Ontario Energy Board | Commission de l'énergie de l'Ontario

DECISION AND ORDER

EB-2023-0199

HYDRO ONE NETWORKS INC.

Application for leave to construct an electricity transmission line and associated facilities in the City of Toronto

BEFORE: Emad Elsayed
Presiding Commissioner

Fred Cass
Commissioner

November 7, 2023

Ontario Energy Board | Commission de l'énergie de l'Ontario

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1 OVERVIEW OF APPLICATION

This is a Decision and Order of the Ontario Energy Board (OEB) on an application filed by Hydro One Networks Inc. (Hydro One) for leave to construct approximately 21 circuit km of 230 kV electricity transmission line in the City of Toronto (the Application).

The transmission line will replace an existing and idle 115 kV double-circuit transmission line with a new 230 kV double-circuit transmission line in an existing 6.5 km corridor from Richview Transformer Station (TS) to Manby TS (the Project). The Project will also deliver modifications to the telecommunication facilities at these two transformer stations, upgrade the span of one circuit at Applewood Junction, and re-tap one circuit at Horner TS. A map showing the location of the Project is attached as Schedule A to this Decision and Order. The station work represents less than 1% of the total cost and there is no connection work. As a result, the entire project cost, which is estimated at $73.1 million, is allocated to the network pool.

Hydro One also requested to dispose of the proceeding without a hearing. The OEB granted Hydro One's request by way of a letter dated September 28, 2023, with reasons to follow. The reasons are provided in this Decision and Order.

The OEB finds that the leave to construct Application is in the public interest based on an examination of the impact of the Project on consumers with respect to prices and the reliability of electricity service. The OEB grants the Application for leave to construct under section 92 of the *Ontario Energy Board Act, 1998* (*OEB Act*). The leave to construct is subject to the OEB conditions of approval, attached as Schedule B to this Decision and Order.

2 PROCESS AND DECISION OUTLINE

On September 5, 2023, Hydro One applied for an order under section 92 of the *OEB Act* for leave to construct approximately 21 circuit km of new transmission line facilities by upgrading an idle circuit in an existing transmission corridor. Hydro One also requested that the OEB process the Application without a hearing, citing section 21(4) of the *OEB Act* and indicating its consent to disposition of the proceeding without a hearing.

On September 28, 2023, the OEB informed Hydro One that it will dispose of this proceeding without a hearing with reasons to follow.

This Decision and Order details the above requests and provides reasons for the OEB's decisions. The no hearing request under section 21(4) will be addressed first. Then, the Application for leave to construct will be addressed under the following headings: Project Overview, Project Need and Alternatives, Project Costs, Impact on Price of Electricity Service, Impact on Reliability of Electricity Service, Route Maps and Land Agreements, and Conditions of Approval.

Schedule A provides a map of the corridor and Schedule B provides the conditions of approval for leave to construct the Project.

3 DECISION ON HEARING

In the Application, Hydro One requested that the OEB dispose of this proceeding without a hearing.[1] [2] Section 21(4) of the *OEB Act* states:

> Despite section 4.1 of the *Statutory Powers Procedure Act*, the Board may, in addition to its power under that section, dispose of a proceeding without a hearing if,
>
> (a) no person requests a hearing within a reasonable time set by the Board after the Board gives notice of the right to request a hearing, or
>
> (b) the Board determines that no person, other than the applicant, appellant or licence holder will be adversely affected in a material way by the outcome of the proceeding and the applicant, appellant or licence holder has consented to disposing of a proceeding without a hearing.

Hydro One states in the Application that:

- There are no directly connected customers that are adversely affected by the Project, as documented in the Customer Impact Assessment (CIA), submitted as Exhibit G-1-1, Attachment 1.
- The Project concords with the commitments undertaken through the Class Environmental Assessment (Class EA) process and filed with the Ministry of Environment, Conservation and Parks, referenced in the Application as the Final Environmental Studies Report in Exhibit B-7-1.
- Hydro One commits to the additional work outlined in the Independent Electricity System Operator's (IESO) System Impact Assessment (SIA) to ensure there is no material adverse impact on reliability of the integrated power system, as per Exhibit F-1-1, Attachment 1.
- The Project reduces transmission line losses in a cost-effective manner, as per Exhibit B-5-1.

