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BY EMAIL AND RESS

August 10, 2022

Ms. Nancy Marconi
Registrar
Ontario Energy Board
Suite 2700, 2300 Yonge Street
P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Marconi,

EB-2022-0140 - Hydro One Networks Inc. Chatham x Lakeshore Leave to Construct Application – Interrogatory Responses

In accordance with Procedural Order 1, issued July 13, 2022, please find attached an electronic copy of responses provided by Hydro One Networks Inc. ("Hydro One") to interrogatory questions posed by intervenors and Ontario Energy Board ("OEB") Staff. Where requested and as necessary, Hydro One has corresponded with the IESO to address certain interrogatories and those responses are included in this submission.

Intervenor interrogatory response have been assigned Exhibit I and have been addressed in the following Exhibit order:

Exhibit	Tab	Intervenor
I	1	OEB Staff
I	2	Environmental Defence
I	3	Haudenosaunee Development Institute
I	4	Three Fires Group
I	5	Municipality of Chatham-Kent
I	6	Pollution Probe
I	7	The Ross Professional Corporation Firm

Additionally, in accordance with the letter issued by the OEB on August 5, 2022, Hydro One has identified the following interrogatories as inquiries into matters that are beyond the scope of this proceeding and has thus limited its response therein or refrained from responding to the posed interrogatory.

Exhibit	Tab	Schedule(s)
I	1	6
I	3	1, 2, 3 (a-c) and 4
I	4	2-7

An electronic copy of these responses has been submitted using the Board's Regulatory Electronic Submission System.

Sincerely,

Joanne Richardson

c/ Intervenors of record in EB-2022-0140

OEB STAFF INTERROGATORY - 01

Reference:

Exhibit B-1-1, Page 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.

Interrogatory:

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.

Response:

a) The negotiations have not advanced to a stage where commercial details can be provided.

b) Hydro One does not expect the partnership agreement to impact the project cost estimates provided at Exhibit B, Tab 7, Schedule 1.

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OEB STAFF INTERROGATORY - 02

Reference:

Exhibit B-1-1, Page 2
Exhibit B-10-1, Page 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…"

Interrogatory:

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.

Response:

a) As documented in Exhibit B, Tab 10, Schedule 1, the station costs of the Project will be owned and operated by Hydro One thus these costs will form part of Hydro One's rate base and will not be recorded and tracked in the ATP Account.

   The line costs associated with the Project will be recorded and tracked in the ATP Account, consistent with the OEB's EB-2021-0169 Decision.

   i. Not applicable

b) Table 1 will be assigned to the ATP Account and Table 2 will be assigned to Hydro One's rate base.

c) Development work costs are included in Table 1 and 2 of Exhibit B, Tab 7, Schedule 1. Consistent with the Decision in EB-2021-0169, common costs incurred to develop and construct the Project (such as costs related to joint public information centres) would be allocated based upon the actual costs incurred. For instance, if the actual stations costs incurred were 30% of total project costs, then 30% of indirect costs would be allocated to stations. As mentioned in Exhibit I, Tab 1, Schedule 5 of EB-2021-0169, all costs that are directly associated with stations or lines only, would be coded directly to that specific project code. Any project cost item that meets the criteria for inclusion in the ATP Account will have a unique project code for both station and line costs.

OEB STAFF INTERROGATORY - 03

Reference:

Exhibit B-3-1, Attachment 2, Pages 6 and 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.

Interrogatory:

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.

Response:

a-ai)

Since the 2019 Windsor-Essex bulk study forecast was established, agricultural demand has changed in three main ways: the near-term rate of growth, the crop type (which impacts the need profile), and the location of growth. However, these changes reinforce the need established in the 2019 Windsor-Essex Bulk Plan.

Table 1 outlines the forecast demand for Windsor-Essex in the 2019 Windsor-Essex bulk study compared to the 2021 West of London Bulk Plan, and resulting change in

capacity need for select years[1]. The difference in forecast is attributed to changes in the agricultural load, which indicates that a faster pace of growth is expected in the near-term.

Table 1 - Comparison of Agricultural Forecasted Growth in Southwest Ontario

Timeframe	2019 Windsor-Essex Bulk Forecast (MW)	2021 West of London Bulk Forecast (MW)	Increase in Winter Capacity Need (MW)
Near-term (2024)	1,400	1,600	100
Mid-Term (2028)	1,800	1,800	30
Long-Term (2035)	2,700	2,700	-

Both the near-term forecasts were based on information known at the time related to already-existing loads, facilities for which System Impact Assessments ("SIA") have been received and confirmed load for which a preferred connection option has been studied. Similarly, both mid-term forecasts include additional greenhouse load growth projected in the Windsor-Essex region, based on distribution-level connection requests to the LDC.

Greenhouse sector stakeholders have also indicated that expansion for some crop types (such as cannabis) has stalled, but that could be offset by a switch to other types (such as vegetable). This shift would impact the hourly load profiles used in the need determination. More specifically, a shift to vegetable crops would decrease the energy demand in the summer and have little effect on the demand in the winter. Since the capacity and energy needs in this area are driven by the winter profiles, this would have a minimal impact on the needs identified, indicating that the need for the Chatham to Lakeshore project (the "Project") remains.

In 2019, agricultural electricity demand was expected to be concentrated in the Kingsville-Leamington area within the Windsor-Essex region. However, as the IESO continued to monitor load growth, it was found that the location of agricultural demand within southwest Ontario is expanding. Based on feedback received from the greenhouse sector, municipalities and local LDCs, and Enbridge there are potential constraints regarding the availability of agricultural land, water, electricity and natural gas in the Windsor-Essex region. As a result, agricultural load is shifting eastward, to the community of Dresden and areas surrounding Chatham proper. These areas are well supplied in terms of water or wastewater supply from the Municipality of Chatham-Kent and Enbridge's Chatham-Kent Rural Pipeline Expansion, which provides 30,000

[1] https://www.ieso.ca/-/media/Files/IESO/Document-Library/regional-planning/southwest-ontario/WOL_Bulk_Report_Final_20210923.ashx

m^3/hr of natural gas capacity, or the equivalent of 350 acres of greenhouses. While this shift increases the total agricultural demand in the area, stakeholders confirm that the demand in the Kingsville-Leamington area is still in line with the 2019 forecast, which reaffirms the need for this Project. The IESO has accounted for known constraints in other supporting infrastructure where possible in the 2021 forecast and will continue to monitor growth as more greenhouses connect over the next several years as well as maintain open dialogue with the greenhouse sector in order to continue to improve future planning forecasts.

Figure 1 provides the 2021 demand forecast for the Focus Area (Windsor-Essex region and Chatham-Kent area) from 2021-2035, which reflects the described updates.

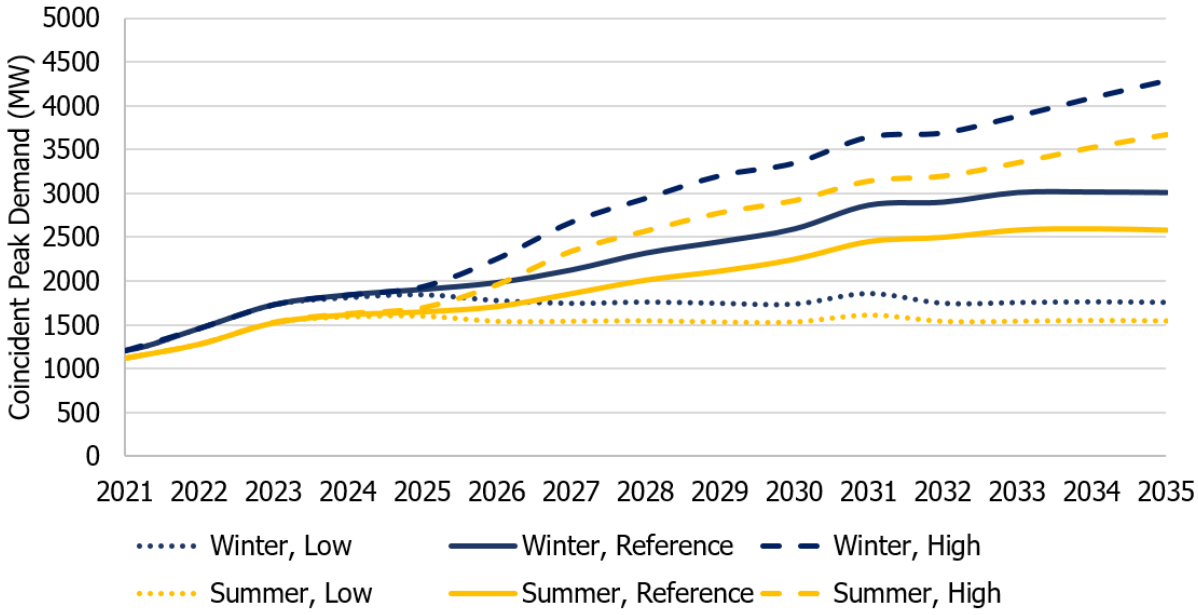

Figure 1: Focus Area (Windsor-Essex and the Chatham-Kent area) Forecast Scenarios

The Project still meets the near-term capacity need in the region. It is part of a broader, multi-staged plan to continue to address local needs, as described in part c.

ii. The physical design of the Chatham to Lakeshore Project is not intended to accommodate any changes in the capacity and energy needs since the 2019 publication of the of the Bulk Transmission Reinforcement Study.

b) The following graphs use the updated forecast from the 2021 West of London Bulk Plan to illustrate the winter and summer capacity and energy needs in the region. The other assumptions from the 2019 Windsor-Essex Bulk Plan were maintained – no contract expiry and maintaining interchange capability with Michigan. Note that forecasts are only forward looking. The Project will provide 400 MW of capacity to the area, as illustrated by the red line in the capacity graphs, not accounting for further transmission reinforcements that have been recommended. The additional energy from the proposed line is not a straight line, as it depends on the hourly energy need, thus the energy graph is presented as the annual energy need with and without the Project.

Given the forecast changes described in part (a) of this response, the needs in the near-term before this line is in-service are higher than previously anticipated. This will be managed using the remedial action scheme and by reducing exports, as required.

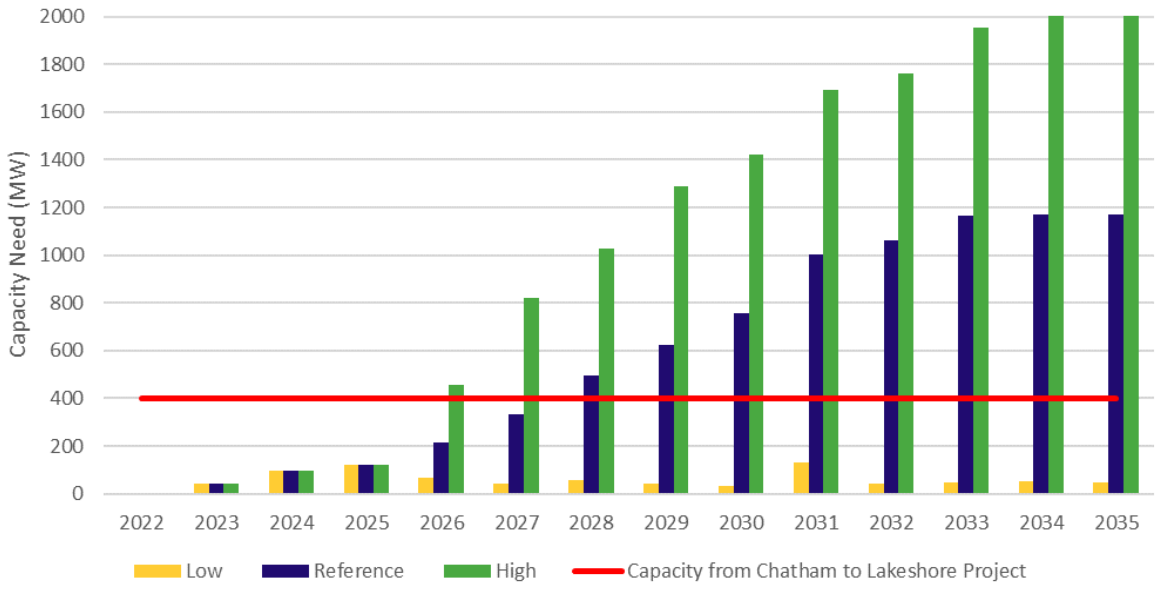

Figure 2: Updated Winter West of Chatham (WOC) Capacity Need Three Growth Scenarios

