

FINAL ENVIRONMENTAL ASSESSMENT

Section 1.0 Introduction
November 2023

Acknowledgements

We wish to acknowledge that the Waasigan Transmission Line Project is located within lands that represent the traditional territories and homelands of the Robinson-Superior Treaty (1850) First Nations and Treaty #3 (1873), and traverse the Red Sky Métis Independent Nation, Northwestern Ontario Métis Community and Northern Lake Superior Métis Community.

Hydro One also wishes to acknowledge Indigenous artist, Storm Angeconeb, for developing the covering page and wildlife designs throughout the Final Environmental Assessment. Storm is a highly recognized visual artist from Lac Seul First Nation in Treaty #3 and currently resides in Red Lake. Many of her works include animals and birds as representations of herself or those close to her. The artist's description of the covering page is presented below.

Hydro One Environmental Study Art:

What stands out in this art piece is the symbolic representation of solar rays as “Bringing Power”; we can see the environment represented through the wildlife and Ojibwe floral visuals. This artwork is an excellent representation of Hope, Life, and Opportunity, visually portrayed through the Black Bear and her two cubs. The colour theme of this artwork comes from the Waasigan Transmission Line Project brand identity.

Artist: Storm Angeconeb

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Terms of Reference

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1.0 Introduction

Maajitaawin

Hydro One Networks Inc. (Hydro One) completed this environmental assessment (EA) for the proposed Waasigan Transmission Line (the Project or undertaking). The proposed Project is a new double-circuit 230 kilovolt (kV) transmission line between Lakehead Transformer Station (TS) in the Municipality of Shuniah and Mackenzie TS in the Town of Atikokan, and a new single-circuit 230 kV transmission line between Mackenzie TS and Dryden TS in the City of Dryden. The length of the two transmission line segments will be approximately 360 kilometres (km) in total. The location of the Project is shown on Figure 1.1-1.

This Final EA Report is being submitted by Hydro One, as the proponent, in accordance with the Amended Terms of Reference (ToR) (Hydro One 2021, Appendix 1.0-A), which was approved by the Minister of the Environment, Conservation and Parks in February 2022. The EA consists of a systematic evaluation of the potential environmental effects of alternatives and weighs the advantages and disadvantages of proceeding with the proposed undertaking. Potential effects to the natural and/or socio-economic environment that could result from the construction, operation, maintenance and retirement of the Project have been identified. Additionally, the potential effects of the Project on climate change (i.e., impacts to greenhouse gas emissions), as well as the effects of climate change on the Project (i.e., the resilience of the Project to a changing climate) have been assessed. In doing so, Hydro One has attempted to prevent, avoid, or minimize adverse environmental effects through the application of mitigation measures. At the same time, Hydro One has considered the societal benefits of the undertaking to the environment in the EA process.

1.1 Project Overview

The Ministry of Energy released a series of energy plans that address technology, demographic and economic trends and growth in the renewable energy sector. In 2013, the Ministry of Energy published “Achieving Balance: Ontario’s Long-Term Energy Plan” (LTEP), which was designed to balance cost-effectiveness, reliability, clean energy, community engagement, and conservation and demand management, before building new generation capacity. This Project, then referred to as the Northwest Bulk Transmission Line, was noted as a key transmission project in the 2013 LTEP. An Order-in-Council was issued December 11, 2013, directing the Ontario Energy Board (OEB) to amend the Hydro One Electricity Transmission Licence to require Hydro One to develop and seek approvals for the Project in accordance with the scope and timing recommended by the Independent Electricity System Operator (IESO). In January 2014, Hydro One’s transmission licence was amended by the OEB ordering Hydro One to work with the IESO to establish the scope and timing of the Project, and to develop and seek approvals.



In 2016, 2017 and 2022, the Ministry of Energy and IESO reassessed the scope and schedule of the Project and reconfirmed the need for the Project to support growth and maintain reliable electricity supply in northwestern Ontario. The Project was identified as a priority project in the Ministry of Energy's LTEP based on technical, economic, and other considerations. The IESO's assessment of northwestern Ontario's electricity forecast identified that additional capacity will be required in the region, and the Project is critical to meet Ontario's future electricity delivery needs, and in particular, to support growth and maintain a reliable electricity supply to areas west of Thunder Bay and north of Dryden (IESO, 2018). Industrial activities in northwestern Ontario, particularly in the mining sector, are expected to drive strong electricity demand growth in the coming decades. Coupled with changes in the region's supply and the connection of remote communities previously reliant on diesel generation to the electricity grid, the IESO forecasts a need for new supply to meet future demand in northwestern Ontario (IESO 2022).

The IESO indicated that the Project must meet the following specifications (IESO 2018):

- a) Consist of a new double-circuit 230 kV line between Lakehead TS and Mackenzie TS with a thermal capacity that is equal to or greater than the existing double-circuit 230 kV transmission line between these stations (Phase 1);
- b) Consist of a new single-circuit 230 kV line from Mackenzie TS to Dryden TS with a thermal capacity that is equal to or greater than the existing single-circuit 230 kV transmission line between these stations (Phase 2); and
- c) Separate the necessary sections of 230 kV transmission lines (circuits F25A and D26A) to ensure these circuits do not share a common structure over a distance that exceeds 1.6 km.

On May 3, 2022, the IESO directed Hydro One to prioritize construction of Phase 1 with a target in-service date as close to the end of 2025 as possible. On April 25, 2023, the IESO recommended that Phase 2 go into service as soon as practical after Phase 1 based on updated demand forecasts. This recommendation was provided to ensure northwestern Ontario is well positioned to provide reliable and sustainable electricity to support economic growth in the region west of Thunder Bay.