[1] Exhibit B-11-1, page 1, footnote 1
[2] Exhibit B-1-1, paragraph 14

- No new property rights are required for completion of the Project, as per Exhibit E-1-1.
- The Project addresses the reliability and capacity needs of the transmission system, as summarized in Exhibit B-3-1 and detailed in Attachment 1, the IESO's final report *Richview TS to Manby TS Transmission Corridor Upgrade: Need, Alternatives and Regional Planning Context*, August 2023.
- The load forecast results in a reduction to the network pool rate, as presented in Exhibit B-9-1.

Findings

The OEB has determined that it will dispose of this proceeding without a hearing pursuant to its power under section 21(4)(b) of the *OEB Act*.

The OEB has reached the conclusion that no person will be adversely affected in a material way by the outcome of this proceeding after considering evidence found throughout Hydro One's filing, including:

- No new land rights will be required to accommodate the proposed transmission facilities.
- The SIA concludes that the Project is expected to have no material adverse impact on the reliability of the integrated power system, provided that all requirements in the SIA report are implemented.
- The CIA results confirm that the Project will not have any adverse effect on the voltage in the area and will improve the supply reliability to the Southwest Toronto area.

The OEB expects that, in future, an applicant relying on subsection 24(1)(b) of the *OEB Act* will provide summarized evidence upfront to support its request, including cross-references to where specific items of supporting evidence can be found in the application. In this case, the evidence supporting the no-hearing request was contained in a number of Exhibits throughout the Application and it would have been helpful to the OEB if a list of those Exhibits had been provided upfront.

4 DECISION ON LEAVE TO CONSTRUCT

In reviewing applications under section 92 of the *OEB Act*, the OEB considers the interests of consumers with respect to prices and reliability of electricity service. The OEB's findings on the Project's need and alternatives, costs, impacts on prices, reliability of service, land matters, and conditions of approval are addressed in this chapter.

4.1 Project Overview

The 230 kV transmission corridor between Richview TS and Manby TS in Etobicoke is the main supply for the western half of central and downtown Toronto. Currently, there are two 230 kV double-circuit transmission lines (R1K/R2K and R13K/R15K) and one idle 115 kV double-circuit transmission line (K9S/K10SB) along this corridor. Together with the other 230 kV circuit between Richview TS and Cooksville TS, this corridor also supplies the load in southern Mississauga and Oakville areas, via Manby TS.

The Project will replace the existing and idle 115 kV double-circuit transmission line with a new 230 kV double-circuit transmission line in the existing corridor between Richview TS and Manby TS. This also means that the existing towers will be replaced. The Project includes modifying and reconfiguring the two existing 230 kV circuits between the same transformer stations. The reconfiguration avoids the need to build new terminations and breakers at Manby TS, allowing this work to be coordinated with the end-of-life refurbishment of Manby TS. As a result, this is the first phase of a two-phase project.

