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BY EMAIL

July 27, 2022

Ms. Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
registrar@oeb.ca

Dear Ms. Marconi:

**Re: Hydro One Networks Inc. (Hydro One)
Leave to Construct Application
Chatham to Lakeshore Project
OEB Staff Interrogatories
Ontario Energy Board File Number: EB-2022-0140**

In accordance with Procedural Order No. 1, please find attached the OEB staff interrogatories for the above proceeding. This document has been sent to Hydro One and to all other registered parties to this proceeding.

Hydro One is reminded that its responses to interrogatories are due by August 10, 2022. Responses to interrogatories, including supporting documentation, must not include personal information unless filed in accordance with rule 9A of the OEB's *Rules of Practice and Procedure*.

Yours truly,

Andrew Bishop
Senior Advisor, Generation & Transmission

Encl.

Hydro One Networks Inc.
Leave to Construct Application – Chatham to Lakeshore Project
EB-2022-0140
July 27, 2022

OEB Staff-1:

Ref: (1) Exhibit B, Tab 1, Schedule 1, p. 2

Preamble:

The reference above notes that the transmission line facilities proposed within the application will ultimately be owned by a future Hydro One partnership expected to have First Nation ownership. The reference further states that the partnership has not yet been finalized and that because of ongoing negotiations, Hydro One is not able to provide commercial details.

Questions:

- a) If negotiations have advanced to a stage where commercial details can be provided, please describe the proposed ownership model as well as any other information that provides insight on the structure of the future partnership.

- b) Please indicate if the partnership agreement may impact the project cost estimates provided at Exhibit B, Tab 7, Schedule 1 pp. 1-8 of the application. If applicable, please discuss the likelihood, magnitude and reasons for these potential cost impacts.

OEB Staff-2:

Ref: (1) Exhibit B, Tab 1, Schedule 1, p. 2
(2) Exhibit B, Tab 10, Schedule 1, p. 1

Preamble:

The above first reference notes that the costs associated with the transmission line facilities will reside in the OEB approved Affiliate Transmission Partnership regulatory account and not form part of Hydro One's rate base.

At the above second reference, Hydro One states that “Consistent with the OEB-approved Affiliate Transmission Partnership regulatory Account (“ATP Account”) Hydro One will record and track costs for the Project in the ATP Account because the following criteria apply...”

Questions:

- a) Please confirm whether both the line costs and station costs are proposed to be recorded and tracked in the Affiliate Transmission Partnership regulatory account (ATP Account). Please also confirm whether any of the line costs and/or station costs will form part of Hydro One’s rate base.
 - i. The ATP Account was established through the OEB’s decision in the EB-2021-0169 proceeding. If applicable, please describe how Hydro One’s proposal to assign station costs to the ATP Account is consistent with the OEB finding from that decision that stated:

“The OEB finds that requiring Hydro One to include transmission stations in the scope of the proposed ATP Account would be inappropriate. Should Hydro One wish to include transmission station ownership in any future project development with a New Partnership, Hydro One would have to seek OEB’s approval regarding the expansion of the proposed ATP Account scope.”
- b) If applicable, please specify the total project costs as shown in Table 1 and Table 2 of Exhibit B, Tab 7, Schedule 1 that will be assigned to the ATP Account and those that will be assigned to Hydro One’s rate base.
- c) The ATP Account decision found that the costs of “development work” related to the Chatham to Lakeshore Transmission Line would be tracked in the ATP Account. Per Hydro One’s application in that proceeding, development work included items such as engineering work and preparation for regulatory approvals (Environmental Assessment and Leave to Construct).
 - i. Please indicate if the costs associated with development work are reflected in Table 1 and Table 2 of Exhibit B, Tab 7, Schedule 1 and if not, why not.
 - ii. If the costs associated with development work are not reflected in Table 1 and Table 2 of Exhibit B, Tab 7, Schedule 1, please provide an estimate of these costs, the extent to which these costs will be capitalized, and to whose rate base – Hydro One’s or the future partnership’s – these costs will assigned.

OEB Staff-3:

Ref: (1) Exhibit B, Tab 3, Schedule 1, Attachment 2, pp. 6, 21-23

Preamble:

The reference is to the IESO Bulk Transmission Reinforcement study which indicates:

- 1.) a winter capacity need of 49 MW begins to emerge in 2025 in the Windsor-Essex region, increasing to 188 MW by 2026 and further increasing to around 1,200 MW by 2035.
- 2.) an unserved energy need begins to emerge in 2025 in the Windsor-Essex region, increasing to 500 GWh in 2026 and further increasing to around 2,500 GWh in 2035.

