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Joanne Richardson

Director, Major Projects and Partnerships
Regulatory Affairs

BY EMAIL AND RESS

October 22, 2020

Ms. Christine E. Long
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Long:

Board File Number: EB-2019-0151 – Waasigan Transmission Line Project (WTL)

On May 5, 2020, Hydro One Networks Inc. (“Hydro One”) received a letter (the “Letter”) from the Ontario Energy Board (“OEB”) asking for Hydro One to furnish bi-annual Project reports regarding the development of the WTL Project. The Letter outlined the elements the OEB expected to be included in the reporting.

In accordance with the aforementioned Letter, this report, the first submitted after receiving the OEB’s direction, is for the period April 1, through September 30, 2020. The second bi-annual report will cover the period October 1, 2020 through March 31, 2021. Reports are to be submitted to the OEB within 15 business days of the close of the reporting period to which the WTL Project report pertains.

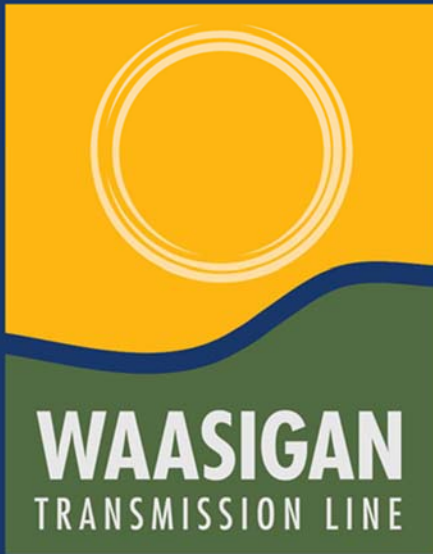
The WTL Project reporting will continue to be submitted to the OEB until such time a leave to construct application for the WTL Project is filed.

An electronic copy of the complete bi-annual report has been filed using the Board's Regulatory Electronic Submission System (RESS).

Sincerely,

A handwritten signature in dark ink, appearing to read "Joanne Richardson", written over a light blue horizontal line.

Joanne Richardson



WAASIGAN TRANSMISSION LINE

Ontario Energy Board Progress Report

April 1 to September 30, 2020



EXECUTIVE SUMMARY

The Waasigan Transmission Line Project (Project), formerly called the Northwest Bulk Transmission Line, is a priority project identified in the 2013 Long Term Energy Plan. In October 2018 the Independent Electricity System Operator (IESO) confirmed that supply needs West of Thunder Bay aomg evend North of Dryden will be met by electricity infrastructure. The IESO also recommended that Hydro One begin development work on Phases 1 and 2 of the Project as soon as possible to shorten the Project lead time required to have the assets ready to be in service to meet the electricity capacity needs when they materialize (expected mid-2030s but could occur earlier).

In a letter dated May 5, 2020 the OEB requested that Hydro One Networks Inc. (Hydro One) prepare semi-annual reports to the OEB that update the OEB on the following matters: overall progress of the Project, Project cost, development work schedule, risks and issues. Reports are to be filed in October for the reporting period of April 1 to September 30 and in April for the reporting period of October 1 to March 31.

Hydro One continues to proceed with Project development work on schedule. Ongoing consultation and engagement is being performed with Indigenous communities and organizations (19 Indigenous communities and 2 regional organizations, up from the original 8), government agencies, the public and other interested parties. The environmental assessment continues to be advanced with a Terms of Reference prepared and submitted to the Ministry of the Environment, Conservation and Parks for review and approval.

In Hydro One's 2020-2022 Transmission Rates Application (EB-2019-0082), \$35M was forecast as the cost to complete development work for the Project. Subsequent to its transmission rate filing, Hydro One provided a letter to the OEB, dated April 8, 2020, providing the Project's status and stating that the development cost forecast of \$35M is expected to be significantly higher.

The Project is being monitored continually for risks and risk mitigation implemented as a matter of routine activity by the Project team. Leading risks include: changes to the Crown's Duty to Consult list, Covid19, schedule changes and scope changes.





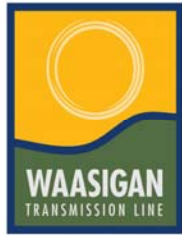
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Background

The Waasigan Project (Project), formerly called the Northwest Bulk Transmission Line, is a priority project identified in the 2013 Long Term Energy Plan. In January 2014, the Ontario Energy Board (OEB) amended Hydro One's transmission's licence to include the following condition:

The Licensee shall develop and seek approvals for the expansion or reinforcement of a portion or portions of the Licencee's electricity transmission network in the area west of Thunder Bay (the "Northwest Bulk Transmission Line Project"). The scope and timing of the Northwest Bulk Transmission Line Project shall be in accordance with the recommendations of the Ontario Power Authority.

In March 2015, the OEB approved Hydro One's request to establish the North West Bulk Transmission Line Deferral account (EB-2014-0311). Thereafter, Hydro One recorded in the account expenses related to preliminary engineering, design and environmental assessment work associated with the Project prior to the point from which the costs would qualify to be recorded in construction work-in-progress.

In December 2018, Hydro One requested to change the nature of the North West Bulk Transmission Line Deferral account, from a deferral account to a tracking account, and to change the name of the account to the Waasigan Transmission Deferral Account. This request was a result of the October 2018 Independent Electricity System Operator (IESO) letter that confirmed that supply needs West of Thunder Bay and North of Dryden will be met by electricity infrastructure. The letter also recommended that Hydro One begin development work on Phases 1 and 2 of the Project as soon as possible to shorten the Project lead time required to have the assets ready to be in service to meet the electricity capacity needs when they materialize (expected mid-2030s but could occur earlier). The OEB approved these requests in September 2019.