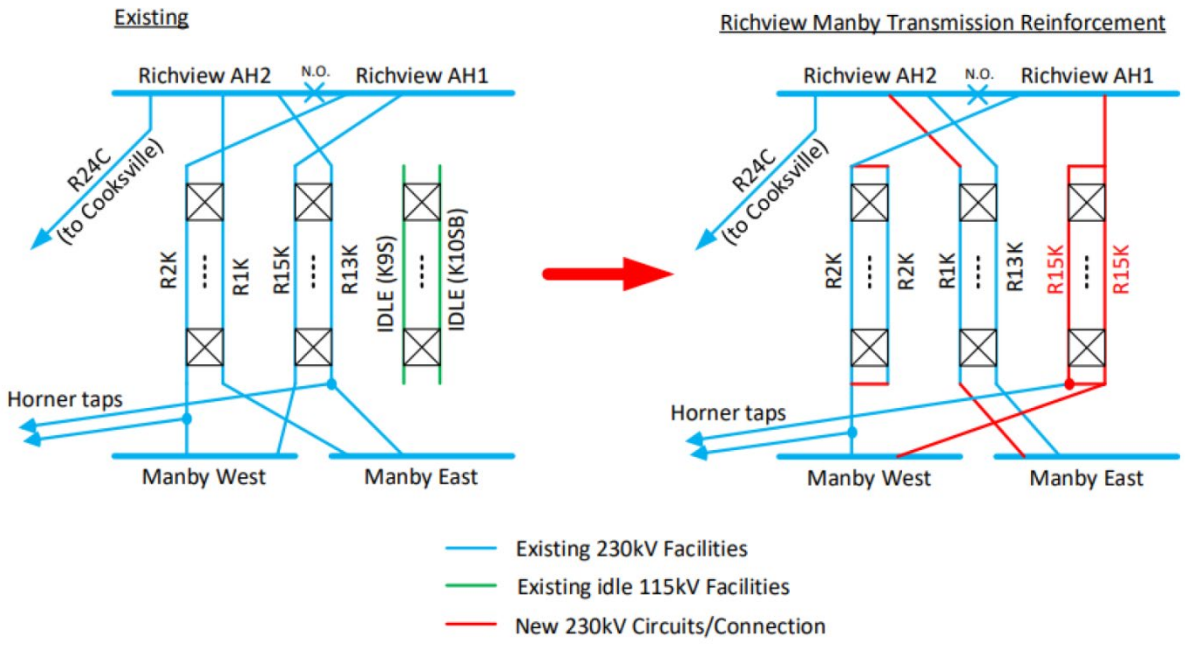
The IESO's SIA concluded that the upgrade and reconfiguration of the transmission lines in this corridor will result in a particular line at the Applewood Junction exceeding its long-term emergency rating.[3] As a result, the Project includes the upgrade of the span of one circuit at Applewood Junction. Upon reconfiguring the existing 230 kV double-circuits, Hydro One will also re-tap one line at Horner TS to increase overall transfer capability of the Richview to Manby interface.

In conjunction with the line facilities work described above, Hydro One will also undertake minor station work at Richview TS and Manby TS. At Richview TS, Hydro One will modify the protection settings and revise the relay settings and logic due to the aforementioned re-tapping at Horner TS. Similar work is also required at Manby TS.

[3] The SIA is provided in Exhibit F-1-1, Attachment 1

The following figure provides a schematic of the existing and future transmission line configurations.

Figure 1: Schematic of the proposed transmission line facilities[4]



4.2 Project Need and Alternatives

As stated above, this transmission corridor is integral to providing supply to the western half of central and downtown Toronto and portions of southern Mississauga and Oakville (collectively, the southwest GTA). This area is known electrically as the Richview South area, and it is shown in the following figure.

[4] Exhibit B-2-1, Attachment 2

Figure 2: Richview South Area Map[5]

Hydro One states that the Project is consistent with the IESO's recent regional planning reports. The need for the Project is driven by the demand forecast for the Richview South area.[6] The demand forecast, which was last updated in the IESO's 2021 Toronto Addendum Study, is driven by new connection requests for residential and commercial development.[7] The forecasted extreme weather corrected demand exceeds the load meeting capability (LMC) of the system supplying the Richview South area, where the LMC is 1,470 MW. Additionally, actual historical peak load from 2018 to 2022 ranges from 1,391 to 1,479 MW. This indicates that the need exists today: historical demand has approached and, in 2020, exceeded the LMC.