At p. 6 of the IESO Bulk Transmission Reinforcement study, the IESO States:

“The IESO will work with identified transmitters to implement the recommended solutions. In parallel, the IESO, working with local distribution companies (“LDCs”) in the area, will continue to monitor project progress and connection of load in the region. Additional bulk transmission facilities may be required in the mid to long term. Additionally, the Windsor-Essex IRRP study may identify other connection needs in the region.”

The IESO makes a similar statement at p. 26 of the Bulk Transmission Reinforcement study.

Question(s):

- a) Please provide any updated forecasts on the emerging capacity and energy needs in the Windsor-Essex region completed by the IESO since it published its Bulk Transmission Reinforcement study in 2019.
 - i. Please fully describe the reasons for any changes to the capacity and/or energy needs forecasts presented in the Bulk Transmission Reinforcement study.
 - ii. If changes to capacity and energy needs have occurred, please describe how the physical design of the Chatham to Lakeshore project accommodates these changes.
- b) Please specify the additional winter/summer capacity and energy the Chatham to Lakeshore project is expected to deliver to the Windsor-Essex region in each year from 2025 to 2035.

- i. Figures 9 and 10 in the IESO Bulk Transmission Reinforcement study illustrate the winter capacity and unserved energy needs in the Windsor-Essex region over the 2019-2035 period, respectively. Please update these graphs to show the additional winter capacity and unserved energy needs that the Chatham to Lakeshore project will fulfill. I.e., On each graph, overlay a line that demonstrates the additional capacity and energy the proposed line will facilitate.
 - Please create these graphs using the IESO's most recent forecast of the capacity and energy needs in the Windsor-Essex region (i.e., if applicable, using the updated emerging winter capacity and energy needs provided in response to part a of this question).

- c) If the Chatham to Lakeshore project does not create sufficient winter capacity and energy to meet the projected longer-term needs of the Windsor-Essex region, please identify any other current or planned projects being undertaken to address the longer-term need.
 - i. As applicable, please describe the expected combined effect of priority projects – namely Chatham to Lakeshore, Lambton to Chatham and Longwood to Lakeshore – in addressing the longer-term winter capacity and energy needs of the Windsor-Essex region. When responding, please discuss, at a minimum:
 - How the investments in the three above identified priority projects are being coordinated to address the longer-term capacity and energy limitations within the Windsor-Essex region in a cost-effective manner.
 - How the investments in the three above identified priority projects are being coordinated to maintain/improve reliability within the Windsor-Essex region consistent with applicable IESO planning standards.
 - How the scope, timing, and design of the Chatham to Lakeshore project was influenced by Hydro One's knowledge of the Lambton to Chatham and Longwood to Lakeshore lines.

OEB Staff-4:

Ref: (1) Exhibit B, Tab 1, Schedule 1, p. 3
(2) Exhibit B, Tab 3, Schedule 1, Attachment 3, p. 3

Preamble:

The first reference notes that the total capital cost of the project is \$267.7 M.

The second reference is an IESO letter that notes Hydro One's estimated costs of the Chatham to Lakeshore project to range between \$115 M to \$150 M. The IESO letter further notes that if project costs are forecasted to exceed the upper end of this range (i.e., \$150 million), Hydro One will notify the IESO so that the assessment of the bulk system reinforcement plan in the Windsor-Essex region can be updated.

Question(s):

- a) Please clarify whether the initial project costs provided to the IESO of between \$115 M to \$150 M included both line costs and station costs.
- b) Please explain any changes between the initial project costs provided to the IESO and the updated estimates included in the application. To the extent possible, please provide an itemized comparison of the two estimates, highlighting and describing the specific areas of change.
- c) Have the updated project costs been communicated to the IESO? Please provide details on any communication between Hydro One and the IESO on this issue, including identifying any potential updates that should be undertaken or have been completed related to the Windsor-Essex Bulk System Reinforcement study.
- d) Please describe the process used to determine the project cost estimate of \$267.7 million as well as the degree of certainty associated with the estimate.