In Hydro One's 2020-22, Transmission Rate Application¹, the OEB approved the disposition of the \$870k balance that was recorded in the Waasigan Transmission Deferral Account. This was prior to receiving the OEB's approval to change the nature of the account to a tracking account, rather than a deferral account, as outlined above.

¹ EB-2019-0082 – Decision and Order dated April 23, 2020, Pg. 159.





In a letter dated May 5, 2020 the OEB requested that Hydro One prepare semi-annual reports to the OEB that updated on the following matters:

- Overall Project progress,
- Cost
- Development work schedule
- Risks and Issues Log

Reports are to be filed in October for the reporting period of April 1 to September 30 and in April for the reporting period of October 1 to March 31. This initial report reflects all the aforementioned matters up to September 30, 2020.

Overall Project Progress

Hydro One continues to proceed with development work on the Project. Ongoing consultation and engagement is being performed with Indigenous communities and organizations (19 Indigenous communities and 2 regional organizations), government agencies, the public and other interested parties. Capacity, in the form of funding and training is being provided to Indigenous communities to assure opportunity for extensive participation and consultation in the Project. A Terms of Reference for the environmental assessment has been prepared and submitted to the Ministry of Environment, Conservation and Parks (MECP) for review and approval.

Advancement of the environmental assessment will continue into 2021 by including extensive consultation, alternative route evaluation, preliminary engineering, preferred route selection and environmental field studies. Project development is on schedule to be completed before the end of 2024. The IESO will be undertaking an Integrated Regional Planning session early in 2021 to update the need and timing for the Project.





Costs

In Hydro One's 2020-2022 Transmission Rates Application (EB-2019-0082), \$35M² was forecast in an Investment Summary Document (ISD SS-08) as the cost to complete development work for the Project. This was based on an AACE Class 5 accuracy cost estimate (+100%/-50%). Hydro One has re-estimated its development cost forecast based on the initial Environmental Assessment work and using new information obtained since 2018. Subsequent to the transmission rate filing, Hydro One provided a letter to the OEB, dated April 8, 2020³, that provided an update regarding the Project and, among other things, outlined several factors that were expected to drive the forecast development cost estimate towards the higher end of the AACE class estimate (i.e. \$70M). As a result, the current forecast is considered an AACE Class 3 (-10%/+15%) estimate and the cost variances are detailed below.

Table 1: *Project Development Costs*

	EB-2019-0082 Costs (millions) AACE Class 5	Current Forecast (millions) AACE Class 3	Variance (millions)	Life to Date (millions)
Real Estate	\$7.0	\$2.0	(\$5.0)	\$0.0
Engineering and Design	\$0.5	\$2.0	\$1.5	\$0.0
Environmental Approvals	\$14.0	\$15.5	\$1.5	\$1.8
Indigenous Consultation	\$6.0	\$23.0	\$17.0	\$1.8
Project Management	\$0.5	\$4.5	\$4.0	\$0.1
Contingency	\$0.0	\$4.0	\$4.0	\$0.0
Other Consultation	\$1.5	\$3.0	\$1.5	\$0.5
Interest & Overhead*	\$6.0	\$15.0	\$9.0	\$0.5
Total	\$35.5	\$69.0	\$33.5	\$4.7

*Interest and overhead costs calculated to end of 2024.

² Per Investment Summary Document (ISD SS-08) – EB-2019-0082. The Investment Summary Document is provided as **Attachment 1** of this report for ease of reference purposes.

³ This Project update letter is provided as **Attachment 2** of this report.

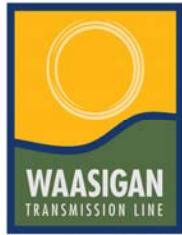




The following factors are contributing to expected cost variances:

- In October 2018 the Ministry of Energy Northern Development and Mines (ENDM) delegated the procedural aspects of the Duty to Consult (DTC) by issuing a list with 15 Indigenous communities and organizations to engage. Hydro One initially estimated that 8 communities would need to be consulted, based on limited mapping and other information it had available at the time. Furthermore, in Q4 2019 4 Métis councils (part of MNO Region 1 and Region 2) and 2 First Nations asserted rights and interest on the Project which led to ENDM issuing a revised DTC list in April 2020. As a result, Hydro One is now consulting with 19 Indigenous communities and 2 regional organizations. This modified list as well as an increasing trend of Indigenous participation has contributed to changing the Project's Indigenous consultation scope significantly.
- The formation of the Gwayakocchigewin Limited Partnership (GLP, formerly Indigenous Transmission Limited Partnership), a consortium of seven First Nations, represent the collective environmental and economic interests of the seven represented communities. This has contributed to additional capacity funding beyond what was originally estimated.
- Lessons Learned from East West Tie and Lake Superior Link projects informed the Project re-estimation. In particular, it was determined that the Project must have a high level of effort placed on public and Indigenous consultation to ensure that regulators, such as the MECP and the Ministry of Natural Resources and Forestry, will deem consultation adequate.
- The interest & overhead variance is due to increased project cost. The current estimate includes interest from January 1, 2019 to end of development work December 31, 2024.
- Preliminary design/engineering costs have been adjusted to reflect current project scope.
- Project management costs have been adjusted to reflect current scope
- Project now includes contingency.