[5] Figure 1 of Exhibit B-3-1, Attachment 1
[6] Exhibit B-3-1, Attachment 1
[7] The 2021 study is provided in Exhibit H-1-1, Attachment 1: *Toronto Integrated Regional Resource Plan Addendum: Richview x Manby 230 kV Circuit Upgrades*, November 2021

This same study also includes several additional items qualitatively identified as contributing to demand growth. Metrolinx electrification of the Lakeshore West GO train corridor is planned to include a new traction power substation, which could consume up to 60 MW. The IESO further considered the potential for high electrification rates and municipal de-carbonization initiatives to accelerate demand growth beyond the underpinning forecast.[8]

In addition to the forecast demand increase for the Richview South area, the IESO noted operating practices result in increased demand on the Richview to Manby corridor.[9] Manby TS, via the Richview to Manby corridor, can be used to relieve the load to Leaside TS. Dufferin TS, which typically peaks at 125 MW, can be served from either Manby TS or Leaside TS, the latter being the case under normal operating conditions. During periods of high demand or system outages, the Leaside sub-system can be relieved by operator action to transfer the Dufferin TS load to Manby TS. The IESO noted that this action is being taken more frequently. On this basis, reinforcing the Richview to Manby corridor allows this operator action to be available more often and with greater margin.

Hydro One states the Project is a non-discretionary development project: it will increase the transfer capability between Richview TS and Manby TS.[10] Increasing this transfer capability both supports the forecast load growth and increases system reliability.

In studying how to meet the system needs for Richview South, the IESO considered conservation and demand management (CDM), additional gas fired generation, battery storage, and upgrades to the transmission corridor.[11] This is in addition to a previous study that considered incremental CDM, distributed energy resources (DERs), and flexible AC transmission system (FACT) devices.[12] The IESO concluded that alternatives such as CDM and DERs are insufficient to meet the system need, especially when considering the aforementioned transfer of Dufferin TS load to Manby TS.[13] The FACT devices may be technically capable of meeting the system needs, but

[8] Ibid.
[9] *Toronto Integrated Regional Resource Plan Addendum: Richview to Manby 230 kV Circuit Upgrades*, November 2021, Exhibit H-1-1, Attachment 1
[10] Exhibit B-4-1
[11] *Richview TS to Manby TS Transmission Corridor Upgrade: Need, Alternatives, and Regional Planning Context*, August 2023, Exhibit B-3-1, Attachment 1
[12] *Toronto Integrated Regional Resource Plan Addendum: Richview to Manby 230 kV Circuit Upgrades*, November 2021, Exhibit H-1-1, Attachment 1
[13] Exhibit H-1-1, Attachment 1, page 20

only up to up to 2028.[14] Finally, the IESO noted municipal motions that oppose new electricity generation involving increased burning of fossil fuels and historic opposition from local communities to the siting of natural gas generating stations in the Richview South area. As a result, the IESO concluded there is no feasible long-term alternative to eliminate the need for an upgrade to the transmission corridor.[15] Only the FACT devices are capable of meeting the IESO's system need, but they are only forecasted to do so until 2028, at which point a corridor upgrade would again be necessary.

Hydro One's evaluation of project alternatives is based on the IESO's preferred in-service date of 2026.[16] The first alternative involves building the new 230 kV double-circuit transmission line using the same conductor (1443 kcmil ACSR/TW) as the two existing 230 kV double-circuit transmission lines. The second alternative would utilize a larger size conductor (1780 kcmil ACSR/TW). Hydro One states that a screening analysis determined that both alternatives showed similar total annual costs: $5.72 million. To further compare these alternatives, Hydro One performed a 50-year net present value analysis. That analysis concluded that alternative 2 (1780 kcmil ACSR/TW), the selected project, is more economical, primarily on the basis of reduced line losses.

Findings

The OEB finds that Hydro One has demonstrated the need for the Project in order to meet the IESO's forecasted load growth in the southwest GTA. The Project is a non-discretionary development project.