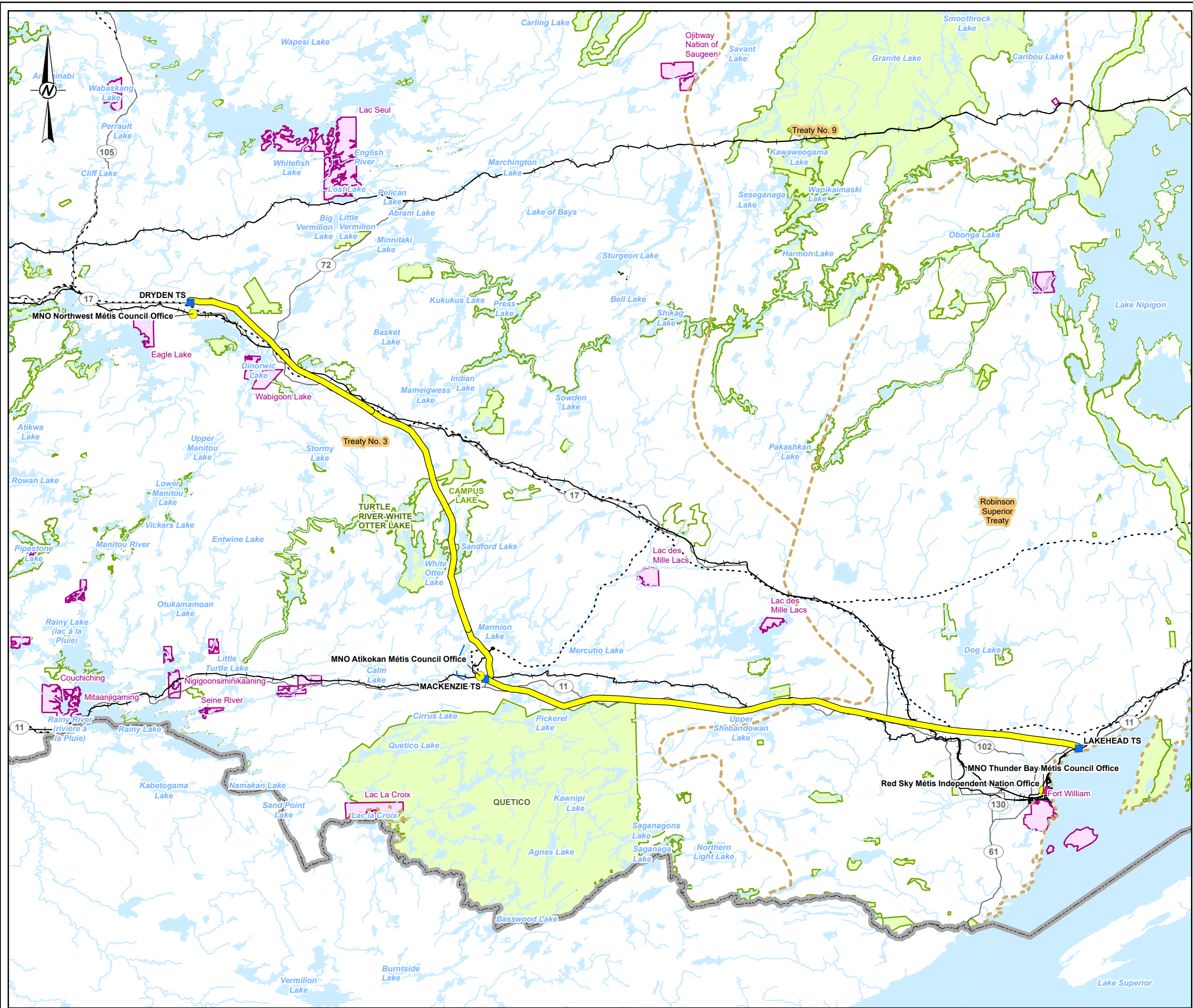
The Project includes the construction, operation and maintenance of a double-circuit 230 kV transmission line from Thunder Bay to Atikokan and a single-circuit 230 kV transmission line from Atikokan to Dryden. The Project includes the following main components:

- New overhead Alternating Current (AC) 230 kV transmission line and associated components that will be located within a typical 46 m wide transmission line right-of-way (ROW), approximately 360 km in length.
- Modifications to existing infrastructure at Lakehead TS, Mackenzie TS, and Dryden TS, and separation of the existing 230 kV transmission lines (circuits F25A and D26A) out of the Mackenzie TS in Atikokan.



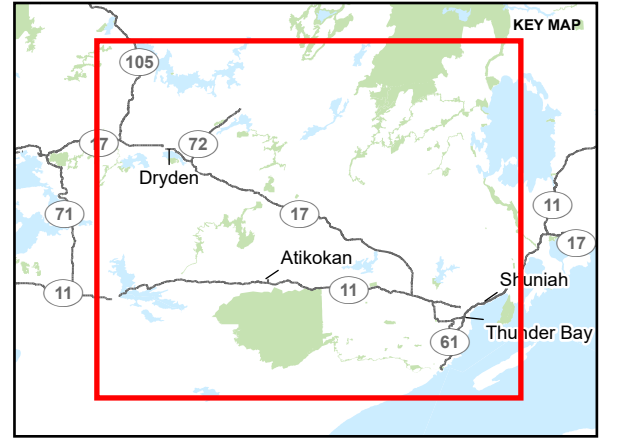
- Development of temporary supportive infrastructure associated with construction including, but not limited to, temporary access roads, temporary workspaces (including helicopter staging areas), construction camps, laydown areas, and waterbody crossings.
- Development of aggregate pits to support the Project.
- Development of associated permanent infrastructure, such as access roads and waterbody crossings, to support the operation phase of the Project.





LEGEND

- ▲ RED SKY MÉTIS INDEPENDENT NATION OFFICE
- MNO COUNCIL OFFICE
- 230 KV TRANSFORMER STATION (TS)
- - - NATURAL GAS PIPELINE
- + RAILWAY
- SECONDARY HIGHWAY
- INTERNATIONAL BORDER
- WATERCOURSE
- - - EXISTING 115 KV TRANSMISSION LINE
- - - EXISTING 230 KV TRANSMISSION LINE
- - - EXISTING TRANSMISSION LINE (PRIVATE)
- PREFERRED ROUTE TRANSMISSION LINE
- - - TREATY BOUNDARY
- FIRST NATIONS RESERVE
- CONSERVATION RESERVE
- PROVINCIAL PARK
- WATERBODY



NOTE(S)

REFERENCE(S)
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 PROJECTION: CSRS UTM ZONE 15 DATUM: NAD 83

CLIENT
 HYDRO ONE NETWORKS INC.

PROJECT
 WAASIGAN TRANSMISSION LINE

TITLE
 PROJECT LOCATION

CONSULTANT	DATE	REVISION
	YYYY-MM-DD	2023-10-26
	DESIGNED	CS
	PREPARED	JR/DB
	REVIEWED	HK
	APPROVED	CS

PROJECT NO. 20137728 CONTROL 0040 REV. 1 FIGURE 1.1-1

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1.2 Proponent

Hydro One is the proponent of the Project and, following direction from the IESO, is responsible for the development stage of the Project, including the EA. Hydro One Limited, through its wholly-owned subsidiaries, is Ontario's largest electricity transmission and distribution provider with approximately 1.5 million valued customers, approximately \$31.5 billion in assets as at December 31, 2022, and annual revenues in 2022 of approximately \$7.8 billion.