Schedule

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 and 2017, 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. It was determined that the Project will proceed in phases with development work for the first two phases to proceed at the same time. The phases are as follows:

- Phase One – a line from Thunder Bay to Atikokan;
- Phase Two – a line from Atikokan to Dryden; and,
- Phase Three – a line from Dryden to the Manitoba border, to enable the better integration of provincial electricity grids.

Following this, the IESO issued a letter⁴ to Hydro One dated October 24, 2018 which provided an update on the need and scope for the Project, and a recommendation for Hydro One to proceed with development work on Phases One and Two of the Project.

In this letter, the IESO indicated that the updated forecast considered new loads from potential industrial developments (e.g., mines), the connection of remote communities and the cancellation of the Energy East pipeline conversion project. Based on the forecast, the area west of Thunder Bay and north of Dryden is adequately supplied today; however, a need for additional capacity will arise in the mid-2030s (IESO, 2018). Also, under the IESO's high growth scenario, which considers development of the Ring of Fire mineral deposit area with electricity supplied by the Ontario transmission system, a capacity need could potentially arise in the early 2020s (IESO, 2018). The IESO will be updating its regional planning report in early 2021 which should provide current capacity need expectations to help refine the timing of the Project.

Given the risks associated with load forecast uncertainty and the potential for large industrial projects to add significant load to the area utilizing the remaining capacity margin sooner than anticipated, the IESO recommended that Hydro One begin development work on Phases One and Two of the Project to shorten the lead time required should the need materialize. The scope of development work includes preliminary

⁴ The IESO letter to Hydro One dated October 24, 2018 is provided at **Attachment 3**.





design/engineering, cost estimation, engagement and consultation, routing and siting, and the EA. The IESO did not commit to a timeline for the construction of the Project; however, it was indicated that developments will be monitored to determine when construction of the transmission line should begin.

With this in mind Hydro One has built out a development schedule with the goal of completing all development works by December 31, 2024. Table 2 presents the key milestones involved in completing development.



Table 2: *Project Schedule*

Milestones	Schedule	Completed	Delayed to
Notice of Commencement of Terms of Reference	April 24, 2019	April 24, 2019	
Development of route alternatives and data collection	Spring 2019 – Spring 2020	June 1, 2020	
Draft Terms of Reference external review	June 1, 2020	June 1, 2020	
Proposed Terms of Reference submitted to the Ministry of the Environment, Conservation and Parks	September/ October 2020	October 13, 2020	
Ministry of the Environment, Conservation and Parks review and approval of the Terms of Reference	December 2020/January 2021	In-progress	
Notice of Commencement of the Environmental Assessment	January 1, 2021		
Evaluation of alternative routes and determination of a preferred route.	November 2020 to May 2021		
Consultation and data collection on the Environmental Assessment study areas	2021 – 2022		
Preliminary design and engineering	2021 – 2022		
Draft Environmental Assessment review	2022		
Cost Estimation	2022		
Leave to Construct (S92) application submission*	2022		
Decision on Environmental Assessment by Ministry of the Environment, Conservation and Parks	2023/2024		
Complete Development Work	By end of 2024		
Leave to Construct (S92) approval	2023/2024		
Start of Execution Phase	To be determined		

* Leave to construct under Section 92 of the Ontario Energy Board Act is a regulatory process to obtain approval from the OEB to build and operate a transmission line. Hydro One will not apply for this approval until direction is received by the IESO on the timing for the project.





All milestones provided in the table above are on schedule. The Proposed Terms of Reference (ToR) for the environmental assessment has been prepared and submitted to the Ministry of Environment, Conservation and Parks for review and approval. The preparation of the ToR consisted of extensive consultation and engagement with Indigenous communities, government agencies, the public and other interested parties.

Consultation and engagement on the Project will continue through to the end of development and will consist of Project-specific capacity building (training, funding, procurement and employment) for Indigenous communities, information sharing, knowledge gathering and participation in development activities. Alternative routes identified in the Proposed ToR will be evaluated in Q4 2020/Q1 2021, with a determination of a preferred route expected in Q2 of 2021. Environmental assessment field studies are anticipated to commence on time in spring 2021. Preliminary design and engineering will commence in 2021 as input into the environmental assessment.





Risks and Issues Log

The Project is being monitored continually for risks and risk mitigation implemented as a matter of routine activity by the project team. Risks will be formally re-evaluated on a quarterly basis. Table 3 lists major development risks being managed to date. Project execution risks will be identified at a later date and will be included in the OEB Leave to Construct (Section 92) application.

Table 3: *Major Risks and Issues*

Risk Description	Likelihood of Occurrence	Impact of Risk on the Project	Mitigation
Consultation	realized; Duty to Consult list has changed	Scope, Schedule and cost	Risk remains that the scope of Indigenous and non-Indigenous consultation could change as the Project matures. Hydro One meets regularly with ENDM and MECP.
Health & Safety	realized; Covid-19	Schedule and cost	Alternative engagement activities, sensitive to health and safety, have been implemented. Duration of risk is unknown.
Regulatory approvals	moderate	Scope, Schedule and cost	Decisions by various Regulators may result in changes to scope, schedule and cost of the Project.

ENDM issued an initial DTC letter to Hydro One in Oct 2018, which was revised in April 2020. Hydro One and ENDM have a Memorandum of Understanding that outlines the DTC roles and responsibilities of the two parties regarding major projects. Hydro One meets monthly with ENDM and other agencies to provide Indigenous consultation and engagement updates and to keep the Crown apprised of any potential challenges in the consultation process and how we can work together to find solutions.