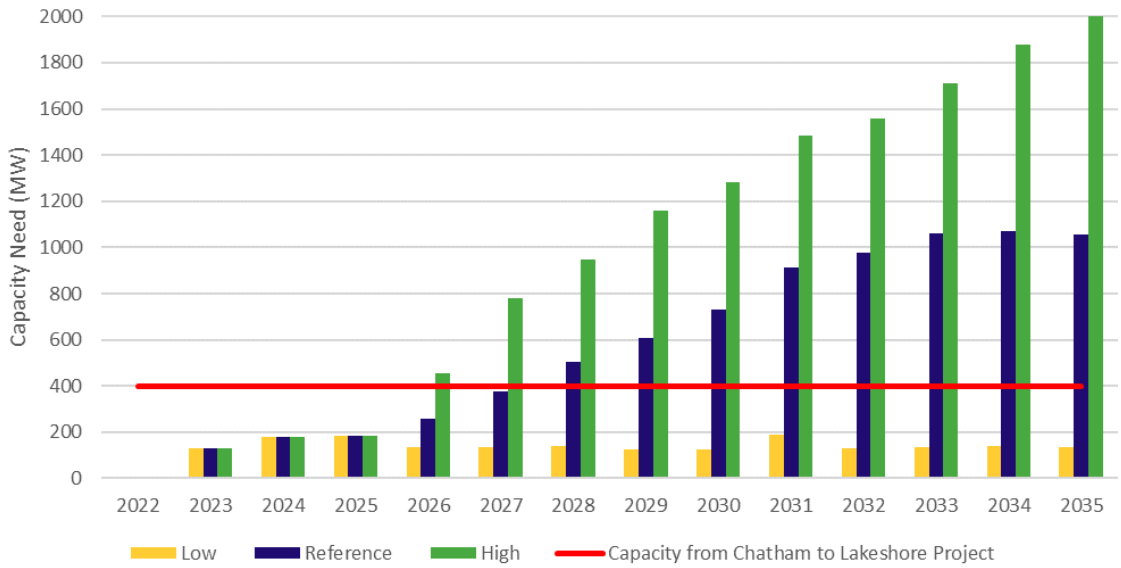

Figure 3: Updated Summer WOC Capacity Need Three Growth Scenarios

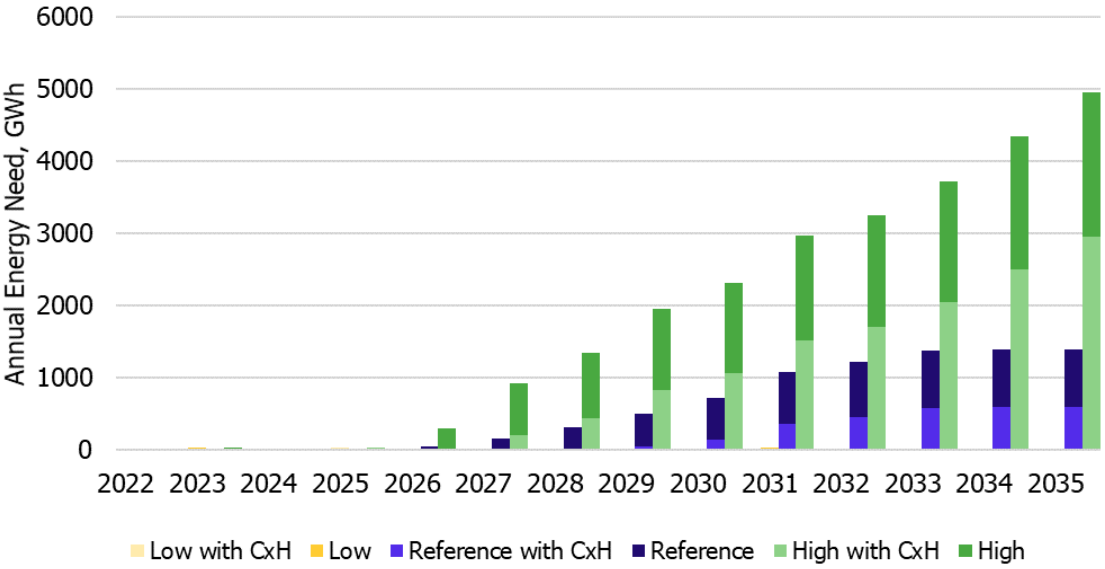

Figure 4: Updated Annual WOC Energy Need Three Growth Scenarios

c) A staged and multi-pronged approach of wires and non-wires solutions has been recommended in southwest Ontario to address the significant growth projected. Many investments are needed to continue to meet the area's needs over the near, medium and longer term. Planning has been ongoing from 2015-2022, as documented in four key reports (2015 Windsor-Essex IRRP, 2019 Windsor-Essex IRRP and Addendum, 2019 Windsor-Essex Bulk Plan, and 2021 West of London Bulk Plan).

Recommendations include new transmission stations and circuits, resource requirements, conservation and demand management (CDM) and investments in innovation. This represents over $1.5B in bulk transmission and local resource investments, which given the pace and magnitude of growth, were all determined to be required to ensure on-going supply to the region.

Figure 5 outlines the planning recommendations from the Windsor-Essex bulk and regional plans and the 2021 West of London bulk plan, as well as associated timelines for those recommendations. For the Chatham-Kent/Lambton/Sarnia regional planning which is still underway, proposed options are indicated in grey.

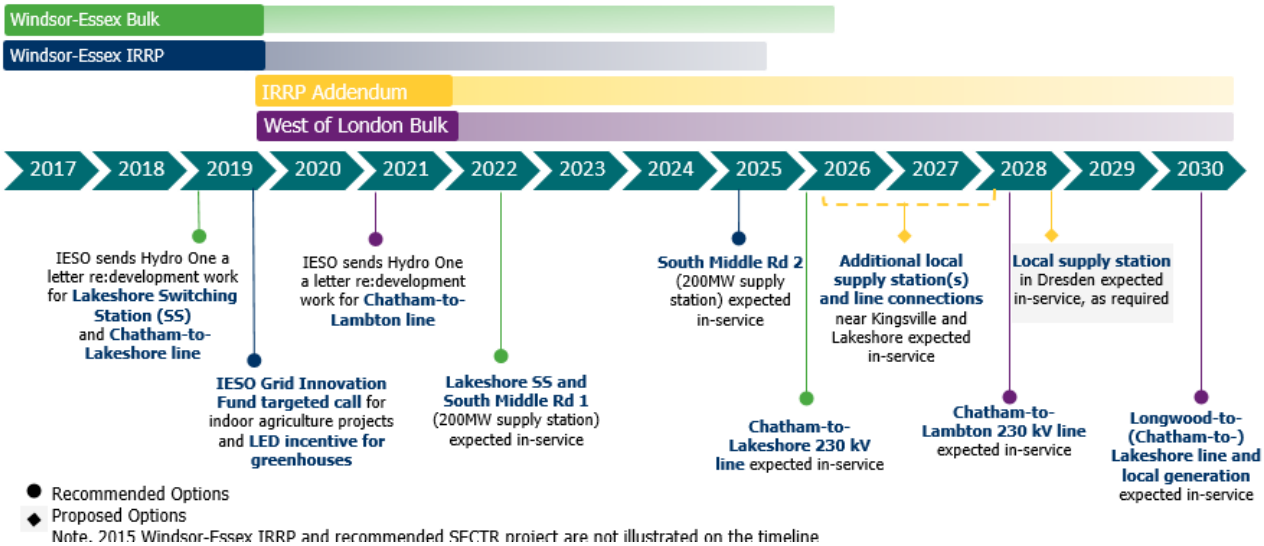

Figure 5: Timeline of Planning Recommendations

Figure 6 provides a geographical depiction of the planning recommendations outlined above.

Figure 6: Map of Planning Recommendations

Figure 7 illustrates the approximate capacity associated with each planning recommendation compared to the forecast area load and resource need. Values are representative of the bulk capacity for the area. Additional regional reinforcements as outlined in previous diagrams are required to enable the connection of load customers.

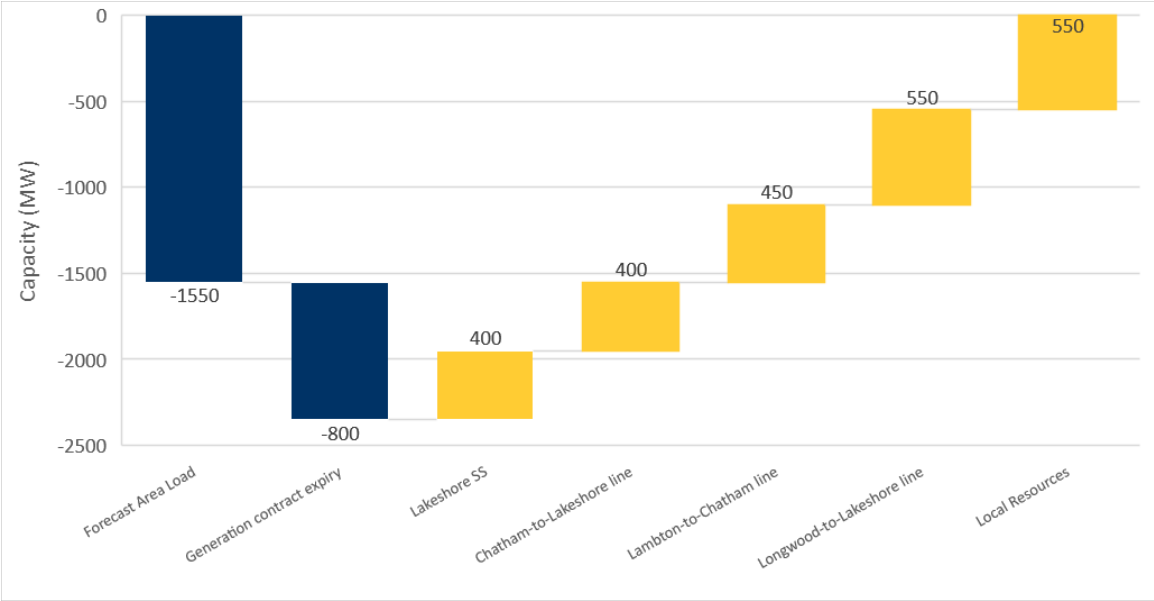

Figure 7: Graph of Enabled Capacity per Planning Recommendation

While the Project is part of a broader staged plan as described in the previous section, the Project need and cost-effectiveness is independent of the other stages. Each stage was evaluated on its own (i.e., not relying on benefits of subsequent stages) and provides electricity benefits independent of the other stages. The intent of the staged plan was to closely match developments with the need, to maximize the value, cost-effectiveness, and use of each stage. If there are changes to the need, this allows for the reassessment of subsequent stages.

The assessment for the Project was based on the technical feasibility, cost-effectiveness, and input from interested stakeholders and community members to meet the needs for the next ten years, based on the forecast at the original time of assessment. Irrespective of further developments or reinforcements, the Project would enable 400 MW of load in the Windsor-Essex region. This benefit will be realized with or without the subsequent bulk system recommendations specified in the West of London bulk plan. It was noted in the 2019 report that the full transfer capability improvement the Project can provide is limited by upstream east of Chatham constraints. However, the Project was determined to still be cost-effective when considering only the 400 MW of capacity enabled without relieving those upstream constraints – approximately $500M lower than the least cost resource alternative. Thus, approving this Project does not necessitate approving subsequent recommendations. Similarly, not approving further reinforcements will not negate the need for, and benefit of, this Project.

The transmission upgrades currently underway (i.e., Lakeshore SS and this Project) and planned (new lines between Lambton and Chatham, and between Longwood and Lakeshore), as well as the local generation recommended will be sufficient to accommodate the forecast demand growth in the updated 2021 forecast out to 2035. However, additional operational measures will be taken to maintain reliability in the near-term. Prior to this Project, near-term load connections connecting ahead of the transmission reinforcements may be subject to a lower level of reliability.[2] Local generation and transmission outages will require more rigorous coordination. Load interruption may need to be coordinated to facilitate outages. There is the potential for the output of generation resources in the Lambton-Sarnia area to be limited, depending on transmission outages and local resource availability. This is a result of thermal issues on the 230 kV circuits between Lambton TS and Chatham SS, which will be addressed through the recommended Lambton-to-Chatham reinforcement in 2028. Overall, these measures are expected to have an acceptable impact on the IESO's ability to direct the operations and

[2] Market Rule exemptions will be required to connect new loads in the Windsor-Essex area until this Project is in-service. This exemption will allow for the loss of load above standard criteria following an unplanned outage under certain conditions. The forthcoming SIA for West of Chatham Transmission Developments will provide further details.

maintain the reliability of the rest of the IESO-controlled grid, and have no material impact on the ability of the IESO to operate the IESO-administered markets in an efficient, competitive, and reliable manner.

OEB STAFF INTERROGATORY - 04

Reference:

Exhibit B-1-1, Page 3
Exhibit B-3-1, Attachment 3, Page 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.

Interrogatory:

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.

Response:

a) The initial Planning level cost allowance of $115-$150M provided to the IESO included both the Lines and Stations.

b) The initial planning level cost allowance of $115-$150M was based on parametric unit rates and a planning level scope description. The initial planning level cost allowance is not developed as a bottom-up estimate and therefore Hydro One is unable to itemize the cost differences between this allowance and the current project estimate.

Generally, the major area of cost increase in relation to the parametric unit rates and historic costs are land acquisition costs, as shown in Exhibit B, Tab 7, Schedule 1, Table 3, driven by buoyant real-estate markets. Globally recognized inflation pressure has also contributed to the cost increase relative to the initial planning estimate that was provided.

c) In Q1 2022, the IESO was advised that estimated project costs were trending above the upper end range indicated in the 2019 hand-off letter. Hydro One informed the IESO of the final estimated cost following the completion of estimating activities in Q2 2022. As noted in Exhibit B, Tab 3, Schedule 1, Attachment 2, page 27, the economic analysis performed by the IESO assumed a transmission cost of $270M (2015 CAD) and annual inflation rate of 2%, therefore no further updates were considered by the IESO with respect to the Windsor-Essex Bulk System Reinforcement Study.

d) The final project cost estimate of $267.7 million was developed using internal estimates and quotes for internal labor costs and consultant fees. Third party appraisers were engaged to assess market costs for key elements of land acquisition. These costs were combined with market tested Engineering Procurement and Construction costs for the Stations works and Transmission line. These combined project elements and their associated risks have been analyzed to develop the contingency allowance and overhead costs. The project cashflow was analyzed to establish the AFUDC costs for the project, which were integrated as part of a total project estimate.

As documented in Exhibit B, Tab 7, Schedule 1, the cost estimates provided in Table 1 and 2 of that Schedule, and similarly the Project Schedule provided at Exhibit B, Tab 11, Schedule 1, are based on a project definition equivalent to a Class 3 AACE International (formerly the Association for the Advancement of Cost Engineering) estimate classification system. Footnote 5 of Exhibit B, Tab 7, Schedule 1, identifies that the accuracy of the estimate as per AACE is in the range of -20%/ +30%.

OEB STAFF INTERROGATORY - 05

Reference:
Exhibit B-3-1, Attachment 3, Page 3
Exhibit B-11-1, Page 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.

Interrogatory:
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.

Response:
a) The initial project schedule activity durations were developed based on projects of similar complexity and scope.

As the Project progressed through its initial development activities, project schedule refinements were made to reflect updated information from the project team including Engineering Procurement Construction contractors, and real estate/land acquisition timing requirements.

To facilitate early implementation of the Project, Hydro One has and continues to seek early access approval from landowners on the route to continue to advance field studies such as geo-technical survey and Stage 2 archeological assessments in parallel with this leave to construct application process. The Class Environmental Assessment process to evaluate route alternatives and select a single route was completed in consultation with local Indigenous communities, the local community members, local stakeholders and municipalities to ensure timely completion of the draft Environmental Study Report ("ESR"). To further facilitate early implementation of

the Project Hydro One designed a Land Acquisition Compensation Principles ("LACP") program. The LACP is designed to encourage the timely voluntary acquisition of required project property rights, thereby avoiding the potentially much lengthier and costly expropriation process.

b) The project In-Service Date is planned to be December 15, 2025. December 31, 2025 refers to demobilization.

OEB STAFF INTERROGATORY - 06

Reference:

Exhibit B-2-1, Attachment 1, Page 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."

Interrogatory:

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.