The OEB finds that Hydro One has selected the most prudent of the two project alternatives that were considered. Although both alternatives showed similar total annual costs, the selected alternative was found to be more economical based on a 50-year net present value analysis.

4.3 Project Costs

The estimated total cost of the Project is $73.1 million, including $0.5 million for station costs. The cost estimates are based on a project definition equivalent to a Class 3 (with a range of -20%/+30%) under the American Association of Cost Engineering (AACE)

[14] Exhibit H-1-1, Attachment 1
[15] Ibid.
[16] Exhibit B-3-1, Attachment 1, pages 13 and 15

International estimate classification system. Hydro One submits that the Project has completed preliminary engineering and design activities (approximately 60% complete).

Table 1: Project Components and Estimated Cost[17]

Component	Estimated Cost ($ million)
Materials	14.22
Labour	19.20
Equipment Rental and Contractor Costs	21.29
Sundry	1.80
Contingencies	7.00
Overhead	4.31
Allowance for Funds Used During Construction	4.42
Real Estate	0.90
Total Cost	**73.13**

Hydro One identifies the following project risks:

- Encroachments:
  The Project has identified various objects and backyard extensions along the corridor that could impact construction and operation

- Subsurface Conditions:
  Environmental conditions may require additional mitigation or delay / stop construction progress

- Approvals and Permit Delays:
  Delays in approvals, including this Application.

Hydro One identifies the following mitigating actions:

- The completed design review included review of existing right-of-way encroachments and the impacts on construction and operation
- Tower design and positions have, where feasible, considered proximity to properties
- A robust community engagement plan developed as part of the environmental assessment process
- Proactive regulatory applications and finalized Environmental Study Report submitted to the Ministry of Environment, Conservation, and Parks.

[17] Table 1 of Exhibit B-7-1

Also noted within the project scope, and included in the above amounts, are environmental mitigations. Hydro One identifies $10.4 million for reimagining the hydro corridor and $9.5 million for preserving vegetation in the area. These are commitments made as part of the Final Environmental Studies Report.[18]

Hydro One also presented three comparable projects where existing 115 kV transmission lines were rebuilt or upgraded to 230 kV transmission lines. The following table is a summary of Table 2 provided in Exhibit B-7-1.

Table 2: Normalized Cost with Comparable Projects

	Power South Nepean	Riverdale JCT x Overbrook TS	Guelph Area Transmission Refurbishment	Richview x Manby
Approximate Length	12.2 km	1.9 km	5.0 km	6.5 km
Location	Ottawa	Ottawa	Southwest Ontario	Southwest GTA
Project Surroundings	Urban - Rural	Urban	Urban	Urban Dense
In-Service Year	2021	2019	2016	2026
Total Cost	$51.3 million	$9.8 million	$23.5 million	$72.3 million[19]
Comparable Costs	$40.9 million	$9.8 million	$22.3 million	$40.6 million
Escalation Adjustment	$8.2 million	$2.6 million	$7.4 million	--
Cost/km	**$4,022 K/km**	**$6,523 K/km**	**$5,930 K/km**	**$6,242 K/km**

For the purposes of identifying comparable costs, Hydro One notes that costs associated with encroachments, real estate, bypass and rider poles, foundations, and commitments made in the Etobicoke Greenway Final Environmental Studies Report are excluded from the $73.1 million cost estimate. Hydro One's view is that real estate and encroachment are project-specific and not comparable among these projects. Notably, Hydro One states that Riverdale JCT x Overbrook TS did not involve either. Bypass and rider poles are specific environmental mitigations and were removed from the Project

[18] Within the Environmental Studies Report, Hydro One states that the report was prepared in accordance with the requirements of the *Environmental Assessment Act*. The Draft ESR is available at Etobicoke Greenway Transmission Line Project Class Environmental Assessment Richview TS x Manby TS Line Rebuild Project - Draft Environmental Study Report (hydroone.com)

[19] The total cost for the Project in this table excludes the costs to upgrade the circuit at Applewood JCT and the station work

and Power Nepean projects. Similarly, these same projects were adjusted for aspects related to tower foundations, which are specific to the topography and were not comparable to the other projects. Finally, Hydro One notes commitments specific to the project's environmental considerations: reimagining the corridor and preserving vegetation in the area. Hydro One did not undertake a comparison of the station work, as it is less than 1% of the total project cost.

