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

BY EMAIL

August 6, 2026

Ritchie Murray
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto ON M4P 1E4

Dear Ritchie Murray:

Re: Hydro One Networks Inc.
Leave to Construct Application – Northeast Power Line Project
Ontario Energy Board (OEB) Staff Interrogatories
OEB File Number: EB-2026-0154

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 Networks Inc. (Hydro One) and to all other registered parties to this proceeding.

Hydro One is reminded that its responses to interrogatories are due by **August 20, 2026**. Responses to interrogatories, including supporting documentation, must not include personal information (as that phrase is defined in the *Freedom of Information and Protection of Privacy Act*), unless filed in accordance with Rule 9A of the OEB's Rules of Practice and Procedure.

Yours truly,

Muhammad Yunus

Digitally signed by Muhammad Yunus
Date: 2026.08.06 15:50:18 -04'00'

Muhammad Yunus
Advisor, Transmission

Encl.

OEB Staff Interrogatories
Hydro One Networks Inc.
Leave to Construct Application – Northeast Power Line Project
EB-2026-0154

Staff – 1

Ref: (1) Exhibit B, Tab 1, Schedule 1, pp. 3-6

(2) Exhibit B, Tab 10, Schedule 1, pp. 1-2

Preamble:

Hydro One states that the new transmission line (NEPL or the Project) is expected to be owned by, and included in the rate base of, a future OEB-transmission licensed partnership, which has not yet been finalized. Hydro One further states that transmission line costs will be tracked in its OEB-approved Affiliate Transmission Project (ATP) Regulatory Account pending the formation of the partnership and completion of the required asset transfer and licensing processes.

Hydro One also states that the Project's station costs will remain with Hydro One and are expected to be included in Hydro One's future transmission rate application for the 2028-2032 period.

Questions:

a) Please provide an update on the status of the future partnership and indicate the expected timeline for completion of the partnership structure.

b) Please confirm what transmission line assets associated with the Project, if any, will ultimately be transferred to the future partnership and identify any line-related assets that are currently expected to remain under Hydro One ownership.

Staff – 2

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

Preamble:

Hydro One notes that the NEPL will share a right of way with Hydro One's existing 230 kV transmission circuit (X74P). Hydro One states that the total right of way is 140 metres for both circuits, with the NEPL utilizing 65-70 metres.

Questions:

a) Please clarify the amount of the right of way along the Project route that will be occupied by the X74P circuit.

b) Please provide details of the clearances between the NEPL and the X74P circuit along the shared right of way.

c) Please confirm if all portions of the Project will occupy the existing right of way being used for the X74P circuit? If not, please provide details of the proposed route.

Staff – 3

Ref: (1) Exhibit B, Tab 3, Schedule 1, Attachment 5, p. 3

(2) Exhibit B, Tab 7, Schedule 1, pp. 1-3

(3) Exhibit H, Tab 1, Schedule 1, Attachment 1, p. 9

Preamble:

Hydro One states that the forecast total capital cost of the NEPL is approximately $1.853 billion, consisting of approximately $1.280 billion for line work and approximately $573 million for station work. Hydro One further states that the current cost estimate is based on an AACE Class 3 estimate and incorporates executed contracts, binding EPC bids, contingencies, tariffs, and other project-specific costs. The IESO's Northeast Bulk Plan estimated the cost of the reinforcement portfolio, including the NEPL, at approximately $1.25 billion to $1.53 billion.

Questions:

a) Please reconcile the current Project cost estimate of $1.853 billion with the planning-level estimate range of $1.25 billion to $1.53 billion referenced in the IESO report.

b) Please provide a detailed breakdown of the factors contributing to the difference between the planning-level estimate and the current Project estimate and quantify the estimated cost impact for each factor.

Staff – 4

Ref: (1) Exhibit B, Tab 5, Schedule 1, pp. 1-4

(2) Exhibit B, Tab 7, Schedule 1, Table 3, p. 12

Preamble:

Hydro One states that it undertook an analysis of four conductor alternatives and conducted a 50-year net present value (NPV) analysis. This analysis was completed using varying energy prices of $53.16/MWHR, $60/MWHR, and $120/MWHR, and a capacity price of $164,052/MW, consistent with Hydro One's Line Loss Guideline. Hydro One also factored in annual line losses and losses at system peak in its analysis. This analysis let Hydro One select Alternative #2 (4-795 kcmil ACSR) as the conductor for the Project.