1.3 Proponent Background

Our team of approximately 9,300 skilled and dedicated employees proudly build and maintain a safe and reliable electricity system which is essential to supporting strong and successful communities. In 2022, Hydro One invested approximately \$2.1 billion in its transmission and distribution networks, and supported the economy through buying approximately \$1.9 billion of goods and services.

Hydro One is committed to the communities it serves, through community investment, sustainability and diversity initiatives. Hydro One is designated as a Sustainable Electricity Company by the Electricity Canada. Hydro One is also committed to working with and developing respectful and positive relationships with Indigenous communities in a spirit of cooperation and shared responsibility. Hydro One owns and operates transmission assets on 23 First Nation reserves and provides distribution services directly to 89 First Nation communities. Hydro One also services Métis Nation of Ontario Community Council offices across the province.

Principal contact person for the purposes of the EA and engagement:

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1.4 Gwayakocchigewin Limited Partnership and Lac des Mille Lacs First Nation

Eight First Nations have formed the Gwayakocchigewin Limited Partnership (GLP) to partner with Hydro One on the Waasigan Transmission Line Project. The GLP First Nations are: Migisi Sahgaigan (Eagle Lake First Nation), Fort William First Nation, Lac La Croix First Nation, Lac Seul First Nation, Nigigoonsiminikaaning First Nation, Ojibway Nation of Saugeen, Seine River First Nation and Wabigoon Lake Ojibway Nation. The GLP aims to maximize long-term,



sustainable socio-economic benefits for its partner First Nations. It recognizes the importance of ownership and control of development in their homeland; sharing of benefits; environmental protection and monitoring; trust and relationship building with Hydro One; meaningful consultation and accommodation for impacted lands; employment, training, and business opportunities; traditional knowledge, land use and cultural awareness; and reconciliation with Hydro One and the Crown.

Lac des Mille Lacs First Nation is a progressive and proactive partner community whose members are self-driven and committed to re-establishing their physical and spiritual connection to their lands. Lac des Mille Lacs First Nation has entered into agreements on the Waasigan Transmission Line Project that provide the opportunity to invest in the ownership of the Project once constructed.

1.5 Background on Electricity Sector Planning in Ontario

Legislation over the past two decades has led to significant changes to the electricity sector in Ontario. In October 1998, the Ontario Legislature enacted the *Energy Competition Act, 1998*, authorizing the restructuring of Ontario Hydro with the aim of introducing competition in the wholesale and retail electricity markets in Ontario. This Act changed the landscape of the electricity market in Ontario and introduced market deregulation. On April 1, 1999, in accordance with the *Energy Competition Act, 1998*, Ontario Hydro was restructured principally into three separate entities:

- Ontario Power Generation Inc., which has the mandate to generate electricity for Ontarians and generates almost half of the province's electricity;
- Ontario Hydro Services Company Inc., later renamed Hydro One Inc., whose subsidiary Hydro One Networks Inc. (the proponent of this Project), transmits and distributes electricity across Ontario; and
- The Independent Electricity Market Operator, later renamed the Independent Electricity System Operator (IESO), which operates the power system in real time, oversees Ontario's electricity market, promotes conservation, and plans for Ontario's future energy needs.

The Ontario government established the Ontario Power Authority (OPA), which is now part of the IESO, through the *Electricity Restructuring Act, 2004*. This legislation made changes to the institutional arrangements of the electricity sector in Ontario and established the OPA as the province's long term energy planner. Specifically, the OPA was given the mandate to develop integrated electricity plans that look forward several years, with the purpose of providing sustainable electricity solutions to Ontarians into the future.

The OPA prepared a 20-year energy plan in 2007 (formerly known as the Integrated Power System Plan or IPSP). Initiatives from the 2007 IPSP, together with subsequent public policy initiatives (primarily the *Green Energy and Green Economy Act, 2009*), are transforming how



Ontario produces and uses electricity. Implementation happens through generation, procurement and conservation measures, and by developing transmission. The IESO is directly responsible for establishing the need for new transmission facilities.

There has been, and continues to be, substantial interest in connecting renewable generation to both distribution and transmission systems as a consequence of the passage of the *Green Energy and Green Economy Act, 2009*. However, the ability of existing or approved transmission facilities in Ontario to accommodate more generation is limited. Given this, the OEB issued a policy document entitled Framework for Transmission Project Development Plans on August 26, 2010, which sets out a framework for new transmission investment in Ontario.

A Long-Term Energy Plan (LTEP) was published by the Ministry of Energy in 2010 to serve as an update to the 2007 IPSP given developments in technology, demographic and economic trends and growth of the renewable energy sector. The Ministry of Energy published updated LTEPs in 2013 and 2017 and the connection of remote First Nation communities to the electrical grid through transmission lines was identified in the Plan.

Further details regarding electricity sector planning in Ontario have been provided in the Project's approved Amended ToR (Hydro One 2021).

1.6 Rationale and Purpose of the Project

1.6.1 Rationale for the Project

As described in Section 1.1, the IESO forecasts a need for new electricity supply to meet future demand in northwestern Ontario related to industrial activities and the connection of remote communities to the electrical grid (IESO 2022). The execution of this Project would implement the Ministry of Energy's and IESO's recommendation to construct a new double-circuit 230 kV transmission line from Thunder Bay to Atikokan and a new single-circuit 230 kV transmission line from Atikokan to Dryden.

1.6.2 Purpose of the Project

The purpose of the Project is to ensure an adequate, safe, reliable and affordable supply of power to enable future growth in northwestern Ontario. In particular, the Project will support growth and maintain reliable electricity supply to areas west of Thunder Bay and north of Dryden, recognizing the need and rationale/justification for the Project as previously established by the province through analysis and decisions, including the LTEP's and the IESO's 2018 and 2022 recommendation.

1.7 Regulatory Approvals and Authorizations

The Project requires provincial and federal regulatory approvals and authorizations as discussed in the following sub-sections.



1.7.1 Environmental Assessment Requirements

1.7.1.1 *Provincial Comprehensive Environmental Assessment*

Prior to construction, the Project requires EA approval from the Ontario Minister of the Environment, Conservation and Parks pursuant to the *Environmental Assessment Act* (EAA). On July 12, 2022, the Minister approved amendments to the Class EA for Minor Transmission Facilities (Hydro One 2022). This amendment changed the classification of transmission projects subject to a Class EA to include the following undertakings:

- Capable of operating at a nominal voltage of equal or greater than 115 kV and less than 345 kV, and are greater than 2 km in length; or
- Capable of operating at a nominal voltage of equal to or greater than 345 kV and are greater than 2 km and less than 75 km in length.