Findings

The OEB finds the estimated capital cost of the Project of $73.1 million to be reasonable.

The finding of reasonableness is based on Hydro One using AACE standards for cost estimates (Class 3 estimate) as well as the use of three comparator transmission line projects.

The Project cost estimate includes a contingency of $7.0 million which was developed on the basis of analyzing key Project risks and proposed mitigating actions.

Although the OEB finds in this proceeding that the estimated total cost of the Project is reasonable, the prudence of the actual total cost and its key components (e.g., approximately $20 million for "reimagining" the hydro corridor and vegetation management) will be reviewed when Hydro One seeks to have assets added to rate base in a future rebasing application.

4.4 Impact on Price of Electricity Service

Hydro One proposes to allocate 100% of the cost responsibility to the Network Pool. The Project will increase the transfer capability between Richview TS and Manby TS. Richview TS is already classified as a network station. Hydro One states that after two of the circuits are modified, they will both be reclassified as network facilities as per sections 3.0.14 and 3.0.15 of the Transmission System Code. The Project is not associated with any specific load increase or customer load application. Hydro One further submits that no customer contributions are required.

The application evidence shows no increase in the Network Service Rate in the first year of service of the Project. Over a 25-year time horizon, Hydro One's evidence is that rates will decrease, assuming the load forecast that supports the Project's need. The following table shows the bill impact, considering the demand forecast. The demand forecast peaks in Year 15 after the Project is planned to be in-service.

Table 3: Project impact on typical residential customer bill[20]

A	Typical monthly bill	$135.28 per month
B	Transmission Component of monthly bill	$15.33 per month
C	Line Connection Pool share of Transmission component	$1.49 per month
D	Transformation Connection Pool share of transmission component	$5.05 per month
E	Network Connection Pool share of Transmission component	$8.80 per month
F	Impact on Network Connection Pool Provincial Uniform Rates, year 15 and onwards	-0.93%
G	**Change in Transmission Costs for typical monthly bill** (E x F)	**-$0.08 per month** -$0.98 per year
H	**Net Change on typical residential customer bill** (H / A)	**-0.06%**

Findings

OEB finds the consumer impacts of the Project to be appropriate given the project costs and expected impact on customer rates. The determination of whether the project costs are to be allocated to the network rate pool will be made when the assets will be added to rate base.

The OEB finds the estimated impact for a typical monthly residential bill of this application (-$0.08 per month or -0.06%) to be reasonable and acceptable.

4.5 Impact on Reliability of Electricity Service

Hydro One filed the final SIA prepared by the IESO. The SIA provides conditional approval for the Project provided that all requirements within the SIA are met. Hydro One states that the project scope includes these requirements. The work at Applewood Junction is to address the requirements set out in the SIA. Hydro One also filed the final CIA. It concludes that the Project will not have any adverse effect on the voltage in the area and will improve supply reliability to the southwest GTA.

[20] Exhibit B-9-1, page 3

Findings

The OEB accepts the findings of the SIA and the CIA that the Project is expected to have no material adverse impact on the reliability of the integrated power system and will increase supply reliability for connected customers. This is subject to the condition that all of the IESO's requirements within the SIA are implemented.