OEB Staff-5:

Ref: (1) Exhibit B, Tab 3, Schedule 1, Attachment 3, p. 3
(2) Exhibit B, Tab 11, Schedule 1, p. 1

Preamble:

The above first reference is an IESO letter that notes the IESO's understanding that an in-service date of prior to the winter of 2025/2026 is achievable, while recognizing that earlier implementation will only further support growth in the region.

The second reference notes Hydro One's proposed in-service date for the project of December 2025.

Question:

- a) Please describe the process used to develop the project schedule. When responding, please outline what steps Hydro One is taking to facilitate early implementation of the project, if applicable.
- b) The project schedule indicates a project construction completion date of Dec. 31, 2025, and an in-service date of Dec. 15, 2025. Please explain why the in-service date precedes the construction completion date.

OEB Staff-6:

Ref: (1) Exhibit B, Tab 2, Schedule 1, Attachment 1, p. 2
(2) The Chatham To Lakeshore 230 kV Transmission Line Class Environmental Assessment: Draft Environmental Study Report

Preamble:

The first reference illustrates Hydro One's preferred route for the project. It also illustrates the route of the four existing transmission circuits connecting Chatham SS to Lakeshore TS.

The Environmental Assessment (EA) indicates that three route alternatives were considered. The EA concludes that "...Route Alternative 2A is preferred because it minimizes the overall impact to the natural and socio-economic environments compared

to the other Route Alternatives and minimizes impacts to agricultural lands by utilizing an existing idle transmission corridor for nearly 1/3 its length.”

Question(s):

- a) Please briefly describe each route option considered during the EA process, including identifying the advantages and disadvantages of each.
 - When responding, please specifically identify the reasons for why expanding the existing 230 kV corridor between Chatham SS and Lakeshore TS was not determined to be the preferred route.

- b) Please briefly describe Hydro One’s route selection process. As part of the description, please clearly articulate the reasons for why the preferred route was selected.

OEB Staff-7:

Ref: (1) Exhibit B, Tab 7, Schedule 1, pp. 1-3
(2) Exhibit B, Tab 7, Schedule 1, p. 4

Preamble:

The tables below have been extracted from the first reference.

Table 1 - Line Cost

	Estimated Cost (\$000's)
Materials	27,811
Labour	10,170
Equipment Rental & Contractor Costs	68,686
Sundry	235
Contingencies	20,936
Overhead ¹	17,100
Allowance for Funds Used During Construction ²	20,651
Real Estate	69,683
Total Line Work	\$235,272

Table 2 - Station Cost

	Estimated Cost (\$000's)
Materials	8,320
Labour	4,235
Equipment Rental & Contractor Costs	13,345
Sundry	47
Contingencies	1,500
Overhead ³	2,258
Allowance for Funds Used During Construction ⁴	2,698
Total Station Work	\$32,403

The first reference states that a significant number of appraisals for the real estate component of the estimate have been finalized.

The first reference further states that the project estimate was developed using Hydro One’s internal cost estimates and a fixed price bid from the selected EPC contractor.

The second reference states that significant changes in the cost of materials have not been accounted for by Hydro One in its cost contingency estimates.

Question(s):

- a) Please compare the Equipment Rental and Contractor Costs component with other transmission line projects undertaken by Hydro One and provide an explanation for any differences in costs.
- b) Please clarify the following statement found at the first reference:

“Thus the cost estimate reflects current market-tested EPC pricing to deliver the Project and corresponding risk premiums that will be transferred to the EPC contractor.”

When responding, please specifically identify:

- How the EPC contract will apportion risk premiums between Hydro One and the EPC contractor.
 - Under what circumstances the risk and associated costs will be transferred to the EPC contractor and similarly under what circumstances will they be transferred to Hydro One.
 - Discuss how the apportionment of risks compares to previous contracts with EPC contractors for similar services.
- c) Please describe the process used to develop the real estate component of the project costs. What steps has Hydro One taken to mitigate these costs?
 - d) Please provide details on the extent to which inflation has been considered in the developing the cost estimates presented in Tables 1 and 2 above. When responding:
 - Please identify any inflation assumptions used by Hydro One when developing the project cost estimates presented in Tables 1 and 2. If applicable, please identify their source.
 - If applicable, please compare the inflation assumptions used to develop the cost estimates presented in Tables 1 and 2 against those used to develop the cost estimate referenced by the IESO in its letter found at Exhibit B, Tab 3, Schedule 1, Attachment 3, p. 3.

