Incorporation of verified LDC results and other DSM programs/opportunities in the area
- Long-term conservation forecast for LDC customers, based on region's share of the provincial target found in the DSM Framework
- Conservation potential studies, if available
- o Potential for DSM 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
   (DER), district energy resources, customer-based generation, as applicable
- Existing or committed renewable generation from Feed-in Tariff (FIT) and non-FIT procurements
- Expected performance/dependability/output of local generation and storage 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 policies with an impact on electricity usage
  - Municipal Growth Plans
  - Future transit plans impacting electricity use, including personal vehicle electrification, transit expansion, and transit electrification
  - o Pathways to Decarbonization and Powering Ontario's Growth reports

#### • 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

- o OEB Transmission System Code o OEB Distribution System Code
- Reliability considerations, such as the frequency and duration of interruptions to transmission delivery points
- o 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
- Asset renewal considerations/sustainment plans
  - Transmission assets
  - Distribution assets, as applicable
- Other considerations, as applicable

#### **5. Technical Working Group**

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

- Independent Electricity System Operator (IESO), IRRP lead
- Hydro One Networks Inc. (Transmission), lead transmitter
- Alectra Utilities Corporation (Alectra)
- Hydro One Networks Inc. (Distribution)
- Newmarket-Tay Power Distribution Ltd (NT Power)
- InnPower
- · Orangeville Hydro
- Elexicon Energy
- Lakeland Power
- EPCOR Electricity Distribution Ontario Inc. (EPCOR)
- Wasaga Distribution Inc.

#### **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.

#### 6. Engagement

Integrating early and sustained engagement with communities and stakeholders in the planning process was recommended and adopted by the provincial government to enhance the regional planning and siting processes in 2013. These recommendations were subsequently referenced in the 2013 Long Term Energy Plan. As such, the Technical Working Group is committed to conducting plan-level engagement throughout the development of the SGBM Region 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.

#### 7. Activities, Timeline, and Primary Accountability

**Table B-2 | IRRP Timelines & Activities** 

Activity	Lead Responsibility	Deliverable(s)	Timeframe
1. Prepare Terms of Reference considering stakeholder input	IESO	Finalized Terms of Reference	October 2025
2. Develop the planning forecast scenarios for the SGBM region		Long-term planning forecast scenarios	Q4 2025 – Q1 2026
Establish historical coincident and non- coincident peak demand information	IESO		
Establish historical weather correction, median and extreme conditions	IESO		
Establish gross peak demand forecast for High, Reference, and Low scenarios, for Summer and Winter seasons	LDCs		
Establish existing, committed, and potential DER	IESO, LDCs		
Establish near- and long-term conservation forecast based on planned energy efficiency activities and codes and standards	IESO		
Develop planning forecast scenarios for sensitivity analyses	IESO		
3. Confirm load transfer capabilities under normal and emergency conditions	LDCs	Load transfer capabilities under normal and emergency conditions	Q1 – Q2 2026

Activity	Lead Responsibility	Deliverable(s)	Timeframe
4. Provide and review relevant community plans, if applicable	LDCs, communities, stakeholders, and IESO	Relevant community plans	Q1 – Q2 2026
5. Complete system studies to identify needs over a 20-year time horizon			
<ul> <li>Obtain DSA / PSS/E base case</li> <li>Apply reliability criteria as defined in ORTAC and other applicable criteria to demand forecast scenarios</li> <li>Confirm and refine the need(s) and timing/load levels</li> </ul>	IESO	Summary of needs based on demand forecast scenarios for the 20-year planning horizon	Q2 – Q3 2026
6. Develop options and alternatives		Develop flexible planning options for forecast scenarios	Q2 – Q3 2026
Conduct a screening to identify which wires and non-wires solutions warrant further analysis	IESO		
Verify the load meeting capability (LMC) of the system to better determine timing of needs and support options development	IESO		
Develop screened-in energy efficiency options	IESO and LDCs		
Develop screened-in local generation/demand management options, with consideration for previous LAPS findings	IESO and LDCs		
Confirm the transmission and distribution alternatives: advancement of EOL transformer replacement plans and/or load transfers	IESO, Hydro One Transmission, and LDCs		
Develop portfolios of integrated alternatives	IESO, Hydro One Transmission, and LDCs		

Activity	Lead Responsibility	Deliverable(s)	Timeframe
Technical comparison and evaluation	IESO, Hydro One Transmission, and LDCs		
7. Plan and undertake community & stakeholder engagement		<ul> <li>Community and Stakeholder Engagement Plan</li> <li>Input from local communities, First Nation communities, and Métis Nation of Ontario</li> </ul>	Ongoing as required
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		
Develop communications materials	IESO, Hydro One Transmission, and LDCs		
Undertake community and stakeholder engagement	IESO, Hydro One Transmission, and LDCs		
Summarize input and incorporate feedback	IESO, Hydro One Transmission, and LDCs		
8. Develop recommendations and implementation plan based on community and stakeholder input	IESO	<ul> <li>Implementation plan</li> <li>Monitoring activities and identification of decision triggers</li> <li>Procedures for annual review</li> </ul>	Q3 – Q4 2026
9. Prepare the IRRP report detailing the recommended near, medium, and long-term plan for approval by all parties	IESO	IRRP report	December 2026

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