Covid-19 has provided unprecedented challenges in the development of infrastructure projects. Quick adaptation from in-person to virtual engagement has been required. Hydro One has developed and successfully implemented a wide variety of versatile virtual tools including the use of telepresence meetings, webinars, virtual town-halls and the use of USBs and tablets to distribute project materials safely.





The Project is early in the development phase and as a result schedule and scope changes remain a moderate risk. As the project matures, external stakeholders such as energy and environmental regulators can influence the schedule and scope of the Project. Hydro One meets regularly with regulators to keep them apprised of project progress and to work together to manage expectations.



Attachment 1
EB-2019-0151
Waasigan Transmission Line
The Investment Summary Document
October 22, 2020

SS-08 Northwest Bulk Transmission Line

Start Date:	Q1 2019	Priority:	High
In-Service Date:	Q4 2022*	3 Year Test Period Gross Cost (\$M):	29.8
Trigger(s): Third Party Request, Political Commitment			
Outcomes: Undertake the development work required for submission of approval requests for the building of a 230kV double circuit line between Thunder Bay and Atikokan and a single-circuit line between Atikokan and Dryden.			

** As described below, this date represents the completion of the required development work to the point of approval submission only.*

A. NEED AND OUTCOME

Investment Need

This investment is required in response to the IESO's request to Hydro One dated October 24, 2018 (see Appendix "A" below) to undertake development work for the Northwest Bulk Transmission Line ("NWBTL") Project, which is a priority project identified in the 2013 and 2017 Long-Term Energy Plans ("LTEP"). The purpose of this project is to augment the transmission capacity and maintain the reliability of electricity supply to the area of northwestern Ontario located west of Thunder Bay and support forecast electricity demand growth.

The 2017 LTEP recommended that the project proceed in three phases:

- Phase One: a line from Thunder Bay to Atikokan by 2024.
- Phase Two: a line from Atikokan to Dryden by 2034 (or earlier depending on the demand forecast).
- Phase Three: a line from Dryden to the Manitoba border, if needed, after 2035 (or earlier if recommended by the IESO).

An Order in Council issued December 11, 2013 directed the Ontario Energy Board to amend Hydro One's Transmission Licence, requiring Hydro One to develop and seek

Witness: Robert Reinmuller

1 approvals for the NWBTL in accordance with the scope and timing recommended by the
2 IESO.

3
4 The IESO has recently reviewed the NWBTL in relation to updated area load forecast, and
5 outlined the recommended scope and timing of the project in its October 24, 2018 letter to
6 Hydro One. In that letter, the IESO indicated that while additional transmission capacity in
7 the area may not be needed until the mid-2030s, a capacity need could potentially arise
8 under the high load growth scenario in the early 2020s. The IESO will continue to monitor
9 the development and load growth in the area and advise when the new line would be
10 required.

11
12 Given the risks associated with load forecast uncertainty, and to shorten the project lead
13 time if the need for additional capacity arises pursuant to the high growth scenario, the
14 IESO recommends that Hydro One commence project development work as soon as
15 possible on Phase One and Phase Two of the NWBTL as follows:

- 16
17 • Phase One: a new double circuit 230kV line from Lakehead TS to Mackenzie TS.
18 • Phase Two: a new single circuit 230kV line from Mackenzie TS to Dryden TS.

19
20 In addition, the IESO has also asked Hydro One to separate the necessary sections of the
21 existing 230kV circuits (F25A, D26A) that originate from Mackenzie TS to ensure that the
22 circuits do not share a common structure over a distance exceeding one mile.

23
24 Not proceeding with this investment risks potential delay in providing additional
25 transmission capacity when required. This project has been assigned a High Priority given
26 the identification of the NWBTL as a priority project in the 2017 LTEP, and the most recent
27 IESO determination that Hydro One should begin development work as soon as possible.