- Please comment on any anticipated project cost increases resulting from inflation.
 - Hydro One has stated that “significant changes in cost of materials” have not been accounted for in the project estimates. To what extent have changes in the cost of materials been accounted for by Hydro One? According to Hydro One, what would entail a “significant change” in the cost of materials?
 - Please comment on the extent to which the prices of the essential commodities needed to complete the project are expected to further increase during the project’s construction and therefore affect the project’s total cost.
- e) The project’s “Allowance for Funds Used During Construction” is approximately 8.5% of total budget. Comparatively to other recent projects, this amount is high. The Allowance for Funds Used During Construction were as follows for recent projects: Richview Trafalgar - 4%, Ansonville -2% and SECTR -2.6%. Please describe the reasons for why an 8.5% allowance is appropriate.

OEB Staff-8

Ref: (1) Exhibit B, Tab 7, Schedule 1, pp. 3-4
(3) Exhibit B, Tab 7, Schedule 1, Table 1, Table 2

Preamble:

The first reference above outlines project risks, including Hydro One’s estimated top three project risks. The second reference indicates a total estimated cost of \$235 million for the line component of the project and \$32 million for the station component. These estimates include contingency cost estimates \$21 million and \$1.5 million, respectively. Combined, the contingency cost estimates represent approximately 8% of the pre-contingency estimate.

Question(s):

- a) Please explain the methods Hydro One used to assess project risks for the Chatham to Lakeshore project and please clarify how Hydro One’s contingency estimate relates to that analysis. Through its response, Hydro One is also requested to articulate why the contingency cost estimate is appropriate.

- b) Please describe how the contingency cost estimate for the Chatham to Lakeshore project compares to contingency cost estimates developed for similar Hydro One projects.
- c) How would Hydro One characterize the confidence of the cost estimate for the Chatham to Lakeshore project? What method did Hydro One use to estimate its confidence?
- d) How did Hydro One develop its estimates and confidence estimates for project material, labour, equipment rental and contractor costs?

OEB Staff-9:

Ref: (1) Exhibit B, Tab 7, Schedule 1, pp. 5-6

Preamble:

The table below has been extracted from the above reference.

6 **Table 3 - Costs of Comparable Line Projects**

Project	Supply to Essex County Transmission Project (Line Cost)	Woodstock Area Reinforcement (Line Cost)	Chatham x Lakeshore Transmission Line
Circuit Operating Designation(s)	C21J and C22J	M32W/M31W plus K12/K7	C87H and C88H
Voltage	230 kV	230 kV	230 kV
Structure Type	Steel Lattice	Steel Lattice (88%) and Steel Pole (12%)	Steel Lattice
Single or Double Circuit	Double	Double	Double
Conductor	1443 kcmil	1443 kcmil	1443 kcmil
Location	Southwest Ontario	Southwest Ontario	Southwest Ontario
In-Service Year	2017	2012	2025
Estimate or Actual	Actual	Actual	Estimate
Cost	\$28,725K	\$35,835K	\$235,272K
Less			
Real estate or Bypass Cost	\$6,498K	\$5,806K	\$99,682 ⁷
Adjusted Comparable Costs	\$22,227K	\$30,029K	\$135,590K
Approximate Length	13 km	14 km	49 km
Inflated cost at 2% per year for 2025	\$26,043K	\$38,846K	\$135,590K
Unit Cost	\$2,003K/km	\$2,775K/km	\$2,767K/km

The reference also notes the changes in “market dynamics” that have significantly impacted costs for linear infrastructure projects. The reference specifically cites COVID-19 global supply issues and escalating inflation levels as key examples of cost drivers.

Question(s):

- a) The unit cost for the proposed transmission line (\$2,767K/km) is approximately 38 percent higher than the unit cost for the Supply to Essex County Transmission project (\$2,003K/km). Please fully describe the reasons for the differences in unit costs.

OEB Staff-10:

Ref: (1) Exhibit B, Tab 1, Schedule 1

Preamble:

Hydro One has applied for leave to construct approval. Procedural Order No.1 includes the OEB’s standard conditions of approval for transmission leave to construct applications. OEB staff proposes that the standard conditions be placed on Hydro One in relation to this application. The standard conditions are reproduced below for convenience:

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.