4.6 Route Maps and Land Agreements

Hydro One filed a map of the route for the Project with the Application. For leave to construct applications, the OEB requires the applicant to file a map showing the general location of the proposed facilities, the plane of each section of the transmission line, right-of-way dimensions, and an indication of where the route crosses privately owned land, as applicable.[21] The existing transmission corridor is almost exclusively situated on Bill 58 (Infrastructure Ontario) lands owned by the Province of Ontario, to which Hydro One holds statutory easement. There are several crossings over public roads and railways. In these instances, Hydro One states that it will occupy land within public road allowances and exercise legislated occupation rights pursuant to section 41 of the *Electricity Act*, *1998* or existing rail crossings. There are no new property right acquisitions contemplated by the Project. Hydro One also notes that there are various encroachments along Hydro One's corridor. However, Hydro One notes that no new rights are contemplated or necessary to exercise its statutory rights in this corridor.

Findings

The OEB finds that the route maps submitted by Hydro One meet the OEB's requirements.

The application does not require new land rights or land acquisition, as the Project utilizes an existing transmission corridor exclusively situated on lands owned by the Province of Ontario.

4.7 Conditions of Approval

Under subsection 23(1) of the *OEB Act*, the OEB may, in making an order, impose such conditions as it considers proper. As set out in the OEB's *Filing Requirements for Electricity Transmission Applications, Chapter 4 – Leave to Construct and Related*

[21] *Filing Requirements for Electricity Transmission Applications: Chapter 4 – Leave to Construct and Related Matters under Part VI of the Ontario Energy Board* Act, section 4.3.3.3

Matters under Part VI of the Energy Board Act, the OEB has outlined a typical set of standard conditions of approval.[22]

Findings

The OEB approves the leave to construct the Project with no hearing subject to the conditions attached as Schedule B to this Decision and Order.

[22] The typical set of standard conditions of approval is available in Schedule 1 of the Section 92 Leave to Construct Issues List, available at: Issues List - Electricity Leave to Construct applications (oeb.ca)

5 ORDER

THE ONTARIO ENERGY BOARD ORDERS THAT:

1. Hydro One Networks Inc. is granted leave, pursuant to section 92 of the *Ontario Energy Board Act*, *1998* to construct approximately 6.5 km of 230 kV double-circuit transmission line between Richview and Manby Transmission Stations, as described in the Application.

2. Leave to construct is subject to Hydro One Networks Inc. complying with the Conditions of Approval set forth in Schedule B.

DATED at Toronto November 7, 2023

ONTARIO ENERGY BOARD

Nancy Marconi

Digitally signed by Nancy Marconi
Date: 2023.11.07 11:23:41 -05'00'

Nancy Marconi
Registrar

SCHEDULE A

DECISION AND ORDER

HYDRO ONE NETWORKS INC.