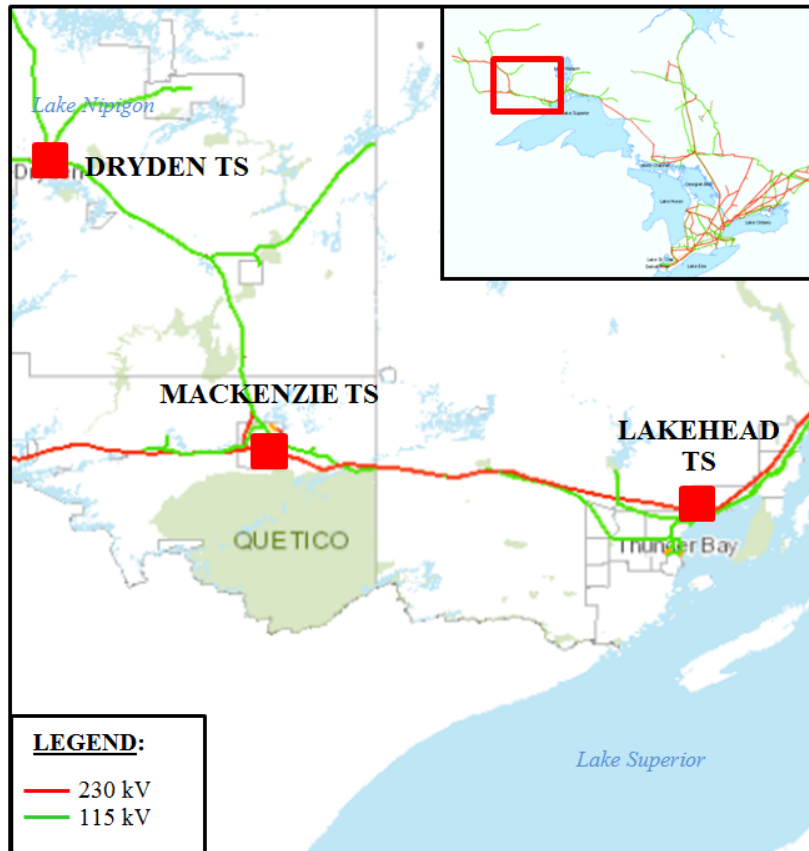
Witness: Robert Reinmuller

Investment Description

This investment will allow Hydro One to undertake the development work for Phase One and Phase Two of the NWBTL as described above. The scope of this development work includes:

- Initiating preliminary design/engineering;
- Preparing cost estimates;
- Carrying out public engagement/consultation;
- Undertaking routing and siting studies; and
- Environmental assessment.

A map showing the general location of the proposed NWBTL project is provided below.



Witness: Robert Reinmuller

Outcomes

Pursuant to the IESO's request, this investment will allow Hydro One to undertake the development work for the installation of Phase One and Phase Two of the NWBTL, which will increase transfer capability in the area west of Thunder Bay and provide sufficient capacity for the forecasted growing demand.

The following table summarizes the anticipated benefits as a result of the project:

Customer Focus	• Ensure timely capacity increase to meet future customer loads.
Operational Effectiveness	• Maintain reliability while increasing the transfer capability in the area.
Public Policy Responsiveness	• Comply with the IESO request to initiate the development work for Phase 1 and Phase 2 of the NWBTL to provide sufficient capacity for demand growth in Northwest Ontario, including connection of remote communities. • Align with the direction in the 2017 Long-Term Energy Plan.

B. EXPENDITURE PLAN

This investment is non-discretionary. The project costs, as presented in the table below, are only for development work, including preliminary design/engineering, cost estimation, public engagement/consultation, routing and siting, and environmental assessment, for Phase One and Phase Two of the NWBTL. Some of the expenditure may extend beyond 2022, to facilitate interactions with regulators during Environmental Assessment review periods and ongoing consultation with Indigenous Communities and stakeholders. These project costs will be recovered from the network rate pool as these 230kV facilities are network assets and thus no capital contribution is required from customers.

Witness: Robert Reinmuller

Table 1: Total Investment Cost

(\$ Millions)	Prev. Years	2020	2021	2022	2023	2024	Future Years	Total ²
Capital ¹ and Minor Fixed Assets	5.2	8.0	12.9	8.9	0.0	0.0	0.0	35.0
Less Removals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross Investment Cost	5.2	8.0	12.9	8.9	0.0	0.0	0.0	35.0
Less Capital Contributions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Investment Cost	5.2	8.0	12.9	8.9	0.0	0.0	0.0	35.0

¹ Includes Overhead at current rates.

² As described above, this would bring development work to the point required for submission of approval requests only.

C. ALTERNATIVES

No alternative was considered by Hydro One, as this investment is in response to a specific directive.

D. EXECUTION RISK AND MITIGATION

This investment covers only the development work, including environmental assessment, for the NWBTL. Normal project risks associated with extensive public consultation apply, as well as potential delays for obtaining the final environmental assessment approvals.

Witness: Robert Reinmuller

APPENDIX “A” – Letter from the IESO to Hydro One



Independent Electricity System Operator
1600-120 Adelaide Street West
Toronto, ON M5H 1T1
t 416.967.7474
www.ieso.ca

October 24, 2018

Mr. Robert Reinmuller
Director, Transmission Planning
Hydro One Inc.
483 Bay Street, 13th Floor, North Tower
Toronto, Ontario M5G 2P5

Dear Robert,

Update on the Need and Scope for the Northwest Bulk Transmission Line

The Independent Electricity System Operator (the “IESO”) recently updated its electrical load forecast and completed an assessment of the need for additional capacity to supply the West of Thunder Bay and North of Dryden areas (together, the “Region”), shown in Figure 1. The purpose of this letter is to describe the supply needs for the Region and the IESO’s recommended next steps for meeting those needs.

Supply Needs in the Region

Figure 2 below shows an updated electrical load forecast for the Region. The updated forecast considers new loads from potential mining developments, the connection of remote communities and the removal of loads from the cancelled Energy East pipeline conversion project.

Based on the forecast the Region is adequately supplied today; however, a need for additional capacity will arise in the mid-2030s.