Questions:

a) Please explain how Hydro One determined the energy prices and capacity price to use in its analysis and provide any assumptions that were used in making these selections.

b) What calculations were used to determine the values of "Annual Losses (MWHR)" and "Losses at System Peak (MW)" shown in Table 2 at Reference 1? Please provide an excel sheet showing what calculations and formulas were used to determine these values as well as all assumptions made.

c) Please provide an excel sheet showing the complete calculations used in conducting the Net Present Value sensitivity analysis, which includes all formulas used.

d) At Reference 2, Hydro One shows in the Table that the selected conductor for the Project is the "4 x 732 kcmil ACSR "Drake"". This contradicts the information shown at Reference 1 where the Alternative selected was stated as "4-795 kcmil ACSR". Please confirm what conductor was selected as the alternative and explain any reasons for the differences.

Staff – 5

Ref: (1) Exhibit B, Tab 6, Schedule 1, pp. 1-2

(2) Draft Northeast Power Line Environmental Report, February 2026

Preamble:

Hydro One states that the NEPL Regulation established requirements for Hydro One to fulfill in order to proceed with the Project. These requirements were addressed in the draft Environmental Report (ER) Hydro One made accessible on its website.

Further, Hydro One states that the Project will bring employment, training and business opportunities to the region for both Indigenous and non-Indigenous communities, governments and businesses.

Questions:

a) In Reference 2, Hydro One states that, “Hydro One will address all review comments and concerns made on the Draft ER and issue a Final ER”. Please provide an update regarding Hydro One’s progress of addressing any comments and concerns made on the Draft ER.

b) Please provide a status update on the Final ER. If the Final ER has been published, please provide a copy to the OEB.

c) Please expand on how the Project will support economic growth in the region and provide examples to substantiate the employment, training and business opportunities that Hydro One mentions will be created by the Project at Reference 1.

Staff – 6

Ref: (1) Exhibit B, Tab 7, Schedule 1, Tables 1-2, p. 1

Preamble:

Reference 1 lists the Line and Station costs associated with the Project, as reproduced below:

Table 1 - Line Cost

	Estimated Cost ($000's)
Materials	224,957
Labour	293,546
Equipment Rental & Contractor Costs	521,730
Sundry	46,020
Contingencies	70,645
Overhead	23,224
Allowance for Funds Used During Construction	98,651
Real Estate	1,155
Total Line Work	**$1,279,928**

Table 2 - Station Cost

	Estimated Cost ($000's)
Materials	192,184
Labour	92,572
Equipment Rental & Contractor Costs	99,822
Sundry	36,385
Contingencies	66,509
Overhead	37,098
Allowance for Funds Used During Construction	48,005
Real Estate	670
Total Transformer Station Work	**$573,245**

Questions:

a) Hydro One states that overhead costs for the Project were charged through an ECI-EPC overhead capitalization rate for line costs and Hydro One's standard overhead capitalization rate for station costs. Please:

1) Explain the methodology used to determine the overhead costs for the line and stations costs for the Project.

2) Provide an excel sheet showing all values and formulas used in the calculation.
3) Explain how these costs relate to the ECI-EPC methodology.

b) Please provide a breakdown of the overhead costs between direct overheads and indirect overheads for line and station costs. If this cannot be done by Hydro One, please explain why.

c) Hydro One stated that AFUDC was calculated using the OEB's approved interest rate methodology to the Project's forecast monthly cash flow and carrying forward closing balances from the preceding month. Please provide an excel sheet showing all values and formulas used in the calculation of AFUDC and further explain the methodology used in the calculation.

d) For both Table 1 and Table 2, please provide a detailed list of the costs included in the contingencies category and the reason for its inclusion.

e) Please describe how the contingency cost estimate for the Project compares to contingency cost estimates developed for projects of similar size and complexity. Please discuss any differences or similarities in costs between these projects and the NEPL.

Staff – 7

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

Preamble:

Hydro One states that the Project cost estimate is based on a fixed-price EPC contractor bid. Further, Hydro One notes that as of the date of the application filing the EPC bids have been short-listed and evaluations and negotiations with short-listed EPC contractors are ongoing to determine the successful EPC bidder. Hydro One also states that a full EPC approach was selected for STATCOM-specific work at the stations.