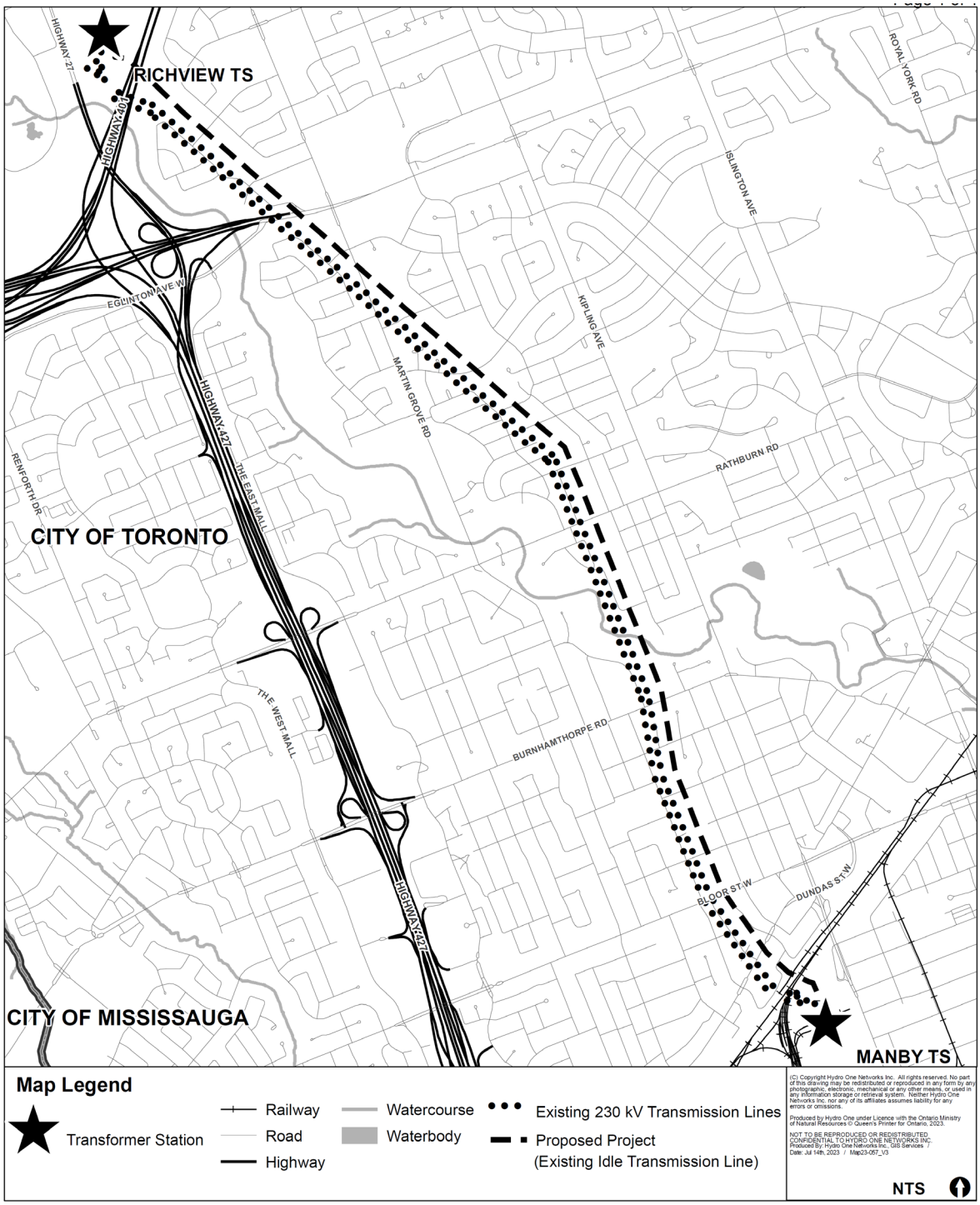
EB-2023-0199

NOVEMBER 7, 2023

SCHEDULE A – RICHVIEW BY MANBY TRANSMISSION UPGRADE

PROJECT MAP

EB-2023-0199



SCHEDULE B

DECISION AND ORDER

HYDRO ONE NETWORKS INC

EB-2023-0199

NOVEMBER 7, 2023

SCHEDULE B – CONDITIONS OF APPROVAL

FOR ELECTRICITY LEAVE TO CONSTRUCT APPLICATIONS

HYDRO ONE NETWORKS INC

EB-2023-0199

1. Hydro One shall fulfill any requirements of the SIA and the CIA, and shall obtain all necessary approvals, permits, licences, certificates, agreements and rights required to construct, operate and maintain the Project.

2. Unless otherwise ordered by the OEB, authorization for leave to construct shall terminate 12 months from the date of the Decision and Order, unless construction has commenced prior to that date.

3. Hydro One shall advise the OEB of any proposed material change in the Project, including but not limited to changes in: the proposed route, construction schedule, necessary environmental assessment approvals, and all other approvals, permits, licences, certificates and rights required to construct the Project.

4. Hydro One shall submit to the OEB written confirmation of the completion of the Project construction. This written confirmation shall be provided within one month of the completion of construction.

5. Hydro One shall designate one of their employees as project manager who will be the point of contact for these conditions, and shall provide the employee's name and contact information to the OEB and to all affected landowners, and shall clearly post the project manager's contact information in a prominent place at the construction site.