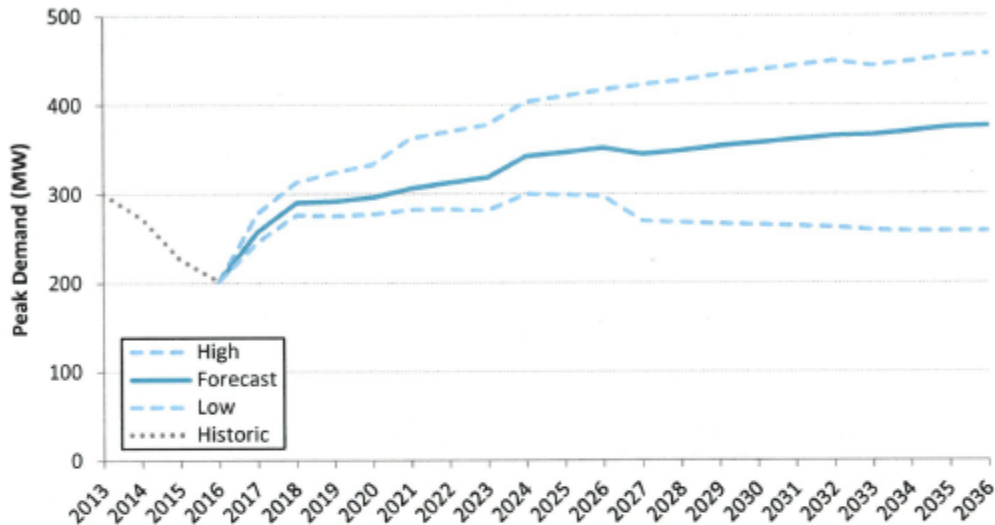
The IESO’s updated electrical load forecast also includes high and low growth scenarios to capture the uncertainty around industrial developments. Under the high growth scenario, which considers

Figure 1 – The Region



development of the Ring of Fire with electricity supplied by the Ontario transmission system, a capacity need could potentially arise in the early 2020s.

Figure 2 - Electrical Load Forecast – the Region



Addressing the Need

The Northwest Bulk Transmission Line Project (the “Project”) was identified as a priority project in the 2017 Long-Term Energy Plan (the “LTEP”) and can address the capacity needs described above. The LTEP divides the Project into three phases:

Phase 1 – a line from Thunder Bay to Atikokan;

Phase 2 – a line from Atikokan to Dryden; and

Phase 3 – a line from Dryden to the Manitoba border.

An Order in Council issued December 11, 2013 directed the Ontario Energy Board to amend the Hydro One Networks Inc. Electricity Transmission License to require Hydro One to develop and seek approvals for the Project in accordance with the scope and timing recommended by the IESO. The IESO’s recommended scope and timing is outlined in the following paragraphs.

Scope and Timing

Since the capacity need is not likely to materialize until the mid-2030s, a commitment for additional supply to the Region is not required at this time. However, the IESO recognizes the

risks associated with load forecast uncertainty and the potential for large industrial projects to add significant load to the Region utilizing the remaining capacity margin sooner than anticipated.

Therefore, to shorten the Project lead time if the need for additional capacity materializes earlier than expected, the IESO recommends that Hydro One begin development work on Phase 1 and Phase 2 of the Project as soon as possible. The scope of development work is to include preliminary design/engineering, cost estimation, public engagement/consultation, routing and siting, and Environmental Assessment. At this time the IESO is not committing to a timeline for the construction of the line. The IESO will continue to monitor developments in the Region to determine when construction of the transmission line should begin.

To supply the Region under the high growth scenario, the Project must meet the following specifications:

- a) Consist of a new double circuit 230 kV line between Lakehead TS and Mackenzie TS (Phase 1) with a thermal capacity that is equal to or greater than the existing double-circuit 230 kV transmission between Lakehead TS and Mackenzie TS. This would achieve the required westbound transfer of at least 350 MW into Mackenzie TS and Moose Lake TS.
- b) Consist of a new single circuit 230 kV line from Mackenzie TS to Dryden TS (Phase 2) with a thermal capacity that is equal to or greater than the existing single-circuit 230 kV transmission line between Mackenzie TS and Dryden TS. This would achieve the required westbound transfer of at least 350 MW from MacKenzie and Moose Lake.
- c) Separate the necessary sections of F25A and D26A to ensure the circuits do not share a common structure over a distance that exceeds one mile.

Hydro One should consider various routing options as appropriate. Since requirements for switching and reactive facilities would depend on the configuration and line options, they are not specified at this time.

The 2014 letter from the Ontario Power Authority (the "OPA") to Hydro One indicated that the Project must be capable of 550 MW transfer west from the Thunder Bay area. At the time the letter was written, the OPA's electrical load forecast was significantly higher and included potential mining developments and the Energy East pipeline conversion project. If in the future additional transfer capability beyond 350 MW is needed, the solution would be to install dynamic reactive facilities in addition to the transmission lines indicated above.

The IESO will provide support to Hydro One as required, including discussion of possible routing alternatives. As well, the IESO will continue to monitor developments in the Region and confirm the best course of action to address supply needs, and will keep Hydro One apprised of this work.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ahmed Maria', with a stylized flourish at the end.

Ahmed Maria
Director - Transmission Planning
Independent Electricity System Operator

cc: Ms. Darlene Bradley, Hydro One
Mr. Leonard Kula, IESO
Mr. Terry Young, IESO
Mr. Alex Merrick, IESO

Attachment 2

EB-2019-0151

Waasigan Transmission Line

HONI Letter to the OEB Dated April 8th, 2020

October 22, 2020

Hydro One Networks Inc.

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Joanne Richardson

Director – Major Projects and Partnerships
Regulatory Affairs

BY E-MAIL

April 8, 2020

Ms. Christine E. Long
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Long:

EB-2019-0151 – Hydro One Networks Inc. Update on Costs Tracked in Waasigan Transmission Tracking Deferral Account

Hydro One Networks Inc. (“Hydro One”) is writing this letter to update the Ontario Energy Board (“OEB”) on the status and ongoing activities related to the Waasigan Transmission Line Project (“the Project”).