Questions:

a) Please provide an update on the EPC contractor selection process. Has the successful EPC contractor been selected?

b) If the successful EPC contractor has been selected, please clarify if there are any changes to the proposed costs that have been stated in the application.

c) Please provide an update on the EPC process for the STATCOM-specific work.

d) Please discuss how the EPC contractor was selected among different EPC contractors for both line and station work. Please include a list of the specific functions the contractors were assessed on.

e) Please discuss how Hydro One determined that utilizing the successful contractor's bid is more cost-effective than Hydro One performing the work itself.

f) Please clarify how the Project cost was estimated based on the fixed-price EPC contract, and why the cost estimate reflects market price.

g) Please provide details on how cost overruns will be handled between Hydro One and the selected contractor.

h) Please provide a breakdown of the fixed-price EPC contract by line costs and station costs. Please clarify if this cost is included in the Project costs shown in Tables 1 and 2 of Exhibit B, Tab 7, Schedule 1.

i) What is the magnitude of the EPC contract as a percentage of the total Project cost?

Staff – 8

Ref: Exhibit B, Tab 7, Schedule 1, pp. 2-6; Tables 1 and 2

Preamble:

Hydro One states that the NEPL cost estimate reflects current market-tested pricing obtained through the ECI-EPC procurement process and incorporates material, equipment, contractor, and contingency costs. Hydro One also notes that the estimate reflects current market conditions and risk assessments. Recent tariff measures affecting steel, aluminum, and other imported products have created uncertainty regarding future material and equipment.

Questions:

a) Please identify all Project components and materials that Hydro One believes may be affected by existing or potential future tariffs.

b) For the Project costs shown in Table 1 and Table 2, please describe and quantify all categories that are currently exposed to tariff-related cost increases and list any additional risks.

c) Please explain whether the fixed-price EPC contract transfers tariff-related cost risk to the EPC contractor or whether Hydro One retains some or all of that risk.

d) Please identify any mitigation measures Hydro One has implemented or is considering to reduce exposure to tariff-related cost increases.

Staff – 9

Ref: (1) Exhibit B, Tab 7, Schedule 1, p. 8

(2) Exhibit B, Tab 7, Schedule 1, Table 3, pp. 12-13

Preamble:

Hydro One states that the comparator transmission line projects presented in Reference 2 include double-circuit facilities, whereas the NEPL is a single-circuit transmission facility. To facilitate comparison, Hydro One applied a 60% adjustment factor to convert the double-circuit comparator projects to a single-circuit equivalent.

Hydro One states that the adjustment factor was derived from the California ISO 2025 Unit Cost Guides, which indicate that a 500 kV single-circuit lattice tower transmission line is approximately 58% of the cost of a comparable double-circuit transmission line on a per-length basis, and the MISO Transmission Cost Estimation Guide for MTEP24, which indicates that a 345 kV single-circuit transmission line is approximately 61% of the cost of a comparable double-circuit transmission line.

Questions:

a) Please provide copies of, or references to, the specific sections, tables, and calculations within the California ISO and MISO cost guides referenced by Hydro One that support the cited 58% and 61% cost relationships.

b) Please provide the detailed calculations and methodology used to derive the 58% and 61% single-circuit-to-double-circuit cost ratios referenced in the application, including the specific tables, cost inputs, and assumptions from the California ISO and MISO documents relied upon by Hydro One. Provide all calculations in an Excel spreadsheet format.

c) Please explain how the California ISO and MISO organizations developed the cited ratios and indicate any assumptions that were made and how they apply to the NEPL.

d) Please explain why Hydro One considers the California ISO and MISO cost relationships to be applicable to the NEPL.

e) Please identify any Ontario-specific, Hydro One-specific, or Canadian transmission project data that Hydro One considered when determining the appropriate double-circuit-to-single-circuit adjustment factor. If such data was considered, please provide the results of that analysis.

f) Please explain whether the 60% adjustment factor was applied uniformly across all project cost components or whether certain costs were excluded from the adjustment. If excluded, please identify those costs and explain why.

g) Please provide the detailed calculations used to apply the 60% adjustment factor to the necessary project cost components for each of the comparable projects in Excel format.

Staff – 10

Ref: (1) Exhibit B, Tab 7, Schedule 1, pp. 9-10

(2) Exhibit B, Tab 7, Schedule 1, Table 3, pp. 12-13

Preamble:

Hydro One states that the NEPL will primarily utilize guyed lattice structures, whereas the comparator transmission line projects primarily utilized self-supporting lattice structures. Hydro One references the paper *Cost and Performance of Guyed Lattice Structures vs. Self-Supporting Towers* by Tracy and Smith and states that transmission lines utilizing guyed lattice structures experience an approximate 30% reduction in structure and foundation costs compared with a line that only uses self-supporting structures.

Hydro One further states that, based on industry standards for extra-high-voltage transmission lines and comparator project costs, this results in an estimated overall project cost reduction of approximately 16%, which was applied to the comparator projects presented in Reference 2.