Question(s):

- a) Please comment on the above standard conditions in relation to this application. If Hydro One does not agree with any of the draft conditions of approval, please identify the specific conditions that Hydro One disagrees with and explain why. For conditions in respect of which Hydro One would like to recommend changes, please provide the proposed changes.

OEB Staff-11:

Ref: (1) Exhibit B, Tab 7, Schedule 1, p. 3

Preamble:

At the above reference, Hydro One identifies land acquisition, and specifically owners refusing Hydro One voluntary agreements, as a primary risk of the project. At Exhibit E, Tab 1, Schedule 1, p. 4, Hydro One also states that 71 voluntary property settlement offers have been made, 28 of which have been accepted.

Question(s):

- a) Please provide an update on Hydro One's progress towards securing voluntary agreements with all affected landowners.
- b) If Hydro One fails to secure voluntary agreements with all affected landowners, is it Hydro One's intention to seek expropriation allowances? If so, please describe the expropriation process Hydro One intends to follow as well as its timing.

OEB Staff-12:

Ref: (1) Exhibit B, Tab 2, Schedule 1, Attachment 2

Preamble:

At the above reference, Hydro One presents the Chatham to Lakeshore 230 kV Schematic Diagram.

Question(s):

- a) OEB staff interprets that the labelling of the four existing circuits depicted on the schematic indicates that they will be renamed once the new Lakeshore TS is operational and that no other changes to these circuits, such as to their voltage, will occur. Please confirm or clarify OEB Staff's interpretation.

OEB Staff-13:

Ref: (1) Exhibit B, Tab 3, Schedule 1, Attachment 2, p. 11

Preamble:

The above reference is to the IESO's Bulk Transmission Reinforcement study. At p. 11, it states that the IESO requested that Hydro One establish a switching station at the Leamington Junction by 2022 to improve the local load meeting capability of the Kingsville-Leamington area. The study indicates that that the switching station will increase local load meeting capability by 700 MW.

Question(s):

- a) Please describe how the IESO determined that the switching station would increase capacity by 700 MW.

OEB Staff-14:

Ref: Exhibit E, Tab 1, Schedule 1, p. 4

Preamble:

The evidence states: “It should be noted that during these discussions [with property owners from with whom Hydro One is negotiating agreements], affected property owners will be advised that they have the option to receive independent legal advice and that Hydro One is committed to reimbursing affected property owners for reasonably incurred legal fees associated with the review and execution of the necessary land rights agreements.”

Questions:

- a) How does Hydro One advise affected property owners of the availability of independent legal advice (ILA)? Is this information communicated to property owners orally, or in writing? If the latter, please provide a copy of the standard document.
- b) Some, but not all, of the forms of agreement include provisions relating to ILA. Why do only some of the agreements have ILA provisions?

OEB Staff-15

Ref: Exhibit E, Tab 1, Schedule 1, p. 5

Preamble:

The evidence notes that the proposed Crop Land Out of Production Agreement has not been approved in any previous OEB proceedings.

Questions:

- a) Hydro One has many transmission lines that run through agricultural lands. Why has this agreement (or a similar agreement) not been included in any previous OEB proceedings? Is it expected that this form of agreement may be included in future proceedings?

OEB Staff-16

Ref: Exhibit E, Tab 1, Schedule 1, pp. 5-6

Preamble:

The evidence notes that the proposed Option to Purchase a Limited Interest, Easement, with a Voluntary Buyout Offer has not been approved in any previous OEB proceedings.

Questions:

- a) Why has this agreement not been included in any previous OEB proceedings? Is it expected that this form of agreement may be included in future proceedings?
- b) How many property owners does Hydro One anticipate will choose to have their entire holdings purchased? What is the forecast cost of these purchases (i.e. the incremental costs to purchase the entire holdings instead of just the easement)?

OEB Staff-17:

Ref: Exhibit E, Tab 1, Schedule 1, Attachment 8, p. 1

Preamble:

Clause 3 of the Off-Corridor Access Road Agreement states: “The term of this Agreement and the permission granted herein shall be two (2) years from the date written above (the “Term”). HONI may, in its sole discretion, and upon 10 days notice to the Grantor, extend the Term for an additional length of time, which shall be negotiated between the parties.”

Questions:

- a) Please comment on the interplay between the extension being at the sole discretion of Hydro One, and yet the length of the extension will still be the subject of negotiations between Hydro One and the Grantor? If the length of the extension cannot be agreed to, does Hydro One retain the right to extend the agreement?