BACKGROUND

The Project (formerly the Northwest Bulk Transmission Line Project) is a priority project identified in the 2013 Long Term Energy Plan. In January 2014, the OEB amended Hydro One Transmission’s licence to include the following condition:

“The Licensee shall develop and seek approvals for the expansion or reinforcement of a portion or portions of the Licensee’s electricity transmission network in the area west of Thunder Bay (the “Northwest Bulk Transmission Line Project”). The scope and timing of the Northwest Bulk Transmission Line Project shall be in accordance with the recommendations of the Ontario Power Authority.”

In March 2015, the OEB approved Hydro One’s request to establish the North West Bulk Transmission Line Deferral account (EB-2014-0311). The account recorded expenses related to preliminary engineering, design and environmental assessment work associated with the Project prior to the point from which the costs would qualify to be recorded in construction work-in-progress. \$800K had been recorded in that account.

In December 2018, Hydro One requested to change the nature of the North West Bulk Transmission Line Deferral account, from a deferral account to a tracking account, and to change the name of the account to the Waasigan Transmission Deferral Account. This request was a result of the October 2018 IESO letter that confirmed that supply needs West of Thunder Bay and North of Dryden will be met by electricity infrastructure. The letter also recommended that Hydro One begin development work on Phases 1 and 2 of the Project as soon as possible to shorten the Project lead time required to have the assets ready to be in service to meet the electricity capacity needs when they materialize (expected mid-2030s but could occur earlier). As a result, Hydro One was now able to record its development expenditures in construction-work-in-progress. The OEB approved these requests in September 2019.

CURRENT STATUS

Hydro One continues to proceed with development work on the Project. In Hydro One's 2020-2022 Transmission Rates Application (EB-2019-0082), \$35M was forecast in an Investment Summary Document (ISD SS-08) as the cost to complete development work for the Project. This was based on an AACE Class 5 accuracy cost estimate (+100%/-50%). In February 2020, Hydro One re-estimated its development cost forecast, based on the initial Environmental Assessment work and using new information attained since 2018. Substantial cost increases are expected to be recorded in the CWIP tracking account above the costs provided in EB-2019-0082. The following factors are contributing to expected increases in costs:

- In October 2018 the Ministry of Energy Northern Development and Mines delegated the duty to consult by issuing a list of 15 Indigenous Communities and organizations to engage with. Hydro One initially estimated that eight communities would need to be consulted, based on limited mapping and other information it had available at the time. Since issuance of the duty to consult, six additional communities have asserted their rights, thereby changing the Project's scope.
- Another change in the scope of the Project is the formation of the Indigenous Transmission Limited Partnership (ITLP). ITLP, a consortium of seven First Nations, represents the collective environmental and economic interests of the seven represented communities. ITLP offers administrative benefits to consultation, but additional capacity funding, beyond that required for the individual communities, is required to administer the partnership.
- Lessons Learned from the Lake Superior Link project in 2018 are informing this Project. In particular, it was determined that the Project must have a high level of effort placed on Public and Indigenous consultation to ensure that regulators, such as the Ministry of the Environment, Conservation and Parks and the Ministry of Natural Resources and Forestry, will deem the consultation adequate.
- Interest during construction – interest will be applied, using the Board's CWIP interest rates, for all expenditures undertaken from January 1, 2019, until the project is placed in-service.

As a result, Hydro One expects the \$35M initial forecast of development costs to be in the higher range of the AACE class estimate (e.g. up to \$70M).

Hydro One continues to work closely with the IESO to define the timing of the Project. The IESO is currently working on an updated demand forecast for the area and expect to provide some clarity on the need for the Project by the end of the summer.

Hydro One will continue to record the Project costs in its CWIP and will track and report the balances in the Waasigan Transmission Tracking Deferral Account. Hydro One will move these costs to its rate base upon in-serving of the transmission line. Recovery for costs will be included in a future revenue requirement application.

Sincerely,

A handwritten signature in brown ink, appearing to read 'Joanne Richardson', is written over a faint, light blue circular background.

Joanne Richardson

Attachment 3
EB-2019-0151
Waasigan Transmission Line
NW Bulk Transmission Line Scope
October 22, 2020

October 24, 2018

Mr. Robert Reinmuller
Director, Transmission Planning
Hydro One Inc.
483 Bay Street, 13th Floor, North Tower
Toronto, Ontario M5G 2P5

Dear Robert,

Update on the Need and Scope for the Northwest Bulk Transmission Line

The Independent Electricity System Operator (the “IESO”) recently updated its electrical load forecast and completed an assessment of the need for additional capacity to supply the West of Thunder Bay and North of Dryden areas (together, the “Region”), shown in Figure 1. The purpose of this letter is to describe the supply needs for the Region and the IESO’s recommended next steps for meeting those needs.

Supply Needs in the Region

Figure 2 below shows an updated electrical load forecast for the Region. The updated forecast considers new loads from potential mining developments, the connection of remote communities and the removal of loads from the cancelled Energy East pipeline conversion project.

Based on the forecast the Region is adequately supplied today; however, a need for additional capacity will arise in the mid-2030s.