Response:

a) The identification, description and evaluation of route alternatives is a matter expressly addressed and considered as part of the environmental assessment carried out in respect of this project and described in detail in Chapter 5, Table 5-6 of the draft *Environmental Study Report* ("ESR")[1] for the Chatham to Lakeshore Project. In light of the Board's letter dated August 5, 2022, it is Hydro One's understanding that detailed consideration of routing alternatives, such as reasons why expanding the existing 230 kV corridor between Chatham SS and Lakeshore TS is not a matter intended to be considered in this proceeding.

[1] https://www.hydroone.com/about/corporate-information/major-projects/chatham-to-lakeshore

b) Please refer to part a).

OEB STAFF INTERROGATORY - 07

Reference:

Exhibit B-7-1, Pages 1-3
Exhibit B-7-1, Page 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.

Interrogatory:

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.

Response:

a) Hydro One notes that the Equipment Rental and Contractor Costs component varies by project and is driven by the specific scope of each project, its delivery model and specific contracting strategy to meet the project requirements. Comparisons of this cost component alone would likely reflect variations in these criteria that, in isolation, would be of little use.

However, to assist with the requested comparison, Hydro One has reviewed this cost component with the SECTR Project in a manner consistent with the approach taken in Exhibit B, Tab 7, Schedule 1, i.e., isolating for real estate acquisition costs. As a result of this review, Hydro One can confirm that the overall forecast EPC costs, of which Equipment Rental and Contractor Costs form part, are in line with the costs carried in the SECTR Project for EPC-like activities such as project management, engineering procurement and construction.

b) The statement *"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*" was intended to highlight that the EPC contract is to be executed at a future date. There is no ongoing mechanism to apportion risk premium between Hydro One and the EPC contractor such as a shared risk allocation to be utilized.

In alignment with generally accepted industry norms of risk assignment, the EPC contract transfers project risks such as production rates, interface between the engineering, procurement and construction phases to the EPC to manage. The EPC contract provides the EPC contractor the control to mitigate risks assigned.

c) The process used to develop the real estate component of the project cost takes into account the following elements:

- The fair market value of the properties directly affected by the project, as determined by third party appraisers accredited by the Appraisal Institute of Canada;
- Payments (if any) that represent the change in value to the lands on an affected property not occupied by the project, referred to as "injurious affection", as determined by accredited third party appraisers;
- Financial incentives to affected property owners to encourage the timely and cost-effective voluntary acquisition of required Project property rights;
- Estimated payments for crop loss caused by the project and related activities, as determined through Hydro One's Crop Land Out of Production program;

- Estimated costs of third party services to support the necessary land acquisitions (e.g., appraiser, agri-business, land agent, legal survey, conveyancing);
- Reimbursement of reasonable legal review fees that affected property owners incur as part of Hydro One's voluntary land rights acquisition program.
- Hydro One has taken the following steps to mitigate the real estate component of project costs:
- Siting the project corridor on lands where Hydro One can leverage existing requisite land rights, reducing the overall cost for land acquisition;
- Establishing a voluntary land acquisition program to reduce the reliance on expropriation which is expected to lead to higher costs and potentially delay the project in-service date;
- Selecting a project corridor that has relatively fewer full property buyouts than other route alternatives considered in the environmental assessment process, which reduces overall land acquisition costs;
- For most third-party services (e.g. appraisal services, land agent services), these services were retained through a competitive RFP process to ensure highest value at competitive pricing.

d) Inflation has been considered in developing the cost estimates presented in Tables 1 and 2 of Exhibit B, Tab 7, Schedule 1 of the prefiled evidence. As described at the reference, the estimate provided for the Project is underpinned by current market-tested EPC pricing to deliver the Project and corresponding risk premiums that will be transferred to the EPC contractor. The EPC cost incorporated material supply quotes related to forecast material delivery dates and labour cost escalation from the planned EPC start date to the planned completion of the project. Hydro One cannot reasonably crystal ball any future impacts[1] inflation may have on the Project, however, to the best of Hydro One's ability, Hydro One has incorporated pricing to reflect the expected purchase costs during the project period.

e) Irrespective of how the AFUDC cost component proportionally contributes to the overall cost of the Project, the forecast AFUDC spend is appropriate because, as documented in Exhibit B, Tab 7, Schedule 1, the capitalized interest (or AFUDC) is calculated using the Board's-approved interest rate methodology (EB-2006-0117) to the project's forecast monthly cash flow and carrying forward closing balance from the preceding month. Further, Hydro One adds that the relative comparisons provided by

[1] A significant impact is considered to be a material deviation from the normal. Cost increases significantly above normal levels such as copper price increases of 27% from January 2021 to January 2022 documented in prefiled evidence is an example of a significant change in the cost of materials.

OEB Staff to the AFUDC estimates of other projects that were recently approved is indicative of how significantly the market has changed and exemplifies the efforts Hydro One has undertaken to control other components of the project's overall costs.

Notably, the OEB prescribed interest rates for construction work in progress (CWIP) accounts has more than doubled over the last year of OEB issuances with the most recent issuance, Q3 2022, being listed at 4.66% and Q3 2021 listed at 2.29%[2]. OEB CWIP-prescribed interest rates of this level have not been in effect for over a decade and materially alters any comparison of capitalized interest to recently approved leave to construct applications.

Additionally, the specifics of this project drastically differ from the comparable projects identified in the question posed by OEB Staff, particularly because of the need to acquire real estate early in the lifecycle of the Chatham to Lakeshore Project. The Project also plans to place material orders earlier than historically required as the lead time for major material orders are longer today and manufacturers require early orders to book production slots due to market demand. Given that need and the corresponding cost associated with accomplishing these early activities, these costs will accumulate interest and will add to the total AFUDC until the Project is capitalized.

[2] https://www.oeb.ca/regulatory-rules-and-documents/rules-codes-and-requirements/prescribed-interest-rates

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OEB STAFF INTERROGATORY - 08

Reference:

Exhibit B-7-1, Pages 3-4
Exhibit B-7-1, 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.

Interrogatory:

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?

Response:

a) Hydro One developed the risk register for the project through a three-step process. Firstly, the full project team completed a qualitative risk analysis workshop identifying the risks, impacts and their relative severity using a qualitative risk matrix. Mitigations were developed for each risk and assigned to a responsible line of business or entity. Secondly, Hydro One completed a quantitative analysis of the unmitigated risks identified incorporating their post mitigation probability. This was used to quantify the potential cost and/or schedule risk impact.

Thirdly the risk register was reviewed and updated at key points during the project development. The risk register is considered a live document and will be updated continually throughout the project lifecycle to update risk, add or close risks and ensure the planning mitigation's have been implemented.

The mitigated potential cost risk total was used to quantify the project contingency.

b) The project contingency is generally in line with past project estimated contingency allowances and industry norms of between 10% and 15% of direct project costs.

c) Please refer to Exhibit I, Tab 1, Schedule 4.

d) Please refer to Exhibit I, Tab 1, Schedule 4.

OEB STAFF INTERROGATORY - 09

Reference:

Exhibit B-7-1, Pages 5-6

Preamble:

The table below has been extracted from the above reference.

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 refence specifically cites COVID-19 global supply issues and escalating inflation levels as key examples of cost drivers.

Interrogatory:

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.

Response:

a) As discussed in the reference provided, Exhibit B, Tab 7, Schedule 1, despite locational similarities, unit costs, on a per km basis, for the Chatham to Lakeshore Project are higher than the SECTR Project, resulting from a number of factors including global supply chain issues, rising commodity prices (copper, steel, aluminum) and overall inflation. The preferred route for the SECTR Project ran partly along a municipal trail. This not only reduced the real estate acquisition burden of that specific project, as adjusted in Table 3 of Exhibit B, Tab 7, Schedule 1, but also reduced the number of access roads that needed to be constructed.

Additionally, as described in Exhibit B, Tab 7, Schedule 1 and referenced in the preamble of this interrogatory, actual implementation costs since the construction of the SECTR Project such as globally-acknowledged inflationary cost pressures and COVID-19 impacts, have been conservatively estimated at 2% in the comparison and would contribute to a greater proportion of the identified disparity in unit costs.

OEB STAFF INTERROGATORY - 10

Reference:
Exhibit B-1-1

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.

Interrogatory:
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.

Response:

a) Hydro One has no concerns with the above standard conditions in relation to this Application and expects that any future Hydro One affiliate that would own and maintain the transmission line would also have no concerns with the above standard conditions.

OEB STAFF INTERROGATORY - 11

Reference:
Exhibit B-7-1, Page 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.

Interrogatory:
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.

Response:
a) Voluntary property settlement offers have been made to all directly impacted properties (120), 39 of which have been accepted. An additional 6 railway crossing agreements will be reached with the appropriate railway companies.

b) If Hydro One is unsuccessful in securing voluntary agreements and leave to construct approval is granted, Hydro One intends to seek expropriation authority from the OEB in accordance with section 99 of the *OEB Act, 1998*. Given the priority nature of this Project and expedited scheduling concerns, Hydro One expects to be making applications in accordance with section 99 of the OEB Act within 3 months of a favorable decision in this proceeding.

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OEB STAFF INTERROGATORY - 12

Reference:

Exhibit B-2-1, Attachment 2

Preamble:

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

Interrogatory:

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.

Response:

a) Confirmed.

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OEB STAFF INTERROGATORY - 13

Reference:

Exhibit B-3-1, Attachment 2, Page 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.

Interrogatory:

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

Response:

a) Page 11 of the IESO's Bulk Transmission Reinforcement study does not state that the switching station improves the local load meeting capability (LMC) by 700 MW, but that it increases the LMC to approximately 700 MW. The LMC of the Leamington tap prior to the switching station is 370 MW. This is limited by a voltage change violation at the Leamington TS bus for the loss of the double circuit contingency C21J and C23Z. A single contingency on either of the tap circuits would cause a very similar limiting phenomenon at approximately the same load level.

   With the Lakeshore switching station, the Leamington tap will be supplied from the 230 kV bus at Lakeshore. The switching station increases the LMC of the Leamington tap to 450 MW and, more importantly, provides a connection point for additional supply stations either on the same site as the switching station or near the switching station via additional supply circuits – increasing the overall local load meeting capability to approximately 700 MW. Note, this makes assumptions around the dispatch of local generation (typical dispatch levels at system peak), bulk system flow limitations, and flows on the interchange between Ontario and Michigan (assumed to be zero for the determination of local/regional supply capability).

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OEB STAFF INTERROGATORY - 14

Reference:
Exhibit E-1-1, Page 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.

Interrogatory:

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?

Response:

a) The availability of ILA is offered verbally to all property owners as part of one on one discussions with Hydro One's Property Agents. Availability of ILA is also written into Hydro One's project specific Land Acquisition Compensation Principles ("LACP") booklet which has been shared with all impacted property owners. This commitment is expressed in writing in Hydro One's LACP as follows:

> *Hydro One commits to reimbursing Property Owners for reasonably incurred transaction costs (such as lawyer's fees) associated with the review and completion of applicable conveyancing documents.*

For reference, a copy of Hydro One's LACP for the Project is provided at Exhibit I, Tab 3, Schedule 3, Attachment 1.

b) All forms of agreement are subject to reimbursement for ILA. Exclusion of this provision in any agreements is not intentional and Hydro One can commit to updating all forms to include this provision, accordingly. Hydro One also commits to reimbursing

Property Owners for reasonably incurred transaction costs (such as ILA) associated with the review and completion of applicable conveyancing documents.

OEB STAFF INTERROGATORY - 15

Reference:

Exhibit E-1-1, Page 5

Preamble:

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

Interrogatory:

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?

Response:

a) In the past, Hydro One has utilized a damage claim agreement form to deal with damages caused by project activities. These damages may include crop commodity damages, out of production matters, and other physical property damages. This agreement form was submitted and approved in Board filing EB-2019-0077 as documented in Exhibit E, Tab 1, Schedule 1, Section 5.0.

Relative to the Chatham to Lakeshore Project, recent approved Leave to Construct projects by Hydro One have not traversed such a large percentage of agricultural properties (proportional to total affected properties). The vast majority of this project impacts prime agricultural lands under production by impacted property owners and/or their tenant farmers.

Given these circumstances, Hydro One has advanced the proposed Crop Land Out of Production agreement for approval in this proceeding. Note that this agreement is based on Hydro One's Crop Land Out of Production ("CLOP") program, which was developed to address the concerns of agricultural property owners affected by our projects. To ensure that Hydro One's CLOP program was most effective, Hydro One reviewed its program with the Ontario Federation of Agriculture for its use in the Project.

This form of agreement may be included in future proceedings if similar circumstances arise.

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OEB STAFF INTERROGATORY - 16

Reference:

Exhibit E-1-1, Pages 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.

Interrogatory:

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)?

Response:

a) Hydro One has not been required to advance a Voluntary Buyout Offer agreement given recent Leave to Construct project corridors did not deem it necessary. This form of agreement will be included in future proceedings should it be necessary based on the property acquisition needs of the specific project.

b) There are 10 properties that are subject to a Voluntary Buyout Offer, and Hydro One anticipates that 5 properties will choose the buyout, with a forecast initial increased net cost of $3.1M when comparing a partial taking (easement or fee simple) versus a full voluntary property buyout.

In circumstances where a property owner elects a Voluntary Buyout Offer, Hydro One will become the fee simple owner of these impacted lands. Hydro One will market these properties to the public for resale at a future date, reserving the appropriate easement rights at time of sale. It is anticipated that such land sales, should market conditions remain similar, will recoup the majority of the $3.1M.

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OEB STAFF INTERROGATORY - 17

Reference:

Exhibit E-1-1, Attachment 8, Page 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."

Interrogatory:

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?

Response:

a) As noted in this agreement, the "Activities" being contemplated are pre-construction in nature. This agreement only contemplates off-corridor access requirements prior to Hydro One's planned construction start date. The two-year timeline for this agreement is anticipated to be a sufficient term to support these off-corridor access activities.

   Although not anticipated, there may be situations where Hydro One will require additional time for off-corridor access to complete pre-construction activities. In these circumstances, the Off-Corridor Access Road Agreement gives Hydro One the right to extend the agreement (upon 10 days notice). Recognizing the inconvenience this may cause to the landowner, Hydro One intends to negotiate the length of time required for the extension. Note that given these are pre-construction activities, the length of the extension is of a finite length. Hydro One believes that negotiating this extension length allows it to meet project objectives while at the same time gives the landowner some control over how these activities impact their operations.