While according to the new amendments this Project would today be subject to the Class EA, rather than a Comprehensive EA, the EA for the Project had advanced to a stage requiring its continuation and completion as a Comprehensive EA. The first step in a Comprehensive EA is the preparation, submission and MECP approval of a ToR.

Hydro One completed a lengthy process for the ToR approval, commencing with issuing a Notice of Commencement of ToR in April 2019 and releasing a Draft ToR for review in June 2020. Following engagement with Indigenous communities, government officials and agencies, and interested persons and organizations, including both virtual and in-person community open houses and meetings, Hydro One finalized a Proposed ToR, considering comments received on the Draft ToR. The Proposed ToR was submitted to the MECP in October 2020. The Proposed ToR identified a framework for the planning and decision-making process to be followed by Hydro One during the preparation of the EA. This included an outline of the process to select the preferred route for the Project.

After the Proposed ToR review period, Hydro One amended the Proposed ToR to address outstanding comments prior to submission to the Minister for approval.

The Amended ToR for this Project, which indicates that the EA will be prepared in accordance with paragraph 6(2)(c) and subsection 6.1(3) of the EAA, was submitted to the MECP in June 2021 and was approved by the Minister of Environment, Conservation and Parks in February 2022. On March 9, 2022, the Notice of Commencement of EA was issued to formally start the EA stage of the process.

This Final EA Report was prepared based on direction from the approved amended ToR. A concordance table of how commitments made in the ToR have been addressed in the EA is provided in Appendix 1.0-B.



Section 10.3 describes the environmental commitments made by Hydro One in the EA Report to limit potential adverse effects of the Project on the natural and socio-economic environments. The detailed list of commitments is provided in Appendix 10.0-A.

1.7.1.2 Provincial Class Environmental Assessments

Class EA for Resource Stewardship and Facility Development Projects

The Project is also subject to the Ministry of Natural Resources and Forestry (MNR) Class EA for Resource Stewardship and Facility Development Projects (2002) for the disposition of rights to Crown resources for sections of the Project that traverse public lands, and MECP's Class EA for Provincial Parks and Conservation Reserves (2015) for crossings of provincial parks and/or conservation reserves. Hydro One intends to meet the requirements set out in these Class EAs, as applicable, as part of the Comprehensive EA. The Province of Ontario is in the midst of reviewing and changing these Class EA processes at the time of preparation of this EA. Hydro One has engaged with MECP and confirmed that there is no timeline available for the approval of the proposed amendments. As such, the requirements of the Class EAs approved at the time of writing this document, will apply to the Project.

For MNR's Class EA for Resource Stewardship and Facility Development Projects (2002), the Project will include Project components that cross public lands, such as the ROW and access roads. MNR's Class EA requirements are addressed throughout this EA. For example, potential effects to wildlife as a result of access road development, including development on public land, are addressed in Section 6.5. Further, MNR's Class EA requirements were considered during the development of the EA approach, which are outlined in Section 5.0. For example, the approach includes a step to determine the significance of adverse net effects, which is not specifically required for a Comprehensive EA, but is a Class EA requirement.

Class EA for Provincial Parks and Conservation Reserves

For MECP's Class EA for Provincial Parks and Conservation Reserves (2015), the Project is planned to cross Turtle River-White Otter Lake Provincial Park, Quetico Provincial Park, Campus Lake Conservation Reserve, and East Wabigoon Conservation Reserve. Provincial Parks and Conservation Reserves are assessed in detail in Section 7.1. Further, Appendix 2.0-B outlines the alternatives considered when crossing Provincial Parks and Conservation Reserves.

Class EA for Minor Transmission Facilities

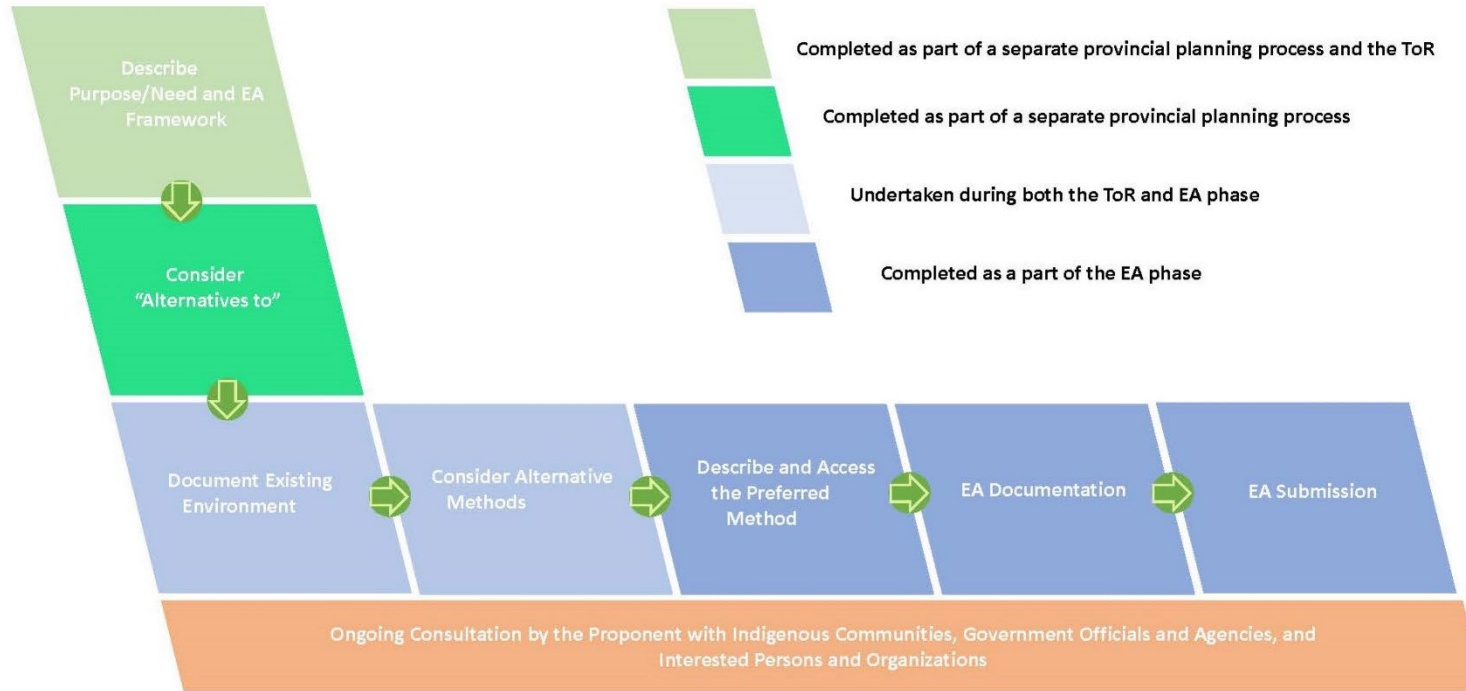
The Project will be operated for an indeterminate period and retirement, or decommissioning, is not anticipated. The new transmission line and related facilities would undergo regular maintenance in adherence with Hydro One's maintenance standards and regulatory requirements to maintain a safe and reliable electricity transmission system. The timing of retirement, or decommissioning, is not known at this time as it is anticipated that upgrades to reinforce or rebuild portions of the Project may occur over its lifetime to maintain its longevity.