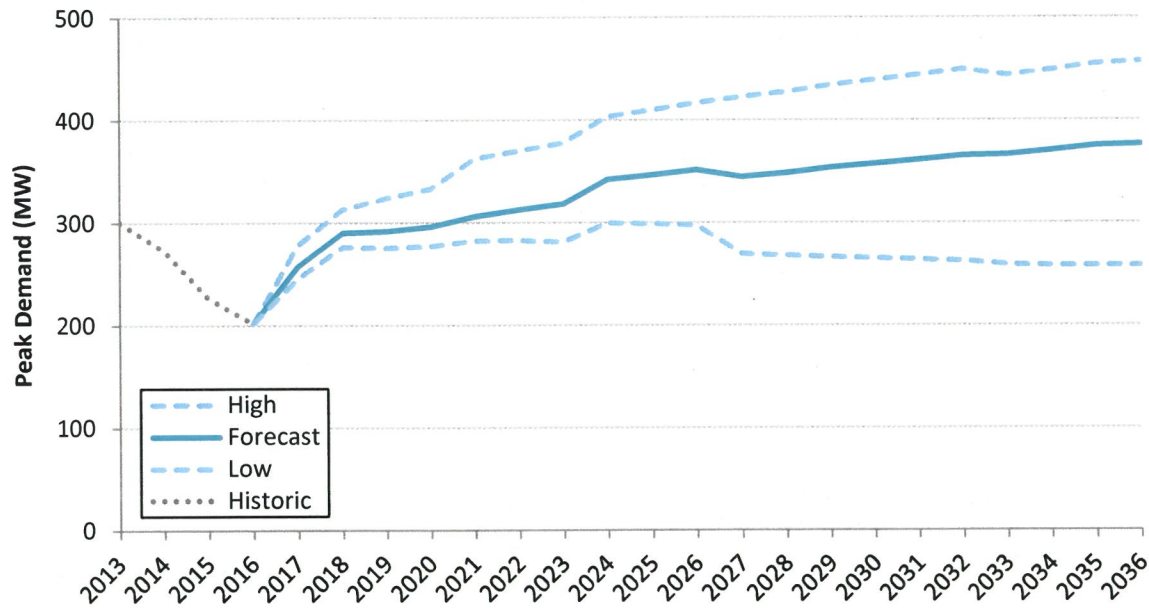
The IESO’s updated electrical load forecast also includes high and low growth scenarios to capture the uncertainty around industrial developments. Under the high growth scenario, which considers

Figure 1 – The Region



development of the Ring of Fire with electricity supplied by the Ontario transmission system, a capacity need could potentially arise in the early 2020s.

Figure 2 - Electrical Load Forecast – the Region



Addressing the Need

The Northwest Bulk Transmission Line Project (the “Project”) was identified as a priority project in the 2017 Long-Term Energy Plan (the “LTEP”) and can address the capacity needs described above. The LTEP divides the Project into three phases:

Phase 1 – a line from Thunder Bay to Atikokan;

Phase 2 – a line from Atikokan to Dryden; and

Phase 3 – a line from Dryden to the Manitoba border.

An Order in Council issued December 11, 2013 directed the Ontario Energy Board to amend the Hydro One Networks Inc. Electricity Transmission License to require Hydro One to develop and seek approvals for the Project in accordance with the scope and timing recommended by the IESO. The IESO’s recommended scope and timing is outlined in the following paragraphs.

Scope and Timing

Since the capacity need is not likely to materialize until the mid-2030s, a commitment for additional supply to the Region is not required at this time. However, the IESO recognizes the

risks associated with load forecast uncertainty and the potential for large industrial projects to add significant load to the Region utilizing the remaining capacity margin sooner than anticipated.

Therefore, to shorten the Project lead time if the need for additional capacity materializes earlier than expected, the IESO recommends that Hydro One begin development work on Phase 1 and Phase 2 of the Project as soon as possible. The scope of development work is to include preliminary design/engineering, cost estimation, public engagement/consultation, routing and siting, and Environmental Assessment. At this time the IESO is not committing to a timeline for the construction of the line. The IESO will continue to monitor developments in the Region to determine when construction of the transmission line should begin.

To supply the Region under the high growth scenario, the Project must meet the following specifications:

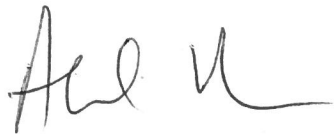
- a) Consist of a new double circuit 230 kV line between Lakehead TS and Mackenzie TS (Phase 1) with a thermal capacity that is equal to or greater than the existing double-circuit 230 kV transmission between Lakehead TS and Mackenzie TS. This would achieve the required westbound transfer of at least 350 MW into Mackenzie TS and Moose Lake TS.
- b) Consist of a new single circuit 230 kV line from Mackenzie TS to Dryden TS (Phase 2) with a thermal capacity that is equal to or greater than the existing single-circuit 230 kV transmission line between Mackenzie TS and Dryden TS. This would achieve the required westbound transfer of at least 350 MW from MacKenzie and Moose Lake.
- c) Separate the necessary sections of F25A and D26A to ensure the circuits do not share a common structure over a distance that exceeds one mile.

Hydro One should consider various routing options as appropriate. Since requirements for switching and reactive facilities would depend on the configuration and line options, they are not specified at this time.

The 2014 letter from the Ontario Power Authority (the "OPA") to Hydro One indicated that the Project must be capable of 550 MW transfer west from the Thunder Bay area. At the time the letter was written, the OPA's electrical load forecast was significantly higher and included potential mining developments and the Energy East pipeline conversion project. If in the future additional transfer capability beyond 350 MW is needed, the solution would be to install dynamic reactive facilities in addition to the transmission lines indicated above.

The IESO will provide support to Hydro One as required, including discussion of possible routing alternatives. As well, the IESO will continue to monitor developments in the Region and confirm the best course of action to address supply needs, and will keep Hydro One apprised of this work.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ahmed Maria', with a stylized flourish at the end.

Ahmed Maria
Director - Transmission Planning
Independent Electricity System Operator