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ENVIRONMENTAL DEFENCE INTERROGATORY - 01

Reference:

Exhibit B, Tab 3, Schedule 1, Attachment 2, Page 9.

Preamble:

As the southernmost portion of Ontario, the Windsor-Essex Region extends southwest from Chatham to Windsor. Although the region is home to approximately 400,000 people, its electricity demand is defined by its economic activity. The region's history of automotive manufacturing, particularly near the city of Windsor, is accompanied by entertainment tourism in the city's core and large food processing operations throughout Essex County.

While the manufacturing sector in the Windsor-Essex Region continues on a downward trend in line with the recent automotive industry, economic diversification has triggered other changes to the region's electricity demand. The Kingsville-Leamington area within the Windsor-Essex Region includes North America's largest concentration of greenhouse vegetable production. With agricultural businesses in this local area expanding rapidly, interest in cannabis growth operations developing, and the adoption of artificial crop lighting becoming commonplace, electricity supply requirements to the Kingsville-Leamington area will continue increasing significantly. Due to the substantial growth in the area, any local supply needs have to be assessed along with the bulk system supply.

Interrogatory:

a) In addition to increasing greenhouse operations, did Hydro One also consider future load growth related to the electrification of heating and transportation in the Kingsville-Leamington area as result of anticipated decarbonization efforts? If so, please provide any copies of any studies that Hydro One has conducted on how electrification will impact capital planning and equipment sizing in the Windsor-Essex region.

Response:

a) The IESO did not specifically address future load growth related to increased electrification of heating and transportation for this analysis. The Optimistic forecast scenario from the 2019 study, along with the revised High Growth forecast scenario included in the 2021 study, provided in Exhibit I, Tab 1, Schedule 3, may provide a proxy of what could be required from the proposed assets if higher load were to materialize due to any number of reasons.

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ENVIRONMENTAL DEFENCE INTERROGATORY - 02

Reference:

Exhibit B, Tab 3, Schedule 1, Attachment 2, Page 9.

Preamble:

The Kingsville-Leamington area within the Windsor-Essex Region includes North America's largest concentration of greenhouse vegetable production. With agricultural businesses in this local area expanding rapidly, interest in cannabis growth operations developing, and the adoption of artificial crop lighting becoming commonplace, electricity supply requirements to the Kingsville-Leamington area will continue increasing significantly. Due to the substantial growth in the area, any local supply needs have to be assessed along with the bulk system supply.

Interrogatory:

a) Approximately how many greenhouse customers are within the area to be served by the proposed transmission line?

b) Of the greenhouse customers, approximately what percent are heated with fossil fuels and approximately what percent are heated with electricity?

c) Please comment on the likelihood that a significant portion of the greenhouses that will be served by the proposed transmission line will electrify their heating by 2030, 2040, and 2050. In the answer, please expressly address the impact of carbon pricing, the impact of Canada's binding statutory carbon targets, Canada's 2030 Carbon Emissions Reduction Plan, and the changing cost-effectiveness of fossil fuel heating versus electric heating.

d) Please provide an analysis of the cost-effectiveness of fossil-fuel-heated greenhouses converting to heating by high-efficiency electric heat pumps (air source or ground source) that accounts for forecast carbon price increases, recent efficiency improvements in heat pumps, and impacts on gas prices from the war in Ukraine. The purpose of this question relates to the likelihood that greenhouses will electrify as that will impact electricity demand and could impact the size of conductor that is chosen.

e) If all the fossil-fuel-heated greenhouses in the area to be served by the proposed transmission line were to convert to electric heating, how much would peak demand (MW) increase? How much would the annual demand (MWh) increase? Based on current rates, how much would Hydro One earn in incremental revenue associated with this increased demand? Please make and state those assumptions as necessary.

To address uncertainties, please state all caveats and/or provide a range of possible figures. An order-of-magnitude answer on a best efforts basis is sufficient.

Response:

a) The IESO does not have information regarding the number of greenhouse customers within the area to be served by the proposed transmission line.

b) Space heating for vegetable greenhouses has historically not been supplied by electricity. For vegetable greenhouses in Ontario, according to Exhibit 55 in the IESO's 2019 Greenhouse Energy Profile Study[1], space heating is supplied by approximately 90% natural gas, 8% oil and 2% biomass. For cannabis greenhouses in Ontario, according to Exhibit 94 in the IESO's 2019 Greenhouse Energy Profile Study, space heating is supplied by approximately 88% natural gas and 12% electricity.

c) Based on industry feedback, the IESO does not believe a significant portion of greenhouses will electrify their heating based on current and forecast market conditions. While carbon emission costs would result in an increase in the price of operating a greenhouse, greenhouses are currently 80% exempt from the carbon price, so an increasing carbon price may have limited impact on the greenhouse sector. The IESO continues to engage with the industry ahead of upcoming planning cycles to ensure the latest information on the greenhouse sector's long-term electricity needs will be incorporated into future forecasts for the region.

d) The IESO cannot comment on the cost-effectiveness of conversion of greenhouses from fossil fuel heating to heating by high-efficiency electric heat pumps, as it depends on each customer's operation and characteristics of each greenhouse.

e) The IESO does not have peak gas-to-electric-heating information specific to greenhouses in the Windsor-Essex region. However, for vegetable greenhouses in Essex County, according to Exhibit 54 in the IESO's 2019 Greenhouse Energy Profile Study, annual energy consumption (MWh) from natural gas and oil in 2018 was approximately 88% of their total energy consumption. For cannabis greenhouses in Essex County, according to Exhibit 103 in the IESO's 2019 Greenhouse Energy Profile Study, annual energy consumption from natural gas and cogeneration heat in 2018 was approximately 40% of their total energy consumption.

[1] https://www.ieso.ca/-/media/Files/IESO/Document-Library/research/Greenhouse-Energy-Profile-Study.ashx

ENVIRONMENTAL DEFENCE INTERROGATORY - 03

Reference:

Exhibit B, Tab 3, Schedule 1, Attachment 2, Page 15.

Preamble:

As noted above, the primary driver of load growth for the overall region is expansion of the agricultural industry in the Kingsville-Leamington area. Demand forecast scenarios were developed based on different outlooks for growth in the Kingsville-Leamington area. While historically summer peaking, the load in the Kingsville-Leamington area is forecast to transition to a winter peaking load, due to the use of artificial crop lighting in winter months. As a result, the overall peak for the Windsor-Essex Region is also forecast to become a winter peak in the near-term.

Three scenarios were developed to represent the load growth forecast specific to the Kingsville-Leamington area.

Interrogatory:

a) Please confirm that Hydro One relied on the load forecasts provided in the IESO's report, "Need for Bulk Transmission Reinforcement in the Windsor-Essex Region" dated June 13, 2019 (filed as Exhibit B, Tab 3, Schedule 1, Attachment 2) at pages 14-17 in the development of this application.

b) Do the load forecasts in Figures 4, 5 and 6 on pages 14-17 of Exhibit B, Tab 3, Schedule 1, Attachment 2 include data related to future electrification? If so, please explain.

Response:

a) Yes, Hydro One relied on that load forecast.

b) Please refer to Exhibit I, Tab 2, Schedule 1.

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ENVIRONMENTAL DEFENCE INTERROGATORY - 04

Reference:

Exhibit B, Tab 3, Schedule 1, Attachment 2, Page 15.

Preamble:

Most of the questions below will require a number of assumptions to be made to provide an answer. Please make and state those assumptions as necessary. To address uncertainties, please state all caveats and/or provide a range of possible figures. For all of these questions, an order-of-magnitude answer on a best efforts basis is sufficient.

Interrogatory:

a) Approximately how many customers are in the area that will be served by the proposed transmission line? Please provide a breakdown by residential, commercial, and industrial.

b) What is the approximate current electric vehicle penetration in the Leamington-Kingsville area?

c) Approximately how many residential customers heat their homes with electric heat pumps?

d) If all residential customers in the Leamington-Kingsville area served by the proposed transmission line were to adopt electric vehicles, what would the contribution to peak demand be for planning purposes in MW? How much would the annual demand (MWh) increase? Based on current rates, how much would Hydro One earn in incremental revenue associated with this increased demand?

e) If all residential customers in the Leamington-Kingsville area served by the proposed transmission line were to replace existing fossil fuel heating with high-efficiency electric heat pumps, what would the incremental contribution to peak demand be for planning purposes in MW? How much would the annual demand (MWh) increase? Based on current rates, how much would Hydro One earn in incremental revenue associated with this increased demand?

f) What is the approximate threshold of electric vehicle penetration (%) at which point an additional upgrade would be required to the proposed transmission line?

g) What is the approximate threshold of the percentage of customers that electrify their fossil fuel heating with high-efficiency cold climate heat pumps at which point an additional upgrade would be required to the proposed transmission line?

h) What is the approximate threshold of the percentage of customers that electrify both their vehicles and fossil fuel heating at which point an additional upgrade would be required to the proposed transmission line?

Response:

a) Neither Hydro One nor the IESO have information regarding the number of customers within the area to be served by the proposed transmission line and are therefore unable to provide a breakdown of customer type by residential, commercial and industrial.

b) The IESO has obtained historical electric vehicle registration data by forward sortation area (FSA). Three FSAs cover the Leamington-Kingsville area (and additional adjacent areas including Dresden, Ridgetown, and Tilbury). As of the end of 2018, a combined total of 55 electric vehicles (both Battery EV and Plug-in Hybrid EV) were registered in the three FSAs.

c) The IESO does not have data on how many residential customers currently heat their home with electric heat pumps in Leamington and Kingsville.

d) Based on the response to part (a), the IESO is unable to comment on the incremental contribution to peak demand (MW) for planning purposes or the increase in annual demand (MWh), if all residential customers in the area to be served by the proposed transmission line were to adopt electric vehicles.

e) Based on the response to parts (a) and (c), the IESO is unable to comment on the incremental contribution to peak demand (MW) for planning purposes or the increase in annual demand (MWh), if all residential customers in the area to be served by the proposed transmission line were to replace existing fossil fuel heating with high-efficiency electric heat pumps.

f) There is no threshold for which an additional upgrade would be needed to the Chatham to Lakeshore line. Additional transmission reinforcements were recommended for this region as part of the 2021 West of London Bulk Plan and 2022 Windsor-Essex IRRP Addendum, without accounting for any assumptions about further electrification. An additional upgrade to the Chatham to Lakeshore line itself would not negate or defer the need for these future planned reinforcements or meet future needs beyond what

has already been planned for due to the nature of the limiting phenomena to supplying the region once the Chatham to Lakeshore line is in service.

g) Please see response to part f).

h) Please see response to part f).

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ENVIRONMENTAL DEFENCE INTERROGATORY - 05

Reference:

Exhibit B, Tab 3, Schedule 1, Attachment 2, Page 15.

Interrogatory:

a) How much incremental peak capacity would be obtained by using a 1780 kcmil ACSR conductor versus the proposed conductor size?

b) Please provide a rough desktop estimate of the cost (NPV to today) if Hydro One needs to upgrade these lines to a 1780 kcmil ACSR conductor in 15 years from now. We are not asking Hydro One to speak to the likelihood of this possibility and ask that the answer be provided even if Hydro One believes it is unlikely.

c) What is the expected useful lifetime of the proposed transmission line (total years, and in-service date to end-date)?

d) Please calculate the value of increasing the size of the line arising from the avoidance of the possibility that this size increase would be required in the before the end of the equipment's lifetime due to demand growth.

Response:

a) Increasing the size of the conductor on the new line to 1780 kcmil conductor does not result in any increase in capacity on the corridor as the flow on the corridor is limited by the ratings of the smaller conductors on the existing lines between Chatham SS and Lakeshore TS. The incremental peak capacity using the 1780kcmil conductor is zero.

b) As mentioned in the response to part a) above, the incremental peak capacity using the 1780 kcmil conductor is zero. Therefore, it is very unlikely that these lines would be upgraded without upgrades to other nearby conductors in 15 years. However as requested, Hydro One is providing the NPV assessment below comparing three scenarios of building the proposed conductor today, building the upsized conductor today and building and replacing the upsized conductor in 15 years. This does not include the cost of any additional infrastructure upgrades that would be needed to increase the capacity of the corridor.

Table 1 - NPV Assessment of the Conductor Options

	Scenario	NPV ($M)
1	Build Proposed Conductor Today	-78.2
2	Build Upsized Conductor Today	-84.1
3	Build Proposed Conductor Today & Replace for Upsized Conductor In 15 years	-104.3

c) The expected useful life of the transmission line with ACSR conductor is 90 years[1].

d) As explained in part a) incremental peak capacity as a result of using the bigger conductor is zero. There is no value of increasing the size of the line (apart from the decrease in losses as a result of the bigger conductor).

[1] EB-2021-0110 - Exhibit B, Tab 2, Schedule 1, Section 2.2, Table 20

ENVIRONMENTAL DEFENCE INTERROGATORY - 06

Reference:

Exhibit B, Tab 9, Schedule 1, s. 3.0.

Preamble:

Conversely, when comparing Methods 2 and 3, Figure 2 below demonstrates that the incremental NPV result for Method 2 and 3 differs with the energy price used. If the energy price is $23.2[5], Method 2 is favourable. However if the energy price is valued at $120, Method 3 is favourable.

	Method 2: 1443 kcmil ACSR	Method 3: 1780 kcmil ACSR	Difference
Capital Cost ($M)	93.0	100.0	7.0
Annual Losses (MWHR)	16,024	13,178	-2,846
Net Present Value ($M)			
Energy Price ($/MWHR)	Method 2: 1443 kcmil ACSR	Method 3: 1780 kcmil ACSR	Difference
$23.2	-87.6	-91.8	-4.2
$75.0	-108.8	-109.2	-0.5
$120.0	-127.1	-124.3	2.8

Figure 2

Interrogatory:

a) Please provide all calculations underlying the applicant's analysis of transmission losses. Please attach the live excel spreadsheets to allow the analysis to be tested with varying assumptions.

b) Please provide the latest draft of Hydro One transmission losses evaluation guidelines.

c) Did Hydro One conduct its transmission losses evaluation in this case in accordance with its draft guidelines? If not, please describe any ways in which it deviated from the guidelines.

d) Please confirm that the Hydro One transmission losses evaluation guideline remains a draft and Hydro One is still considering the input from stakeholders provided on the guideline (as was stated in responses to IRs in Hydro One's ongoing rates case).