Should a decision be made to decommission the Project in the future, a detailed review of the potential effects and mitigation measures will be completed. These activities will be planned and conducted in accordance with the relevant standards and regulatory requirements in effect at that time. The potential effects and mitigation measures to be identified during the EA for the construction of the Project will likely equally apply to the potential removal of the Project at a future point in time, should it ever be required. As such, the Class EA for Minor Transmission Facilities would not apply to the retirement of this Project as the EA requirements would be covered by the current EA for the Project.

The refurbishment as defined by the Class EA for Minor Transmission Facilities (Hydro One 2022) or rebuild of the Project is not covered as part of this EA and the Class EA for Minor Transmission Facilities would be applied if this were to be required in the future.





* This figure provides a high-level overview of the Comprehensive EA process, including the components of the EA process that have been completed as part of a previous planning process.

Figure 1.7-1: Provincial Comprehensive Environmental Assessment Process

1.7.1.3 Federal Requirements

An electricity project subject to the Ontario EAA may be subject to the federal *Impact Assessment Act* (IAA) that came into effect on August 28, 2019. The federal IAA created the Impact Assessment Agency of Canada and repealed the *Canadian Environmental Assessment Act, 2012*. To support the federal IAA, regulations were developed, including the *Physical Activities Regulations* (SOR/2019-285), which set out the types of projects that may be subject to a federal impact assessment (known as designated projects).

The Project is not considered a “designated project” as it does not meet the requirements or thresholds stipulated in the Regulations. In the event that the Project is modified and meets the criteria at a future date, thereby becoming a “designated project” under the IAA, Hydro One will notify the Impact Assessment Agency of Canada.

Further, the Project does not cross First Nation reserve lands, national parks, or other federal lands; therefore, section 82 of the IAA also is not triggered.

1.7.2 Other Permits, Approvals, and Authorizations

In addition to the EAA, the Project is also subject to other approvals further described in this section. Based on Project timelines, it may be necessary for Hydro One to initiate some permit and approval activities or applications during the EA process, including any required consultation activities with Indigenous communities, government officials and agencies, and interested persons and organizations. Some permits and approvals typically rely on more detailed engineering and design information than is available during the EA process; in this event, Hydro One will carry out required studies necessary to support those approvals following the completion of the EA.

While permit and approval activities or applications may be initiated during the EA, Hydro One understands that provincial regulators cannot issue permits that would authorize the Project to proceed until Project approval is received under the EAA. Required permits or authorizations will be obtained prior to construction, as needed.

1.7.2.1 Other Provincial Approvals

This section provides an overview of the other provincial approvals that may be required for the Project.

1.7.2.1.1 Ontario Energy Board Act, 1998

The Project requires OEB “Leave to Construct” approval under section 92 of the *Ontario Energy Board Act, 1998* (OEB Act) prior to the start of construction activities. The OEB regulates Ontario’s electricity and natural gas industries and is responsible for ensuring that the construction and operation of proposed transmission facilities are in the public interest. The OEB’s, as it pertains to section 92 of the OEB Act, is to review a transmission project’s effect on consumers with respect to price, reliability and quality of electricity service. The OEB reviews



applicable material, makes the information available to the public, and provides an opportunity for interested parties, including Indigenous communities, to provide input. The OEB operates as an independent quasi-judicial tribunal and carries out its functions through written and oral public hearings. It is anticipated Hydro One may file the following two applications to the OEB related to the Project:

- Leave to Construct – The Project requires Leave to Construct approval from the OEB under section 92 of the OEB Act. The OEB’s review of Hydro One’s application for Leave to Construct is performed consistent with the OEB’s mandate, specifically in consideration of price, reliability, and the quality of electrical service. In doing so, the OEB also examines technical aspects and consumer protection.
- Expropriation – Hydro One’s primary intent is to negotiate with all impacted landowners to secure voluntary settlements for the acquisition of property rights to facilitate the Project. In some cases, it may be necessary to purchase entire properties where current uses are incompatible with a new transmission line ROW (e.g., a residence or major outbuilding located within the ROW). In the event voluntary settlements cannot be reached, expropriations of individual properties may be required. Proposed expropriations, if required, need to be approved by the OEB under section 99 of the OEB Act, and require OEB section 92 approval, or an exemption from the need for leave to construct approval (under section 95 of the OEB Act), or be exempted by virtue of the OEB Act or other Ontario Legislated Regulation, such as O. Reg. 161/99.

1.7.2.1.2 Ontario Expropriations Act, 1990

Hydro One is committed to working with landowners to mitigate concerns surrounding the Project and impacts to private property. Hydro One’s goal is to secure voluntary property settlements with impacted property owners that are practicable for the portion of properties to be utilized for the Project. Hydro One’s voluntary settlement offers will be based upon appraisal reports prepared by external independent Accredited Appraisal Institute of Canada appraisers retained by Hydro One.

Hydro One’s will work collaboratively with property owners to negotiate property rights for the Project. While Hydro One has committed to designing the Project to avoid primary residences in some cases it may be necessary to purchase entire properties where either current uses are incompatible with a new transmission line and a technical solution is not possible, or, depending on site-specific circumstances, an impacted owner requests a full purchase.

The project-specific land acquisition compensation principles for this Project are founded upon Hydro One’s past experience pertaining to land acquisition matters for new transmission projects. Hydro One’s central consideration has been the need for property owners to have flexibility and choice, while balancing Hydro One’s desire to achieve timely acquisition of property interests and its obligation to ensure expenditures are fair and reasonable to ratepayers.



Should voluntary property settlements meet an impasse, Chapter E.26 under the Ontario *Expropriations Act, 1990*, outlines the conditions and restrictions under which a claim for expropriation can be submitted, and the rights of residents facing the claim. The expropriation plan must be approved and registered under both the OEB Act and the *Expropriations Act, 1990* prior to commencement of Project construction. Expropriations would also need to be approved by the OEB under section 99 of the OEB Act.