Questions:

a) Please provide a copy of the Tracy and Smith paper, *Cost and Performance of Guyed Lattice Structures vs. Self-Supporting Towers*, referenced by Hydro One.

b) Please explain whether the Tracy and Smith paper supports the application of a 16% adjustment to total project costs and, if not, identify the source of the methodology used to derive the 16% adjustment.

c) Please provide the detailed calculations used to apply the cost reduction to the project cost components of the comparable projects in Excel format.

d) Please identify the percentage of total transmission line project costs that Hydro One assumed were attributable to structures and foundations when deriving the 16% adjustment.

Staff – 11

Ref: (1) Exhibit B, Tab 7, Schedule 1, Tables 3-5, pp. 12-19

Preamble:

At Reference 1, Hydro One provides an analysis of costs on comparable projects for both line and station work for the Project.

Questions:

a) Table 3 contains an adjustment labelled “Newly Enacted Tariff Adjustment” and Table 4 and Table 5 contain an adjustment labelled “Tariff Adjustment”.
   a. Please clarify what these adjustments represent.
   b. Is there a difference between “Newly Enacted Tariff Adjustment” and “Tariff Adjustment”?
   c. How were the “Newly Enacted Tariff Adjustment” and “Tariff Adjustment” values calculated and what factors contributed to this analysis?
   d. Provide an Excel spreadsheet showing how the adjustments were calculated, the factors that were included, and what values were assigned to each factor.

b) For Table 3, Table 4 and Table 5, Hydro One noted that the inflation adjustment factors used for comparator projects are consistent with the OEB’s annual inflation parameters for electricity transmitters’ rate applications.
   a. Please confirm if Hydro One has applied the OEB’s 2027 inflation parameters in the escalation adjustment.
   b. If not, please update the escalation adjustment calculations for Table 3, Table 4, and Table 5 using the OEB’s 2027 inflation parameters.

c) For Table 3, Table 4 and Table 5, please provide detailed calculations (in Excel format) for the Escalation Adjustment values (or the Total Adjusted Comparable Cost) for the three comparable projects. The calculations should show the annual inflation parameters applied for each year.

d) In Table 4, the “Total Adjusted Comparable Cost” of the Hanmer TS is shown to be $64.8 million. This is higher than all comparable projects. Please discuss why the station work at Hanmer TS has a higher estimated adjusted cost compared to the comparable projects.

e) In Table 5, the “Total Adjusted Comparable Cost” of the Mississagi TS is shown to be $226.9 million. This is significantly higher than all comparable projects. Please discuss why the station work at Mississagi TS has a higher estimated adjusted cost compared to the comparable projects.

Staff – 12

Ref: (1) Exhibit E, Tab 1, Schedule 1, pp. 1-2

Preamble:

Hydro One states that to complete the Project's station scopes of work, Hydro One is required to acquire land rights from one directly impacted private landowner for construction of the proposed new 500 kV Mississagi TS facilities. Hydro One further stated that it is working with the landowner to negotiate a voluntary agreement.

Questions:

a) Please provide an update on the negotiations with the landowner for the necessary rights required for the construction of the proposed new 500 kV Mississagi TS facilities.

b) Should Hydro One not successfully negotiate a voluntary agreement with the landowner, how does Hydro One propose to obtain the necessary land rights?

c) Please discuss whether a delay in obtaining the required land rights could affect the construction schedule, critical milestones, or the planned December 2029 in-service date.

d) Please provide a map showing where Hydro One's current rights end and where Hydro One is seeking additional land rights for the construction of the proposed 500 kV Mississagi TS facilities.

Staff – 13

Ref: (1) Exhibit F, Tab 1, Schedule 1, p. 1

Preamble:

At Reference 1, Hydro One states that IESO will provide a Registration Approval Notification confirming that the facility is fully authorized to connect to the IESO-controlled grid.

Question:

a) Please provide an update on Hydro One receiving the Registration Approval Notification from the IESO. If it has not yet been received, when does Hydro One anticipate receiving it?

Staff – 14

Ref: (1) OEB CEO Policy 2026-01
(2) Energy for Generations, Ontario's Integrated Plan to Power the Strongest Economy in the G7 (June 2025) (IEP)

Preamble:

Reference 1 requires identification of "the portions of the *Energy for Generations, Ontario's Integrated Plan to Power the Strongest Economy in the G7 (June 2025)* that are relevant to the matters in issue in the proceeding."

Question:

a) Please discuss if there are portions of the *Energy for Generations, Ontario's Integrated Plan to Power the Strongest Economy in the G7 (June 2025)* that Hydro One considers relevant to this application.