Response:

a) Please refer to the live excel model provided as Attachment 1 of this Schedule that supports the prefiled evidence in this Application.

b) The Hydro One Transmission Line Loss Guideline was completed on March 1, 2021. Please refer to Attachment 2 of this Schedule.

c) The evaluation was done according to the Hydro One Transmission Line Loss Guideline. Further an NPV evaluation was completed for this application for a range of energy prices, similar to other leave to construct proceedings.

d) Please refer to part b). Hydro One will continue to consider input received through the ongoing IESO Transmission Losses Stakeholder Engagement.

HYDRO ONE – FINANCIAL MODEL

This exhibit has been filed separately in MS Excel format.

TSP GUIDELINES

Transmission Line Loss Guideline – R0

Purpose

The purpose of the Transmission Line Loss Guideline (the "Guideline") is to i) delineate the transmission line loss process that Hydro One will follow and is accountable for, and ii) where transmission line losses are material, describe an investment option analysis methodology for transmission line capital projects.

The Guideline is intended to satisfy the Ontario Energy Board's direction in EB-2019-0082 in respect of transmission line losses.[1]

This Guideline applies to Hydro One Transmission Planning employees (the "Planner") planning for Hydro One's transmission system.

Revision Statement

This is the first version of this document.

R0 – February 26, 2021

Principles

- This Guideline shall be consistent with the Ontario Energy Board's direction in EB-2019-0082 in respect of developing a guideline for transmission line losses.
- Transmission line losses shall be assessed for projects meeting a documented materiality threshold where transmission line investments are considered and where losses may have a material impact on the selection of alternatives.
- Transmission losses are deemed to be material if they change the relative ranking of the transmission alternatives.

Contents

[1] EB-2019-0082 Decision 23 April 2020, Transmission Line Loss Reduction Opportunities (Issue 8), p. 56.

1.0 Background

Line losses occur in the transmission system as power flows from the generation source to the load (i.e., energy that is dissipated as heat when electricity flows through the transmission system). The amount of losses is dependent on the specific type of transmission line conductor, other transmission assets (i.e., transformers), the amount of power flowing in the line, the operating voltage and the length of the line.

Hydro One's ability to manage line losses is limited to its role as a Transmission Owner (asset owner) in planning, selecting, maintaining and operating its transmission equipment, subject to the inherent limitations of such equipment. Options available to manage line losses include the following:

- Upgrading the system voltage or building a new line in parallel with an existing line offers an opportunity for loss reduction. However, rebuilding transmission facilities or building new lines to reduce line losses would not be economically justifiable unless the new facilities are also required to provide capacity or ensure reliability.
- Upgrading the conductor size or using a lower loss conductor type such as the Aluminum Conductor Steel Reinforced Trapezoidal Wire (ACSR/TW) conductor[2] will reduce line losses. However, such upgrades are limited by the capability of the original tower structures, which generally can only accommodate conductors of the same or slightly larger size before costly major tower / structural reinforcements become necessary.

2.0 Scope

This Guideline shall be followed when considering transmission system investments which include:

- new customer connections
- local area supply investments
- network system reinforcement
- existing transmission system facility refurbishment

[2] The ACSR/TW conductor has the same diameter as the conductor being replaced, but has more aluminum content and a 10 to 20% lower resistance. The net effect is to reduce the losses on that line by the corresponding amount.

3.0 Option Analysis Methodology

Where transmission line investment alternatives are considered, the Planner shall complete an Options Analysis using the Transmission Line Loss Option Analysis workbook.

The Options Analysis shall be based on expected flows under normal system conditions (e.g., based on typical conditions in the last 12 months in terms of generation dispatch, reactive power dispatch, interface flows, etc.). If the flows are expected to change significantly in the future (e.g. increase by over 25% over the next 10 years), then the forecast 10th year load shall be used.

The Option Analysis shall follow the methodology described below:

1. The Planner shall rank the investment alternatives in ascending order by the Planner's estimated capital investment cost of each alternative.

2. The Planner shall convert the estimated capital investment cost of each alternative to an annual revenue cost (ARC) by applying the annual cost factor (ACF)[3] to the estimated capital investment cost.

3. The Planner shall determine the difference between the annual transmission line losses that are expected to materialize under each alternative relative to the current transmission line losses. The annual transmission line losses shall be determined by applying the losses at **peak** flow for 8760 hours (i.e. worst case scenario) for **screening** purposes.

4. The Planner shall determine the cost of annual losses (CAL) by multiplying the annual transmission losses determined in Step 3 by the annual average energy price[4] provided by the IESO.

5. The Planner shall determine the total annual cost by adding the ARC and the CAL, and rank the alternative investments to see if the ranking established at step 1 has changed.

6. If the ranking has not changed from that at step 1 then **no further study is required**. The expected MW loss reduction at peak load will be reported in the Business Case Summary (BCS) for the preferred alternative.

7. If the ranking has changed as a result of the inclusion of losses, then a detailed analysis will be required to determine the annual transmission losses for each alternative using **hourly** flow instead of peak flow in Step 3 above. The CAL for each alternative will be determined as in Step 4 above.

8. The Planner shall determine the total annual cost by adding the ARC and the CAL, and rank the alternative investments.

[3] The Decision Support Department in Business Planning shall provide the ACF in the Transmission Line Loss Option Analysis workbook.

[4] Please look up the HOEP at the IESO website.

9. If the ranking at step 1 has changed using the assessment in step 7, then the impact of the alternative investments on transmission line losses shall be considered when selecting the preferred alternative. The expected MW loss reduction at peak load will be reported in the BCS for the preferred alternative.

4.0 Examples

Example 1: Ranking of alternatives <u>does not</u> change

This example shows two investment alternatives being considered for a project. Alternatives 1 and 2 cost $24M and $60M, respectively. The transmission losses under the two alternatives are 1.2MW and 0.6MW respectively. The alternatives are screened using the losses at peak flow. The ranking of the alternatives does not change when considering transmission line losses. Alternative 1 remains the lowest cost. Therefore, transmission line losses are not material to the investment decision, and a detailed assessment of transmission line losses is not required.

(all costs in $M)	**Alternative 1 – Reconductor**	**Alternative 2 – Additional Circuit**
Planner's Estimated Capital Investment	24.0	60.0
Ranking	**1**	**2**
Screening		
Annual Revenue Cost (ARC)	1.79	4.49
Cost of Annual Losses (CAL)	0.31	0.16
Total Annual Cost (ARC + CAL)	2.11	4.65
Ranking - Screening	**1**	**2**
Ranking has not changed – detailed assessment not required		

Example 2: Ranking of alternatives does change

This example considers four investment alternatives for reconductoring a transmission line. Apart from like for like replacement, the alternatives consider use of larger size, lower loss conductors.

The alternatives are screened using losses at peak flow, which causes the ranking of alternatives to change. Alternative 4 becomes the lowest cost alternative. If the ranking of alternatives changes following the screening assessment, transmission losses are deemed material to the investment decision and a detailed assessment is done.

The detailed assessment shows that while Alternative 4 has a higher initial capital cost, factoring in the losses, makes it the lowest cost and preferred alternative. In this case transmission losses are material to the investment decision and are therefore taken into consideration for selecting the preferred alternative.

(all costs in $M)	**Alternative 1 – 795 kcmil**	**Alternative 2 – 997.2 kcmil**	**Alternative 3 – 1192.5 kcmil**	**Alternative 4 – 1443.7 kcmil**
Planner's Estimated Capital Investment	7.8	8.0	8.5	8.6
Annual Revenue Cost (ARC)	0.58	0.60	0.64	0.64
Ranking	**1**	**2**	**3**	**4**
Screening				
Cost of Annual Losses (CAL)	0.97	0.79	0.69	0.57
Total Annual Cost (ARC + CAL)	1.55	1.39	1.33	1.21
Screening Ranking	**4**	**3**	**2**	**1**
Ranking has changed – detailed assessment required				
Detailed Assessment				
Cost of Annual Losses (CAL) - Detailed	0.20	0.17	0.14	0.12
Total Annual Cost (ARC + CAL)– Detailed	0.78	0.77	0.78	0.76
Ranking– Detailed	**4**	**2**	**3**	**1**

5.0 Business Case Summary (BCS)

Where transmission line investment alternatives are considered, the Planner shall complete the Transmission Line Loss Option Analysis workbook and retain a copy in the project folder on SharePoint.

The impact of the alternative investments on transmission line losses shall be taken into consideration and shall be documented in the BCS as follows: "This investment is expected to result in transmission line loss savings of __ MW at peak flow."

6.0 Accountabilities

The Transmission System Planning Division is accountable for the assessment of transmission losses and documenting the relevant findings in BCS as appropriate.

The Transmission Planning Division, with support from Decision Support Division for the financial factors, shall maintain the Transmission Line Loss Option Analysis workbook.

7.0 References

EB-2019-0082 – Decision and Order

Hydro One Transmission Losses, EPRI Technical Report, March 2018

8.0 Document Management

Owner/Functional Responsibility	Director, System Planning, Planning
Approver	Director, System Planning, Planning 
Approval Date	March 1, 2021
Effective Date	March 1, 2021
Last Reviewed Date	March 1, 2021
Next Review Date	March 2022

9.0 Appendices

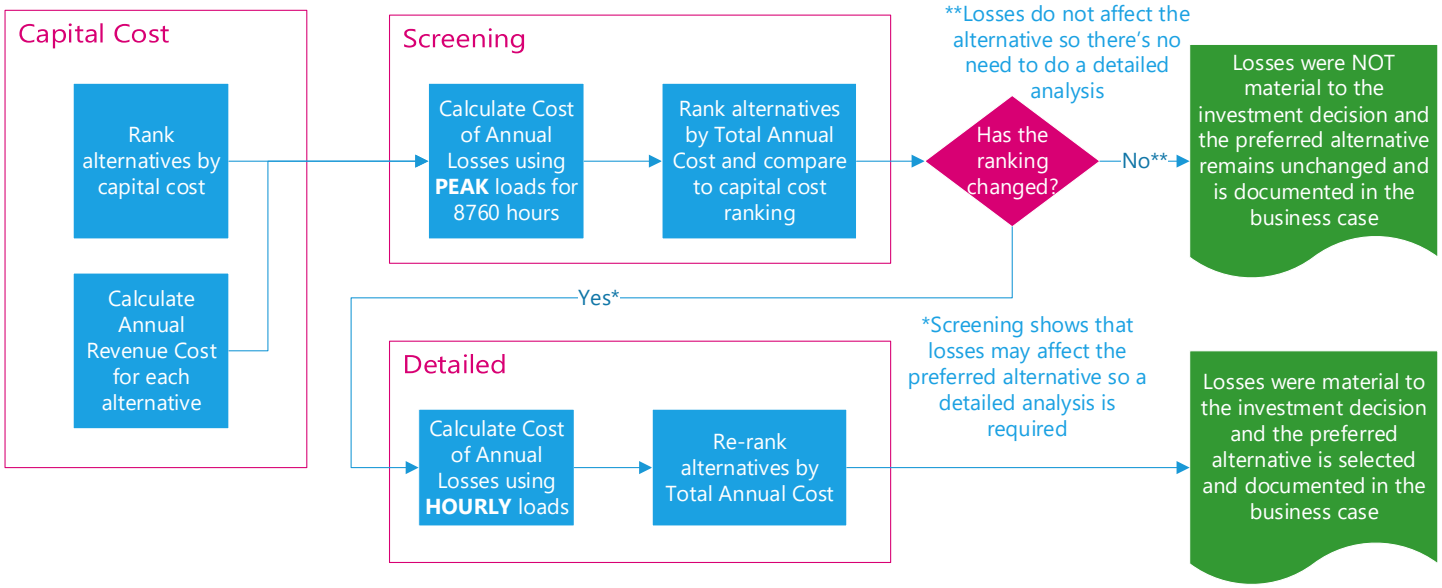
9.1 Rationale

In the Decision and Rate Order for EB-2019-0082 the Board accepted the settlement agreement between Hydro One and Environmental Defence, which included the development of a guideline for incorporating transmission losses into the planning process:

"3. Hydro One will prepare an internal Hydro One guideline delineating the transmission line loss process that Hydro One will follow and is accountable for. This will be developed in Q1 2020 and refined throughout the IESO stakeholder consultation as necessary.

4. In business cases for projects where transmission line losses are material, Hydro One will include an option analysis and report on transmission line losses. This will be implemented over the course of 2020 for any projects meeting a documented materiality threshold."

9.2 Transmission Line Loss Guideline Flowchart



9.3 Transmission Line Loss Guideline Workbook Example

SCREENING

Note: Use actual dollars, not $k or $M

Least Capital Expenditures → Most Capital Expenditures

	Option 1	Option 2	Option 3	Option 4	Option 5
Option Name	Alternative 1 – 795 kcmil	Alternative 2 – 997.2 kcmil	Alternative 3 – 1192.5 kcmil	Alternative 4 – 1443.7 kcmil	
Original rank	1	2	3	4	N/A
Capital Cost	$ 7,800,000.00	$ 8,003,490.00	$ 8,515,070.00	$ 8,600,000.00	
Losses at Peak Flow (MW)	3.70	3.03	2.61	2.16	
Annual Losses assuming Peak (MWHR)	32,412.00	26,507.76	22,872.36	18,877.80	0.00
Incremental Annual OM&A	$ -	$ -	$ -	$ -	
HOEP ($/MWHR)	$ 30.0000	$ 30.000	$ 30.000	$ 30.000	$ 30.000
Annual Revenue Cost (ARC)	$ 584,248.02	$ 599,490.15	$ 637,809.33	$ 644,170.89	$ -
Cost of annual losses (CAL)	$ 972,360.00	$ 795,232.80	$ 686,170.80	$ 566,334.00	$ -
Preliminary Total Annual Cost	$ 1,556,608.02	$ 1,394,722.95	$ 1,323,980.13	$ 1,210,504.89	N/A
Revised Rank	4	3	2	1	

Losses affect Ranking of Alternatives - Detailed Analysis Required - See below

Fill in Detailed section below if Losses change Ranking

DETAILED

Option Name	Alternative 1 – 795 kcmil	Alternative 2 – 997.2 kcmil	Alternative 3 – 1192.5 kcmil	Alternative 4 – 1443.7 kcmil	
Capital Cost	$ 7,800,000.00	$ 8,003,490.00	$ 8,515,070.00	$ 8,600,000.00	$ -
Annual Losses (MWHR - Detail)	6,828.00	5,565.50	4,801.50	3,997.00	
Incremental Annual OM&A	$ -	$ -	$ -	$ -	$ -
HOEP ($/MWHR)	$ 30.0000	$ 30.000	$ 30.000	$ 30.000	$ -
Annual Revenue Cost (ARC)	$ 584,248.02	$ 599,490.15	$ 637,809.33	$ 644,170.89	$ -
Cost of annual losses (CAL)	$ 204,840.00	$ 166,965.00	$ 144,045.00	$ 119,910.00	$ -
Total Annual Cost	$ 789,088.02	$ 766,455.15	$ 781,854.33	$ 764,080.89	N/A
Detailed Rank	4	2	3	1	

ENVIRONMENTAL DEFENCE INTERROGATORY - 07

Reference:
Exhibit B, Tab 9, Schedule 1, s. 3.0.