1.7.2.1.3 Ontario Endangered Species Act, 2007

The Project has the potential to affect species at risk (SAR) and their habitat. In June 2008, the *Endangered Species Act (ESA)* came into effect in Ontario. The purpose of the ESA is to identify SAR based on the best available scientific information, protect SAR and their habitats, promote the recovery of SAR, and promote stewardship activities to assist in the protection and recovery of SAR in Ontario.

There are two applicable regulations under the ESA: the Species at Risk in Ontario list (SARO) (O. Reg. 230/08), and the General Regulation (O. Reg. 242/08). These regulations serve to identify which species and habitats receive protection and to provide direction regarding the current implementation of the ESA.

As of April 1, 2019, the administration of SAR under the ESA in Ontario was transferred from the MNR to the MECP. Consultation for SAR information and permitting requirements under the ESA are now being carried out with the MECP. Bill 108, which included several changes to provincial Acts, including the ESA, received Royal Assent on June 6, 2019. A permit under the ESA may be required for potential effects to SAR and their habitats.

1.7.2.1.4 Other Relevant Provincial Legislation, Permits, Approvals and Authorizations

Depending on the final Project design, other permits, approvals, or authorizations under provincial legislation may be required (Table 1.7-1). Final determination will be made during the detailed design phase; thus, this list is subject to change as Project design is further refined and government agency input is received and considered.



Table 1.7-1: Summary of Potential Provincial Permits, Approvals, and Authorizations

Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
Ministry of the Environment, Conservation and Parks (MECP)	<i>Ontario Water Resources Act (1990) – Water Taking and Transfer Regulation - O. Reg. 387/04</i>	<ul style="list-style-type: none"> ● Permit to Take Water (PTTW) ● Registered on the Environmental Activity and Sector Registry (EASR) 	Required depending on Project water taking and dewatering per activity.
MECP	<i>Ontario Water Resources Act – Section 53 (Sewage Works)</i>	Environmental Compliance Approval (ECA)	<p>Required to update the existing ECA for changes in drainage at the existing Lakehead, Mackenzie and Dryden transformer stations.</p> <p>Required for the wastewater treatment systems (leaching beds) at the temporary construction camps.</p>
MECP	<i>Environmental Protection Act (1990)</i>	ECA	Required for the storage, transportation, and disposal of domestic and industrial wastes, including sewage, from the temporary construction camps.
MECP	<i>Environmental Protection Act (1990)</i>	ECA	Required for isolated power generation at construction camps where a connection to grid service is not available.
MECP	<i>Environmental Protection Act (1990)</i>	Air and Noise Environmental Activity and Sector Registry (EASR)	Required in the event that there is an addition, removal, replacement, or modification to significant noise or air emissions sources at the Lakehead, Mackenzie and Dryden transformer stations.

Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
MECP	<ul style="list-style-type: none"> ● <i>Environmental Protection Act (1990)</i> ● <i>O. Reg. 347</i> 	Generator Registration Number	Required in the event hazardous and liquid industrial wastes are generated during Project construction.
MECP	<i>Pesticides Act (1990)</i>	Permit for the application of pesticides	Required for the application of herbicides for vegetation maintenance during operation and maintenance.
MECP	<ul style="list-style-type: none"> ● <i>Provincial Parks and Conservation Reserves Act (2006)</i> ● <i>O. Reg. 319/07</i> ● <i>O. Reg. 347/070</i> 	Authorization	Required to access provincial parks and conservation reserves for the inventorying, monitoring or researching of values (e.g., life science, earth-science, cultural).
MECP	<i>Provincial Parks and Conservation Reserves Act (2006)</i>	Work Permit	Required for the clearing of land (cutting of trees), the construction of access roads, including associated water crossings, construction of the transmission line, or any other feature within the boundaries of a provincial park or conservation reserve.
MECP	<i>Provincial Parks and Conservation Reserves Act (2006)</i>	Amendment	Required to amend the management direction for applicable provincial parks and conservation reserves.
Ministry of Natural Resources and Forestry (MNR)	<i>Public Lands Act (1990)</i>	Land Use Permit	Required to provide Occupational Authority for the transmission line ROW and roads, including roads infrastructure such as bridges and culverts, outside the transmission line ROW that are still within the protected area boundary. Also



Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
			required for temporary supporting infrastructure such as construction camps, laydown areas and helipads.
MNRF	<i>Public Lands Act (1990)</i>	Work Permit	<p>Required for construction and improvement of roads, trails, and water crossings.</p> <p>Required for work planned in-water or on shoreland on both Crown and private land.</p>
MNRF	<i>Public Lands Act (1990)</i>	Various	<p>Other authorizations may be required including:</p> <ul style="list-style-type: none"> ● Travel permits for restricted roads; ● Consents to deposit; ● Letters of authorization; and ● Memorandum Of Understanding (MOU).
MNRF	<i>Public Lands Act (1990)</i>	Road Maintenance Agreements	Engagement in a Memorandum of Understanding (MOU) or a road maintenance agreement with the Crown for road responsibility and maintenance for roads required for the Project, or agreements with existing MOU holders on Crown roads.
MNRF	<i>Forest Fires Prevention Act (1990)</i>	Burn Permit	Required to burn materials from forest clearing.

Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
MNRF	<i>Fish and Wildlife Conservation Act (1997)</i>	<ul style="list-style-type: none"> ● Fish Scientific Collectors Permit ● Wildlife Scientific Collection Permit 	Required for the taking and transferring of fish or wildlife during construction.
MNRF	<i>Fish and Wildlife Conservation Act (1997)</i>	<ul style="list-style-type: none"> ● Authorization to Destroy/Take/Possess Nests or Eggs ● Authorization to Interfere With/Destroy a Black Bear or Furbearing Mammal Den, Beaver Dam 	Required in the event Project construction/operation is anticipated to destroy the nests or eggs of birds, a beaver dam, or the den of a black bear or some furbearing mammals, or interfere with a black bear in its den.
MNRF	<i>Fish and Wildlife Conservation Act (1997)</i>	Various	<p>Term Agent or Individual Authorization to trap nuisance beaver.</p> <p>Notice of Possession to possess a dead animal.</p>
MNRF	<i>Lakes and Rivers Improvement Act (1990)</i>	Permit	Required for water crossings on private land.
MNRF	<ul style="list-style-type: none"> ● <i>Public Lands Act (1990)</i> ● <i>O. Reg. 239/13: Activities on Public Lands and Shore Lands – Work Permits and Exemptions</i> 	<ul style="list-style-type: none"> ● Land Use Permit ● Work Permit 	Required to authorize works during construction on public lands and/or shore lands including geotechnical investigations, construction/upgrade of access roads and trails, culverts/bridges, temporary construction camps and transmission lines. This also includes the ongoing operation and maintenance of the new transmission line which will be added to HONI's existing Land Use Permit. No Crown Easement is required.



Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
MNRF	<i>Crown Forest Sustainability Act (1994)</i>	<ul style="list-style-type: none"> • Forest Resource Licence • Permit to Remove • B-Licence • Renewal Agreement • Overlapping Agreement 	Required for clearing trees on Crown land or Crown trees on private lands. Required for work permit operations not approved in forest management plans.
MNRF	<i>Crown Forest Sustainability Act (1994)</i>	Road Maintenance Agreements	Required with appropriate Sustainable Forest Licence (SFL) holder for use of roads covered by a Forest Management Plan that are under custodianship of an SFL holder.
MNRF	<i>Aggregate Resources Act (1990)</i>	Exemption	Exemption to allow the use of aggregate resources within the access road easement outside the right-of-way for onsite use.
MNRF	<i>Aggregate Resources Act (1990)</i>	Aggregate Permit	Required to extract aggregate and for the operation of pits and quarries on all Crown land and also on private land in areas of the province designated (identified) in the regulations. Aggregate pit applications will follow the MNRF process outlined at https://www.ontario.ca/page/aggregate-resources#section-7 .
Ministry of Mines	<i>Mining Act</i>	Withdrawal request	Required to withdraw lands from prospecting and withdrawal of staking rights under the <i>Mining Act</i> .
Ontario Ministry of Transportation (MTO)	<i>Public Transportation and Highway Improvement Act</i>	Land Use and Building Permit	Required for construction within MTO's permit control area.

Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
MTO	<i>Public Transportation and Highway Improvement Act</i>	Entrance Permit	Required for proposed entrances, including temporary entrances to construct or service a proposed development, onto provincial highways.
MTO	<i>Public Transportation and Highway Improvement Act</i>	Encroachment Permit	Required to place, alter or erect any power line, pole line, or other transmission line within 400 m of any limit of a controlled access highway.
MTO	<i>Public Transportation and Highway Improvement Act</i>	Sign Permit	Required for all signage within 400 m of any limit of a provincial highway.
Ontario Ministry of Labour	<i>Occupational Health and Safety Act</i>	Notice of Project	Required to provide notice prior to construction.
Ontario Ministry of Health	<i>Health Protection and Promotion Act</i>	Notice of Project	Required to provide notice of the opening of a construction camp.
Ministry of Citizenship and Multiculturalism (MCM)	<ul style="list-style-type: none"> ● <i>Ontario Heritage Act</i> ● <i>O. Reg. 9/06: Criteria for Determining Cultural Heritage Value or Interest</i> 	<ul style="list-style-type: none"> ● Compliance Letter to licensee under the <i>Ontario Heritage Act</i> ● Letter of Satisfaction for heritage report under S23 of O. Reg. 359/09 	<ul style="list-style-type: none"> ● Archaeological assessment, to be conducted as part of the EA under the <i>Ontario Heritage Act</i> (1990) and submitted to the Ontario Public Register of Archaeological Reports. An Archaeology License issued under the <i>Ontario Heritage Act</i> is required to conduct archaeological assessments and to alter archaeological sites in Ontario. ● Built heritage and cultural heritage landscape screening and, where required, heritage impact assessments under Ontario's EAA and in



Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
			compliance with the Standards and Guidelines for Conservation of Provincial Heritage Properties.

ECA = Environmental Compliance Approval; kV = kilovolt; m= metre; MTO = Ontario Ministry of Transportation; n/a = not applicable; O. Reg. = Government of Ontario Regulation; ROW = right-of-way.



1.7.2.2 *Other Federal Approvals*

Based on current information, other permits, approvals, and/or authorizations under federal legislation may be required (Table 1.7-2). Similar to other provincial approvals that may be required, this list is subject to change as design is refined and new information is received and considered.



Table 1.7-2: Summary of Potential Federal Permits, Approvals, and Authorizations

Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
Environment and Climate Change Canada (ECCC)	<i>Species at Risk Act (SARA)</i>	Permit	<ul style="list-style-type: none"> Required if Project activities during Project lifecycle affect species listed under Schedule 1 of the SARA or its habitat, and which contravene the Act's general or critical habitat prohibitions (includes intrusive methods for sampling). Permit under Section 73 of the SARA if Project activities during Project lifecycle affect terrestrial species listed under Schedule 1 of the SARA or its habitat, and which contravene the Act's general or critical habitat prohibitions (includes intrusive methods for sampling).
Department of Fisheries and Oceans Canada (DFO)	<i>Fisheries Act</i>	Authorization	Authorization may be required for construction activities if the activity is determined to cause death of fish and/or the harmful alteration, disruption, and/or destruction (HADD) to fish habitat. This applies to work being conducted in or near waterbodies that directly or indirectly support fish.
DFO	SARA	Permit	Required if Project activities during construction and/or operations affect a fish species listed under Schedule 1 of SARA, or its habitat, as extirpated, endangered, or threatened and which contravene the Act's general or critical habitat prohibitions (includes intrusive methods for sampling, e.g., electrofishing).
Transport Canada	<i>Canadian Navigable Waters Act (CNWA)</i>	Notice and/or approval	Required for work on navigable waters listed on the schedule to the Navigation Protection Program.

Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
Transport Canada	Canadian Aviation Regulations (CARs) Standard 621 – Obstruction Marking and Lighting	Approval	Required if the transmission line is located in the vicinity of an airport and could interfere with air navigation. Transport Canada will determine if the Project requires specific lighting and marking requirements.
NAV Canada	CARs Standard 621 – Obstruction Marking and Lighting	Notification	Aeronautical Assessment Form for Obstruction and Lighting.
Transport Canada	<i>Railway Safety Act</i> , Notice of Work Railway Works Regulations	Notice of Work	Required if the transmission line crosses a federally regulated railway.
Transport Canada	<i>Federal Real Property and Federal Immovables Act</i>	Leases or crossing agreements	Leases or crossing agreements for roads, railways or canals under the <i>Federal Real Property and Federal Immovables Act</i> .
Natural Resources Canada	<i>Explosives Act</i>	Permit	Required for the use, storage or transportation of explosives

kV = kilovolt; m= metre;

n/a = not applicable; O. Reg. = Government of Ontario Regulation; ROW = right-of-way.

1.7.2.3 Other Local Approvals

Based on current information, other permits, approvals and/or authorizations under relevant local legislation and regulations and requirements of utility companies may be required (Table 1.7-3). This list is subject to change as design is refined and new information is received and considered.



Table 1.7-3: Summary of Potential Local Permits, Approvals, and Authorizations

Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
Canadian National Railway (CNR)	n/a	Agreement letter	Required if crossing a CNR rail line.
Canadian Pacific Railway Limited (CPR)	n/a	Clearance letter	Required if crossing a CPR rail line.
Hydro One Networks Inc.	Transmission System Code	Agreement	Required to cross existing Hydro One transmission and distribution lines.
Lakehead Region Conservation Authority	<i>Conservation Authorities Act</i>	Permit	Required when crossing land administered by the Lakehead Region Conservation Authority.
Mining Claim Holders	n/a	Consent	Consent from existing claim holders.
Private land	n/a	Consent	Easement from private landowners.
Other Utility Companies	n/a	Consent	Required if crossing other utilities (i.e., existing pipelines, fibre optics).
Local Municipality	n/a	Local permits	Various requirements could include: <ul style="list-style-type: none"> ● Building Permit per the <i>Building Code Act, 1992</i>. ● Permit for wastewater holding tank for temporary use per the <i>Building Code Act, 1992</i>. ● Permit to Injure or Remove Trees (woodlands/woodlots),

Agency	Act or Regulation	Approval/Permit/Authorization	Applicability to the Project
			as applicable based on municipal bylaws. <ul style="list-style-type: none"> ● Noise By-Law exemptions (if work is to be completed outside of permitted hours specified in the Noise By-Law) ● Conformance with local land use policy and zoning (e.g., road use agreements). ● Demolition permit. ● Permits for openair burning and fires, as applicable. ● Official Plan amendments in accordance with the <i>Planning Act</i>. ● Site Plan Control Approval in accordance with the <i>Planning Act</i>.

CNR = Canadian National Railway; CPR = Canadian Pacific Railway; kV = kilovolt; m= metre; MTO = Ontario Ministry of Transportation; n/a = not applicable; O. Reg. = Government of Ontario Regulation; ROW = right-of-way.

1.8 Draft Environmental Assessment Report

The Draft EA Report was provided to Indigenous communities, government officials and agencies, and interested persons and organizations for review and comment on May 17, 2023. Comments received on the Draft EA Report and the responses to those comments are included in Appendix 4.0-A. A summary of the changes to the Final EA Report since the draft include:

- Updates to various EA sections to resolve comments from Indigenous communities, government officials and agencies, and interested persons and organizations;
- Inclusion of Appendix 4.0-A (Draft Environmental Assessment Comment Responses);
- Inclusion of additional Indigenous Knowledge (IK) information received from Indigenous communities;
- Updates to the Project footprint, including:
 - Refinements based on additional field verification completed;
 - Modifications to avoid residences and reduce impacts to landowners;
 - Inclusion of additional fly yards to facilitate potential helicopter use for the assembly and erection of transmission structures;
 - Updates based on feedback from agencies;
 - Modification of helicopter pad and fly yard locations to avoid areas of archaeological potential;
- Inclusion of Appendix 10.0-A (Commitments for the Waasigan Transmission Line);
- Updates to the Record of Consultation to include engagement activities up to September 1, 2023; and
- Inclusion of Sections 7.7 (First Nations Rights, Interests and Use of Land and Resources) and 7.8 (Métis Rights, Interests and Use of Land and Resources) that were not included in the public version of the Draft EA Report but were provided confidentially to Indigenous communities for review and comment.

1.9 Final Environmental Assessment Report Organization

This Final EA Report has been developed and is being submitted by Hydro One, as the proponent of the Project, in accordance with the provisions and requirements of the provincial EA legislation and regulations, as well as the approved Amended ToR. The Final EA Report provides the required information on the Project and its potential environmental and socio-economic effects, including the following:



- A description of the purpose of the undertaking;
- A description of and a statement of the rationale for:
 - The undertaking; and
 - The alternative methods of carrying out the undertaking.
- A description of:
 - The environment that will be affected or that might reasonably be expected to be affected, directly or indirectly;
 - The effects that will be caused or that might reasonably be expected to be caused to the environment;
 - The impacts that climate change will have or that might reasonably be expected to occur to the Project,
 - The impact that the Project will have on climate change (i.e., emissions of greenhouse gas); and
 - The actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment.
- An evaluation of the advantages and disadvantages to the environment of the undertaking, and the alternative methods of carrying out the undertaking; and
- A description of any engagement about the undertaking by the proponent and the results of the engagement.

The Final EA Report forms the basis for further review, consideration and discussion of the Project and these items by Indigenous communities, government officials and agencies, and interested persons and organizations as part of the EA review. Based on the results of the EA and the associated reviews and input, the Minister of Environment, Conservation and Parks will decide whether the Project can proceed and, if so, under what terms and conditions.



The Final EA Report structure is outlined in Table 1.9-1.

Table 1.9-1: Final Environmental Assessment Report Organization

EA Section No.	Section Title and Description
1.0	INTRODUCTION: Provides an overview of the Project, proponent, regulatory approvals and authorizations required for the Project, and rationale and purpose of the Project.
2.0	ALTERNATIVES: Provides an overview of the alternative methods considered for the Project.
3.0	PROJECT DESCRIPTION: Presents a detailed review of the Project components, construction schedule, and review of alternatives to the Project.
4.0	ENGAGEMENT SUMMARY: Provides a summary of the Indigenous and stakeholder engagement completed in support of the Project.
5.0	ENVIRONMENTAL ASSESSMENT APPROACH: Outlines the approach and methods used for the effects assessment.
6.0	NATURAL ENVIRONMENT: Presents the baseline and assessment of effects to physiography, geology and soils, surface water, groundwater, vegetation and wetlands, wildlife and wildlife habitat, fish and fish habitat, air quality, greenhouse gas emissions and acoustic environment.
7.0	SOCIO-ECONOMIC ENVIRONMENT: Presents the assessment of effects to land and resource use, community well-being, economy, aesthetics, cultural resources (archaeological resources, built heritage resources and cultural heritage landscapes) and Indigenous rights, interests and use of land and resources.
8.0	NET EFFECTS ASSESSMENT SUMMARY: Presents a summary of the net effects assessment for each criterion.
9.0	CUMULATIVE EFFECTS ASSESSMENT SUMMARY: Presents a summary of the cumulative effects assessment for each criterion.
10.0	MONITORING AND COMMITMENTS: Summarizes the proposed monitoring to be implemented as part of the Project based on the results of the assessment.
11.0	CONCLUSION: Presents an overall conclusion for the assessment and the advantages of the Project against the “do-nothing” alternative.





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