Preamble:
Per page 4:

> "Transmission line losses remain within the scope of the IESO's stakeholder engagement on transmission line losses. Hydro One does not have any basis to deviate from the HOEP value of $23.2/MWHR which is the only current settlement mechanism to recover transmission line loss costs."

Interrogatory:

a) A draft IESO transmission losses evaluation guideline is available from the IESO. The IESO's methodology accounts for, among other things, the capacity benefits of loss reductions in addition to the energy benefits, unlike the draft Hydro One guideline. Please obtain a copy of the IESO's draft guideline and conduct a transmission losses assessment in a method that is consistent with the IESO's guideline.

b) As the IESO's guideline is new, please ask the IESO to comment on a draft of Hydro One's response to (a).

c) Please provide all calculations underlying the response to (a). Please also provide the live excel spreadsheets to ensure a better understanding of what has been done and to allow stakeholders to consider the outcomes if certain variables are changed.

d) Please confirm that Hydro One's detailed transmission losses assessment as between the 1443 kcmil ACSR and 1780 kcmil ACSR options accounted only for the energy benefits ($23.2/MWh) and not the capacity benefits?

Response:

a) In Hydro One's last transmission application (EB-2019-0082), Hydro One and Environmental Defence agreed to a settlement on the issue of Transmission Line Losses. Further to and consistent with that settlement, Hydro One continues to participate in, and contribute to, the ongoing IESO stakeholder engagement regarding transmission line losses (including IESO's transmission line loss valuation methodology). As of this date, and as referenced in the question, the IESO Transmission Line Loss guideline remains draft. Hydro One is of the view that the final

determination of the methodology to evaluate transmission line losses remains within the scope of the IESO's stakeholder engagement on transmission line losses and is subject to further stakeholder review as part of that engagement.

b) Please refer to part a)

c) Please refer to part a)

d) Yes, the original assessment was based on energy price alone.

ENVIRONMENTAL DEFENCE INTERROGATORY - 08

Reference:

Exhibit B, Tab 9, Schedule 1, s.3.0.

Interrogatory:

a) Please provide an excel spreadsheet showing, for the lifetime of the proposed transmission line, the:
   i. Forecast annual demand on the proposed transmission line (MWh);
   ii. Forecast peak demand on the proposed transmission line (MW);
   iii. Forecast peak demand at the time of system peak (i.e. co-incident peak demand) in MW;
   iv. Forecast losses (MW) at the system peak hour for the 1443 kcmil ACSR and 1780 kcmil ACSR options; and
   v. Forecast annual losses (MWh) for the 1443 kcmil ACSR and 1780 kcmil ACSR options.

b) Please provide the equation to calculate the losses as a function of demand (MW) for the 1443 kcmil ACSR and 1780 kcmil ACSR options.

c) Please an excel spreadsheet with historical figures for the area to be served by the proposed transmission line, including:
   i. Hourly demand for the past five years (MW); and
   ii. Hourly demand for the past five years (MW) for the top ten system peak hours:

Response:

a) Please refer to Table A for the requested information. The excel sheet with the requested information is provided in Attachment 1 of this response.

   Please note that peak demand on the line is expected to increase until 2029. The line demand reduces in 2030 as some load is picked up by the planned 500kV line[1] between Longwood TS and Lakeshore TS coming into service. Additionally, forecast demand values are only provided up to 2035, the end of the study period considered by the IESO and no forecast is available for future years.

   i. The forecast annual demand on the proposed transmission line is given in column 1 of Table A. Please note that the demand is given in terms of Terawatt Hours – where 1 TWH is 1,000,000 MWHr);

[1] IESO Report - Need for Bulk System Reinforcements West of London - Sep 2021

ii. The forecast peak demand on the proposed transmission line (MW) is given in column 2 of Table A.

iii. The forecast peak demand at the time of system peak (MW) is given in column 3 of Table A.

iv. The forecast losses (MW) at the system peak hour for the 1443 kcmil ACSR and 1780 kcmil ACSR options are given in columns 4 and 5 of Table A

v. The forecast annual losses (MWh) for the 1443 kcmil ACSR and 1780 kcmil ACSR options are given in columns 6 and 7 of Table A.

Table A - Forecast Demand and Losses on Proposed Transmission Line[1]

	1	2	3	4	5	6	7
Year	**Annual demand per Proposed Line (TWh)**	**Peak Demand on Proposed Line (MW)**	**Peak Demand at time of System Peak (MW)**	**Losses at Time of System Peak 1443kcmil (MW)**	**Losses at Time of System Peak 1780kcmil (MW)**	**Annual losses 1443kcmil (MWh)**	**Annual losses 1780kcmil (MWh)**
2025	2.61	516	407	3.3	2.7	11273	9271
2026	2.79	562	425	3.6	3.0	13372	10997
2027	2.98	606	477	4.6	3.8	15548	12787
2028	3.18	652	515	5.3	4.4	17998	14802
2029	3.35	704	554	6.2	5.1	20984	17257
2030	2.43	512	403	3.3	2.7	11099	9128
2031	2.51	534	403	3.3	2.7	12073	9929
2032	2.61	556	439	3.9	3.2	13088	10764
2033	2.71	580	459	4.2	3.5	14243	11713
2034	2.81	608	481	4.6	3.8	15651	12871
2035	2.93	638	504	5.1	4.2	17234	14173

[1]The proposed transmission line is a double circuit transmission tower line. The loading and losses on each circuit can be obtained by dividing the above numbers by 2.

b) Line losses for each circuit, are calculated using the following equation:

$$Line\ Losses = 3 * I^2 R$$

where:
- I is the current flowing on the line, and
- R is the line resistance.

The current, I, can be calculated from the MW load by using the following formula:

$$= \frac{MW}{\sqrt{3} * Voltage}$$

c)

i. Please refer to the excel document provided as Attachment 2 of this response for the hourly flow on the 4 circuits C21J, C22J, C23Z and C24Z out of Chatham SS between 2017 and 2021.

ii. For historical system peak hours, please refer “Peak Tracker” on IESO website (Hyperlink - https://www.ieso.ca/peaktracker).

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FORECAST PEAK DEMAND ON PROPOSED LINE (TWO CIRCUITS) WEST OF CHATHAM AREA

This exhibit has been filed separately in MS Excel format.

HOURLY FLOW ON THE 4 CIRCUITS C21J, C22J, C23Z AND C24Z OUT OF CHATHAM SS BETWEEN 2017 AND 2021

This exhibit has been filed separately in MS Excel format.

ENVIRONMENTAL DEFENCE INTERROGATORY - 09

Reference:

Exhibit B, Tab 9, Schedule 1, s. 3.0.

Interrogatory:

a) Has Hydro One taken any irreversible steps that would commit it to installing a 1443 kcmil ACSR line instead of a 1780 kcmil ACSR line? If yes, what are those steps and why were they taken?

b) Has Hydro One taken any steps that would increase the cost of selecting the 1780 kcmil ACSR line (e.g. purchasing material only compatible with the 1443 kcmil option)? If yes, what are those steps and why were they taken?

c) Would a decision by Hydro One and/or the OEB to pursue a 1780 kcmil ACSR line delay the in-service date? If yes, please provide a full explanation as to why.

Response:

a) The line design has been completed based on 1443 kcmil ACSR conductor. Any changes to conductor size would require further engineering studies, which may trigger changes to tower geometry and line design which may cause changes to right of way width. Engineering studies and design changes would significantly impact the project schedule and cost.

b) Material has not yet been purchased for line construction.

c) A decision to change to a 1780 kcmil ACSR conductor, at this time, would require the abandonment of the completed design and commencement of a new design using this conductor. This would result in increased project cost and delay to the in-service date of the project.

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HAUDENOSAUNEE DEVELOPMENT INSTITUTE
INTERROGATORY - 01

Reference:

Exhibit B-2-1, Attachment 1, "General Area Map"

Interrogatory:

1. Has Hydro One considered re-routing its electricity transmission line so it is not situated on or within land subject to Haudenosaunee interests?
   a) If so, please explain why re-routing the electricity transmission line as described above has not been pursued.

   b) Please provide any materials relating to the consideration described above.

Response:

Route selection and evaluation are matters and issues addressed in Hydro One's draft Environmental Study Report ("ESR"). Please refer to Table 5-6 of the draft ESR which presents detailed results of the route evaluation, including the advantages and disadvantages of each.

The OEB's August 5, 2022 correspondence to parties participating in this proceeding have indicated that issues concerning the draft ESR are not relevant to this proceeding unless interrogatories posed are demonstrated to relate to price, reliability and quality of electricity service.

Hydro One does not interpret the information requested in this interrogatory to fall within the scope of this proceeding and therefore declines to further respond to this interrogatory.

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HAUDENOSAUNEE DEVELOPMENT INSTITUTE
INTERROGATORY - 02

Reference:

Exhibit B-1-1

> Hydro One is committed to working with Indigenous Peoples in a spirit of cooperation and shared responsibility. We acknowledge that Indigenous Peoples have unique historic and cultural relationships with their land and a unique knowledge of the natural environment. Forging meaningful relationships with Indigenous Peoples based upon trust, confidence, and accountability is vital to achieving our corporate objectives. Hydro One has been engaging with communities since early in the development process and will continue that engagement throughout the life cycle of the Project. Additionally, Hydro One has, and will continue to throughout the life cycle of the Project, engaged in extensive economic participation negotiations with impacted Indigenous communities including employment, training, contracting and equity participation in the Project.

Interrogatory:

1. Hydro One does not mention “consultation” or “engagement” with Indigenous groups in its application materials. Is it Hydro One’s position that engagement with the Haudenosaunee Confederacy Chiefs Council and/or HDI is not necessary for the project?
   a) If yes, please provide materials related to that position.

   b) If no, describe how Hydro One will engage with the Haudenosaunee Confederacy Chiefs Council and/or HDI.

2. Has Hydro One been delegated any aspects of the Crown’s duty to engage or consult with Indigenous peoples as part of the project?
   a) If yes, please provide all documents evidencing and relating to this delegation.

   b) If yes, describe Hydro One’s efforts to date to discharge its delegated duty to engage and/or consult, to the extent such efforts are not disclosed in the subject application materials.

c) If yes, please provide any documents, including correspondence and agreements, relating to Hydro One's discharge of its delegated duty to engage and/or consult.

d) If yes, has Hydro One consulted or engaged with the Haudenosaunee as part of its delegated duty to engage and/or consult?

e) If yes, has Hydro One discharged its delegated duty to engage and/or consult the Haudenosaunee?
   i. If Hydro One has not discharged its delegated duty, will Hydro One engage with the Haudenosaunee throughout the project as part of its delegated duty to engage and/or consult?

f) If yes, has Hydro One engaged with or consulted other Indigenous peoples as part of its delegated duty to engage and/or consult?
   i. If yes, has Hydro One provided any compensation or mitigation to such Indigenous peoples?

3. Has a Minister or Ministry provided Hydro One any information or guidance relating to the duty to engage or consult with Indigenous peoples?
   a) Describe such information or guidance and provide any documents relating to same.

4. Has the Ontario government, including the Ministry of the Environment, Conservation and Parks, contacted Hydro One regarding the Crown's duty to engage and/or consult?
   a) If yes, please provide any correspondence and documents relating to same.

5. What is Hydro One's understanding of "procedural aspects of consultation"?

Response:

In view of the content of the OEB's letter dated August 5,2022 to parties to this proceeding, Hydro One declines to respond to this interrogatory.

HAUDENOSAUNEE DEVELOPMENT INSTITUTE
INTERROGATORY - 03

Reference:
Exhibit E-1-1

"LAND MATTERS
[…]

2.0 DESCRIPTION OF LAND RIGHTS
The Project will require Hydro One to acquire land rights from 126 directly impacted property owners, consisting of 120 privately or municipally held properties and 6 railway crossings. The majority of properties will require Hydro One to acquire easement or fee simple corridor takings, at the property owner's election. A small number of properties will have dwellings and or major farm buildings within the new Hydro One corridor. Hydro One will work with directly impacted property owners and attempt to negotiate amicable voluntary agreements, which may include full property buyouts, at the property owner's election.
[…]

3.0 DESCRIPTION OF NEW LAND RIGHTS REQUIRED
Hydro One will document all required new land rights to construct, operate and maintain the line in a number of agreements. On affected properties, the following land rights agreements are or may be required:

- Early Access Agreement;
- Option to Purchase a Limited Interest – Easement;
- Compensation and Incentive Agreement – Easement;
- Option to Purchase – Fee Simple;
- Compensation and Incentive Agreement – Fee Simple;
- Rail Crossing Agreement (provided by rail company at a later date);
- Encroachment Permit (provided by Ministry of Transportation at a later date);
- Agreement for Temporary Rights;
- Off Corridor Access;
- Crop Land Out of Production Agreement; and
- Damage Claim Agreement/Waiver.

4.0 EARLY ACCESS TO LAND

Hydro One requires early access to the corridor to perform various activities/studies associated with the Project which include specific environmental studies, engineering and design studies, and property specific land valuations/studies."

[…]

5.0 LAND ACQUISITION PROCESS

Hydro One is seeking voluntary property rights agreements with affected property owners based on its Project specific Land Acquisition Compensation Principles.

[…]

Hydro One's property agents have been meeting with affected property owners since 29 March 2021."

Interrogatory:

1. With respect to Hydro One's acquisition of "land rights from 126 directly impacted property owners", did Hydro One consider the impact of the project on Haudenosaunee treaty rights in the subject area?
   a) Has Hydro One considered Haudenosaunee treaty rights in any capacity as part of the project?
   b) Does Hydro One believe the project will impact treaty rights of the Haudenosaunee?
   c) Is Hydro One aware that the Haudenosaunee have treaty rights pursuant to the Nanfan Treaty of 1701 that cover the lands contemplated by the project?
      i. If yes, has Hydro One sought the free, prior and informed consent of the Haudenosaunee or the HCCC to carry out the project?

2. With respect to the "land rights agreements" listed, has Hydro One considered any of these for Indigenous peoples?
   a) Has Hydro One offered any of these to Indigenous peoples?
   b) Has Hydro One offered any of these to the Haudenosaunee, whether through HCCC or HDI?

3. Is Hydro One conducting any archaeological assessments or studies as part of the project?
   a) If so, please any materials relating to such archaeological assessments.

4. Please provide Hydro One's "Land Acquisition Compensation Principles".

5. How was the compensation calculated for landowners? Please provide the formula(e).

6. What compensation was provided to landowners impacted by the proposed project?

7. What are the final financial terms of agreements between Hydro One and landowners directly impacted by the project?

Response:

1. (a)-(c) Hydro One has carried out administrative elements of the Crown's duty of consultation and accommodation with the Haudenosaunee regarding impacts that the Project may have upon asserted rights. As these matters have been determined to fall outside of the scope of issues in this proceeding (see OEB Letter dated August 5, 2022) Hydro One declines to respond further to this interrogatory.

2. (a)-(b). Hydro One's land rights access agreements are entered into with parties owning transferable real property land rights that are acquired by Hydro One for the purpose of constructing and operating its transmission facilities. Based on available information, Hydro One's understanding is that the Chatham to Lakeshore Line's preferred route does not run through any established Aboriginal title lands or any reserve lands, which would require a "land rights agreement"

3. Yes, Archaeological Assessments are being conducted as part of the Class EA process. Stage 1 Archaeological assessment reports conducted for all route alternatives may be found as part of the draft ESR and summarized at section 4.3.1. Given the OEB's letter dated August 5, 2022. Hydro One declines to respond further to this interrogatory as the conduct of archaeological assessments do not pertain to matters within the scope of this proceeding.

4. Hydro One's Chatham to Lakeshore Project Land Acquisition Compensation Principles booklet is provided as Attachment 1.

5. Compensation to directly affected landowners for the acquisition of permanent land rights required for the Project is based on a third-party appraiser's estimate of fair market value of the property and injurious affection (if applicable). This information is set out in a property-specific appraisal reports. Incentives to encourage timely acquisition of property rights are included in the compensation, as set out in the attached Land Acquisition Compensation Principles booklet. Reimbursement of reasonable legal review fees is also available to directly affected landowners, as stated in the attached Land Acquisition Compensation Principles booklet. A payment for early access to the Project corridor was also offered to directly affected property owners so that Hydro One could conduct pre-construction activities. In addition, an immediate payment is offered to property owners in recognition of the property owners time taken to receive and discuss Hydro One's real estate requirements throughout the Project.

6. See response to part 5. Compensation to directly affected property owners is specific to each property directly affected by the Project.

7. Financial terms of the agreements for the acquisition of permanent property rights for the Project are set out in the forms of agreements, such as the Compensation and Incentive Agreements, found in Exhibit E, Tab 1, Schedule 1 of Hydro One's pre-filed evidence.

Filed: 2022-08-10
EB-2022-0140
Exhibit I-3-3
Attachement 1
Page 1 of 12

CHATHAM TO LAKESHORE LINE TRANSMISSION PROJECT

LAND ACQUISITION COMPENSATION PRINCIPLES

CHATHAM TO LAKESHORE LINE TRANSMISSION PROJECT

I. INTRODUCTION

LAND ACQUISITION COMPENSATION PRINCIPLES

Hydro One Networks Inc. ("Hydro One") has initiated a Class Environmental Assessment ("EA") and selected a preferred route for the Chatham to Lakeshore Line Transmission Project (the "Project") to construct a new 230 kilovolt double circuit transmission line just under approximately 50 kilometres in length. Hydro One is now proceeding with the acquisition of the required property interests for the Project. The preferred route where Hydro One's property interests are proposed is referred to in this document as the "Project Corridor". A map of the Project Corridor is outlined in Appendix A.

Hydro One's goal is to secure voluntary property settlements with directly affected property owners ("Property Owners") in a timely manner. To facilitate this process, it is important that Hydro One's land acquisition compensation principles are communicated to and understood by Property Owners in advance. Furthermore, it is also important that Property Owners are assured these compensation principles will be applied in a fair, transparent and consistent manner.

These project-specific land acquisition compensation principles are founded upon Hydro One's past experience pertaining to land acquisition matters for new transmission projects and local characteristics of the region. Hydro One's central consideration is the need for Property Owners to have flexibility and choice while balancing Hydro One's desire to achieve timely acquisition of property interests and its obligation to ensure that expenditures are fair and reasonable to ratepayers.

Adoption and application of these compensation principles provides real value for timely settlements and to otherwise avoid potentially lengthier, less flexible and less certain outcomes associated with the legislated expropriation process.

II. ACQUISITION PROCESS

A. PROJECT NEED, CORRIDOR IDENTIFICATION AND APPROVALS

The Project need was previously identified by the Independent Electricity System Operator (IESO) and in June, 2019 the IESO requested Hydro One begin development work to build a new transmission line between Hydro One's existing Chatham Switching Station to Hydro One's future Lakeshore Switching Station currently under construction.

A safe and reliable power supply is essential to ensure southwestern Ontario can continue to grow now and into the future. The Project is intended to increase power capacity to the region by adding a new double circuit 230 kilovolt transmission line. For more information on the project please visit HydroOne.com/Chatham-to-Lakeshore

The Project is subject to the Class Environmental Assessment (EA) for Minor Transmission Facilities in accordance with Ontario's Environmental Assessment Act. Construction of the Project will also require approval from the Ontario Energy Board ("OEB"). It is anticipated in late 2021, Hydro One will submit the necessary application to the OEB for approval.

B. INTRODUCTION AND OVERVIEW

In parallel to the EA and OEB approvals ("Approvals"), Hydro One will proceed with the land acquisition process for the Project. The process will commence with individual meetings between Hydro One's dedicated Real Estate Representatives and Property Owners. This meeting is intended to review and discuss the process and land acquisition compensation principles, as set out in this document. Property Owners will be provided the necessary time throughout the process to review the materials, complete follow-up meetings and discussions with Hydro One's Real Estate Representative.

C. ALLOWANCE PAYMENT AND ACCESS TO THE PREFERRED ROUTE

At the commencement of individual meetings between Hydro One's dedicated Real Estate Representatives and Property Owners to review and discuss the process and land acquisition compensation principles, Hydro One will offer two immediate payments to all Property Owners:

(i) An immediate payment of $5,000.00 will be made in recognition of the Property Owners time taken to receive and discuss Hydro One's real estate requirements throughout the Project, referenced as an allowance payment;

(ii) An additional immediate payment of $5,000.00 for allowing Hydro One's consultants access to and along the Project Corridor to conduct environmental studies, engineering studies, land appraisal reports and legal surveys of the Project Corridor. In addition to this immediate payment, Hydro One commits to pay for any associated cropland out of production, crop and other damages that may occur given Hydro One's and their consultants' presence for the Project during this access requirement.

Acceptance of these immediate payments do not obligate the Property Owner to convey any permanent land rights to Hydro One for the Project Corridor.

D. PREPARATION OF INDEPENDENT PROPERTY APPRAISAL REPORTS AND OTHER PROJECT STUDIES

Hydro One and its consultants will collect all pertinent property information in support of the Project. The consultants include accredited independent appraisers who will prepare site-specific appraisal reports. These reports will quantify the fair market value of each property interest on the Project Corridor along with injurious affection, if applicable.

All appraisers retained by Hydro One have received an Accredited Appraiser Canadian Institute (AACI) designation from the Appraisal Institute of Canada. This ensures that appraisals are conducted in accordance with professional standards established by the Appraisal Institute of Canada.

These independent site-specific appraisal reports will be completed through the Spring and Summer of 2021.

E. PREPARATION OF HYDRO ONE PROPERTY RIGHTS ACQUISITION OFFERS

Hydro One will present each Property Owner with a formal offer based upon the information contained in the independent site-specific appraisal report. As part of Hydro One's formal land acquisition offer ("Offer"), Property Owners will be provided with a copy of the appraisal report, together with a sketch plan of the property interest to be acquired.

F. NEXT STEPS

Following receipt and consideration of Hydro One's Offer, the next steps in the process will depend upon whether individual Property Owners consider Hydro One's Offer acceptable. If the Offer is accepted, the acquisition process will proceed and the parties will finalize the transaction within several weeks.

However, if the Property Owner elects to further assess/review the Offer utilizing an independent appraiser to complete an additional site-specific appraisal, Hydro One will reimburse the Property Owner up to $7,500.00, which is the expected cost of an additional site-specific appraisal report. To be eligible for this reimbursement, the Property Owner must notify Hydro One of its decision to retain independent appraisal services. An independent appraisal carried out for the Property Owner must be conducted by an AACI accredited appraiser and a copy of the site-specific appraisal report is to be provided to Hydro One before reimbursement is paid. If a Property Owner proceeds with this choice, they will forgo the 'Acceptance of the Hydro One Offer' incentive (as described in Section III, Parts B & C).

Reimbursement of the above-noted independent appraisal costs is in no way intended to bind the Property Owner to voluntarily sell the property interests required by Hydro One.

Hydro One's Offer will remain open for acceptance for a limited period of time. If the parties are unable to complete a voluntary property settlement by the time Hydro One files an application to seek expropriation authority status pursuant to Section 99 of the Ontario Energy Board Act, 1998 ("OEB Act"), then Hydro One's Offer will lapse. However, Property Owners are assured of reasonably sufficient time to consider the Offer, inclusive of the required efforts of independent appraisal and legal reviews as may be initiated by the Property Owners.

In the event the Offer lapses as a result of Hydro One initiating expropriation, a revised compensation offer will be provided to the Property Owner. While the revised offer will comply with the compensation requirements of the Expropriations Act, it will no longer include the compensation incentives (as described further in this document) to achieve the objective of early voluntary property settlements.

III. COMPENSATION PRINCIPLES

A. PRINCIPLES

This section describes the principles Hydro One is committed to follow in respect to the voluntary settlement of property interests for the Project:

Property Owner Choice

Property Owners will be offered the choice of Hydro One acquiring either an easement or the fee simple interest in the lands required for the Project Corridor.

Independent Valuation

Hydro One's Offers will be based upon site-specific appraisal reports prepared by external, independent AACI accredited appraisers. The appraiser will be directed to complete site-specific appraisals which will include a Property Owner interview and inspection of the property. In addition, the appraiser will be directed to consider properties as unencumbered, which ignores any other existing encumbrances that may be present.

Incentives

Compensation premiums, over and above fair market value, as set out herein will be made available as an incentive to achieve the timely acquisition of required property interests. Incentives will be applied on a fair, transparent and consistent basis.

Construction & Mitigating Physical Property Damages

Upon acceptance of the Offer by the Property Owner and subject to Approvals, Hydro One will complete the acquisition of the property interests and commence construction activities in accordance to its plans and schedule. During pre-construction and construction activities, Hydro One commits to working with Property Owners to ensure physical property damages are mitigated. If mitigation is not possible, Hydro One commits to compensate Property Owners for all physical damages that arise out of the construction related activities by Hydro One and/or its contractors.

B. PRINCIPLES APPLICABLE TO THE ACQUISITION OF EASEMENT INTERESTS

This section describes more specific compensation principles applicable to the voluntary acquisition of easement interests. Hydro One commits to implementing the following easement compensation principles:

Valuation of Easement Interest

Hydro One's Offer will value all easement interests based upon 75% of the appraised fair market value of the subject property applied to Hydro One's individual property requirements.

Injurious Affection

Compensation for injurious affection is provided when reductions to the market value of the remaining property interests are estimated to result from Hydro One's use of the interest in the portion of the property required for the Project. This amount is determined as part of the independent appraisal process. The analysis takes into consideration various attributes of the remaining property and whether a loss in market value is likely to result from the construction and operation of the Project.

Hydro One will ensure that all appraisals prepared by Hydro One's independent appraisers consider and, where applicable, make provision for any injurious affection arising to the remaining acreage of the property directly impacted by the Project Corridor that is owned by the Property Owner.

Incentive Compensation
Property Owners who accept Hydro One's Offer to acquire easement interests will be provided with the following incentive compensation amounts:

Premium Above Fair Market Value
An amount equal to 50% of the appraised fair market value of the acreage over which the easement interest will be taken. This equates to a fair market value payment of 125% for the easement interest required for the Project Corridor; plus

Option Payment
An Option payment between a minimum of $10,000.00 and a maximum of $30,000.00 paid at the time the option agreement is registered. This Option payment represents 15% of the fair market value of the easement interest at 125%; plus

Acceptance of the Hydro One Offer
At the time Hydro One exercises the Option, a further payment between a minimum of $10,000.00 and a maximum of $30,000.00 based upon 10% of the combined total of the appraised fair market value of the easement area at 125% and any applicable injurious affection. Payment of this incentive is conditional on the Property Owner not requesting reimbursement of costs for an additional independent appraisal report (as described in Section II, Part F).

Other Compensation
Hydro One commits to reimbursing Property Owners for reasonably incurred transaction costs (such as lawyer's fees) associated with the review and completion of applicable conveyancing documents.

Hydro One further commits to compensating Property Owners for all damages that arise out of the construction related activities by Hydro One and/or its contractors. The types of construction damages could include but are not limited to: rutting of laneways; fence or gate damage; and crop/related agricultural impacts. In addition, Property Owners are assured that all damages arising out of the Project will be rectified or reimbursed.

Hydro One will consider on a case-by-case basis whether unique or exceptional circumstances exist which require the payment of additional compensation.

C. PRINCIPLES APPLICABLE TO THE ACQUISITION OF A FEE SIMPLE (OWNERSHIP) INTEREST

This section describes the compensation principles that will be applied when Property Owners prefer to sell the fee simple (ownership) in the property interests required for the Project Corridor instead of an easement interest. In such circumstances, Hydro One will implement the following compensation principles:

Valuation
Hydro One's Offer will value fee simple interests based upon 100% of the appraised fair market value of the subject property applied to Hydro One's individual property requirements.

Injurious Affection
Compensation for injurious affection is provided when reductions to the market value of the remaining property interests are estimated to result from Hydro One's use of the interest in the portion of the property required for the Project. This amount is determined as part of the independent appraisal process. The analysis takes into consideration various attributes of the remaining property and whether a loss in market value is likely to result from the construction and operation of the Project.

Hydro One will ensure that all appraisals prepared by Hydro One's independent appraisers consider and, where applicable, make provision for any injurious affection arising to the remaining acreage of the property directly impacted by the Project Corridor that is owned by the Property Owner.

Incentive Compensation
Property Owners who accept Hydro One's Offer to acquire fee simple interests will be provided with the following incentive compensation amounts:

Premium Above Fair Market Value
An amount equal to 25% of the appraised fair market value of the acreage over which the fee simple interest will be taken. This equates to a fair market value payment of 125% for the fee simple interest required for the Project Corridor; plus

Option Payment
An Option payment between a minimum of $10,000.00 and a maximum of $30,000.00 paid at the time the option agreement is registered. This Option payment represents 15% of the fair market value of the fee simple interest at 125%; plus

Acceptance of the Hydro One Offer
At the time Hydro One exercises the Option, a further payment between a minimum of $10,000.00 and a maximum of $30,000.00 based upon 10% of the combined total of the appraised fair market value of the fee simple area at 125% and any applicable injurious affection. Payment of this incentive is conditional on the Property Owner not requesting reimbursement of costs for an additional independent appraisal report (as described in Section II, Part F).

Other Compensation
Hydro One commits to reimbursing Property Owners for reasonably incurred transaction costs (such as lawyer's fees) associated with the review and completion of applicable conveyancing documents.

Hydro One further commits to compensating Property Owners for all damages that arise out of the construction related activities by Hydro One and/or its contractors. The types of construction damages could include but are not limited to: rutting of laneways; fence or gate damage; and crop/related agricultural impacts. In addition, Property Owners are assured that all damages arising out of the Project will be rectified or reimbursed.

In circumstances where the Property Owner seeks to continue to use the newly-acquired Project Corridor lands, Hydro One will make all reasonable efforts to negotiate a licence-back arrangement for the ongoing occupation and use of the Project Corridor in compliance with Hydro One's licensing policy.

Hydro One will consider on a case-by-case basis whether unique or exceptional circumstances exist which require the payment of additional compensation.

D. PRINCIPLES APPLICABLE TO THE ACQUISITION OF A FULL PROPERTY BUYOUT

If a Property Owner's primary residence or a major outbuilding is located within the new Project Corridor, Hydro One will offer a one-time choice of either:

(i) Acquiring the Property Owner's entire property on which the Project Corridor is situated; or

(ii) Acquiring only that portion of the Property Owner's property that is on the Project Corridor lands and providing compensation for the loss of the primary residence and/or major outbuilding, including reasonable relocation costs.

This election cannot be subsequently revisited. In such circumstances, Hydro One will implement the following compensation principles:

Principles Applicable to Full Property Buyout Offers

Valuation
The full property will be valued based upon 100% of the appraised fair market value of the entire subject property.

Disturbance Premium
Hydro One will provide a disturbance premium equal to 25% of the fair market value of the entire subject property. This equates to a fair market value payment of 125% for the full property buyout.

Relocation Costs
Hydro One will reimburse all reasonable relocation costs incurred by Property Owners.

Incentive Compensation
Property Owners who accept Hydro One's Offer to acquire a full property buyout will be provided with the following incentive compensation amounts:

Option Payment
A $30,000.00 payment paid at the time the option agreement is registered, providing Hydro One with the option to purchase the subject property.

Acceptance of the Hydro One Offer
At the time Hydro One exercises the Option, a further payment of $30,000.00 will be made. Payment of this incentive is conditional on the Property Owner not requesting reimbursement of costs for an additional independent appraisal report (as described in Section II, Part F).

Other Compensation
Hydro One commits to reimbursing Property Owners for reasonably incurred transaction costs (such as lawyer's fees) associated with the review and completion of applicable conveyancing documents.

Hydro One will consider on a case-by-case basis whether unique or exceptional circumstances exist which require the payment of additional compensation.

E. PRINCIPLES APPLICABLE TO THE ACQUISITION OF A VOLUNTARY FULL PROPERTY BUYOUT

Hydro One is prepared to voluntarily acquire a full property buyout in the following circumstance:

This circumstance will arise if a Property Owner's primary residence is located within 100 metres from the centreline of the new Project Corridor and the Project Corridor is situated on the Property Owner's subject property. This circumstance is intended to provide eligible Property Owners with the choice and opportunity to have Hydro One purchase their full property.

If a Property Owner qualifies for this circumstance, Hydro One will acquire the full property for up to a one-year period from the date the Project is in-serviced. The voluntary buyout offer will be included as part of the option agreement and will apply only to Property Owners registered on title as of the date of the Offer. This principle will not apply to any successors in title during the one-year period or beyond.

In this circumstance, the Property Owner will have first selected either the easement or fee simple option (Section III, Parts B & C) and therefore prior payments of fair market value, injurious affection (if applicable) and the 'Premium Above Fair Market Value' incentive, will be deducted from the appraised full parcel fair market value determination.

Principles Applicable to Voluntary Full Property Buyout Offers

Valuation
The full parcel will be valued based upon 100% of the appraised fair market value of the entire subject property as of the date the Property Owner elects this option.

Other Compensation
Hydro One commits to reimbursing Property Owners for reasonably incurred transaction costs (such as lawyer's fees) associated with the review and completion of applicable conveyancing documents.

Hydro One will consider on a case-by-case basis whether unique or exceptional circumstances exist which require the payment of additional compensation.

F. SUMMARY

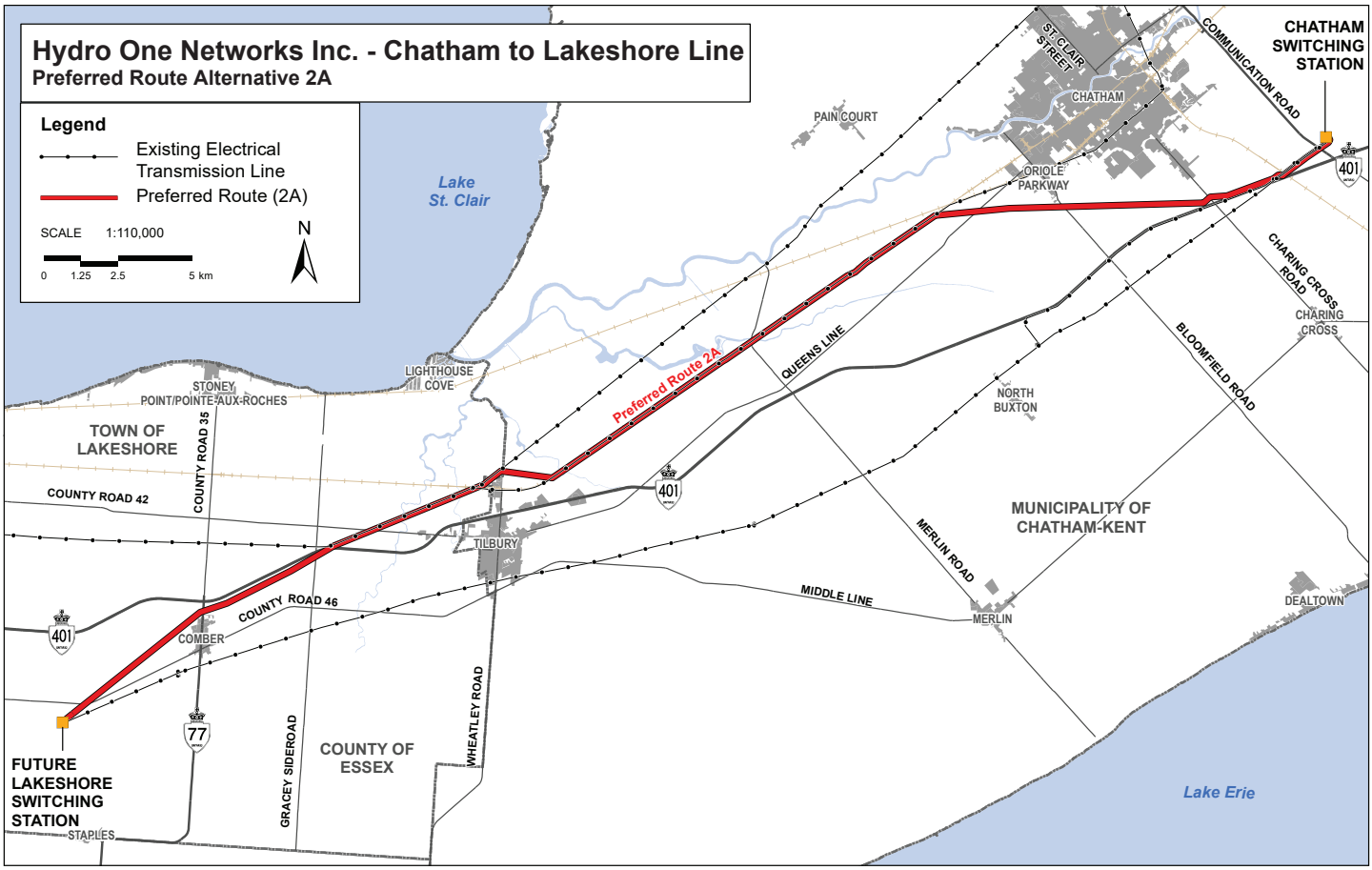
Hydro One aims to enter into option agreements with Property Owners to acquire an easement/fee simple interest in the Project Corridor or if applicable a mandatory/voluntary full property buyout. The land acquisition compensation principles (other than reimbursement of independent appraisal costs as discussed in Section II, Part F of this document) will be incorporated into the terms and conditions of the agreement(s) made between Hydro One and the Property Owners, which form part of the option agreements.

At the time the option agreement is registered, Hydro One will pay Property Owners an incentive compensation amount between $10,000.00 and $30,000.00. Hydro One will pay the balance of the agreed upon compensation and incentive amounts if and when the Approvals for the Project are obtained and the option agreement is exercised by Hydro One.

Hydro One commits to having its Offer remain available to Property Owners until such time as Hydro One decides to seek expropriation authority status pursuant to Section 99 of the OEB Act. This step will happen only if and when Approvals for the Project have been obtained.

APPENDIX A

Map of Preferred Route



FOR MORE PROJECT INFORMATION:

HydroOne.com/Chatham-to-Lakeshore

Interactive map arcg.is/1PKL1n

HAUDENOSAUNEE DEVELOPMENT INSTITUTE
INTERROGATORY - 04

Reference:

Procedural Order No. 1 in EB-2022-0140, dated July 13, 2022

> The OEB also notes that the Project is subject to an Environmental Assessment conducted by the Ministry of the Environment, Conservation and Parks, and that the duty to consult for the Project is led by the Ontario government as part of the Environmental Assessment process.

Interrogatory:

1. Has Hydro One been contacted by the Ontario government, whether the Ministry of the Environment, Conservation and Parks or otherwise, regarding the duty to consult?
   a) If yes, please provide any correspondence and materials relating to same.

2. Is Hydro One aware of any efforts of the Ontario government, whether through the Ministry of the Environment, Conservation and Parks or otherwise, to discharge its duty to consult?
   a) If yes, please describe such efforts and provide any materials relating to same.

3. Is Hydro One willing to accept as a condition for approval, in general terms, that Hydro One must engage with the Haudenosaunee, whether through HCCC and/or HDI, in respect of the project?

4. Will Hydro One engage with the HCCC and/or HDI in respect of the project?

Response:

The information requested in this interrogatory falls outside of the scope of issues in this proceeding per the OEB's Letter dated August 5, 2022. Hydro One therefore declines to provide any further response.

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THREE FIRES GROUP INTERROGATORY - 01

Reference:

Exhibit E, Tab 1, Schedule 1

Preamble:

HONI states that it will acquire land rights from 126 directly impacted property owners, consisting of 120 privately or municipally held properties and 6 railway crossings. HONI notes that the majority of properties will require it to acquire easement or fee simple corridor takings, at the property owner's election. A small number of properties will have dwellings and or major farm buildings within the new HONI corridor.

Interrogatory:

a) Please indicate whether all the land required for permanent easement and temporary land use are held in fee simple? If not, please identify the location of such other lands and indicate the applicable land rights.

Response:

a) All lands required for permanent easement and temporary land use are held in fee simple by the landowner. It is anticipated that all lands contemplated for temporary land uses will be through the use licences entered into between Hydro One and the landowner.

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THREE FIRES GROUP INTERROGATORY - 02

Reference:

Exhibit B, Tab 1, Schedule 1

Preamble:

HONI notes that it "is committed to working with Indigenous Peoples in a spirit of cooperation and shared responsibility" and acknowledges "that Indigenous Peoples have unique historic and cultural relationships with their land and a unique knowledge of the natural environment."

TFG has identified the proposed project area as an area of known sensitivity and high cultural and ecological importance to the Chippewas of Kettle and Stony Point First Nation **("CKSPFN")** and Caldwell First Nation (together, the **"TFG First Nations"**).

Interrogatory:

a) Please discuss whether HONI has considered the social impacts of the proposed project on the TFG First Nations. If yes, please provide details and all related reports, presentations or other documents. If no, please explain why not.

b) Please discuss whether HONI has considered the cultural heritage impacts of the proposed project on the TFG First Nations. If yes, please provide details and all related reports, presentations or other documents. If no, please explain why not.

c) Please discuss whether HONI has considered the Project's impacts on systemic inequalities, including gender, gender diverse people, race, ethnicity, religion, age, mental or physical disability.

d) Please discuss whether HONI has considered the impacts of the expected construction workforce on the surrounding communities, including the TFG First Nations, specifically as it relates to negative social impacts (including, solely by way of example, potential substance abuse, disproportionate impacts on women in communities, and impacts on the sex trade). If yes, please provide details and all related reports, presentations or other documents and explain how HONI intends to mitigate the identified negative social impacts. If no, please explain why not and discuss how HONI intends to mitigate the identified negative social impacts of the Project in the surrounding communities.

Response:

The information requested in this interrogatory falls outside of the scope of issues in this proceeding per the OEB's Letter dated August 5, 2022. Hydro One therefore declines to provide any further response.

THREE FIRES GROUP INTERROGATORY - 03

Reference:

- The Chatham to Lakeshore 230 kV Transmission Line Class Environmental Assessment, Draft Environmental Study Report, June 11, 2021, Table 1-1, Potentially Required Permits, Licenses and Approvals

- Ontario Energy Board's Standard Conditions of Approval for Electricity Leave to Construct Applications (the "**Standard Conditions**"), provided in the Board's Procedural Order No. 1 as Attachment 1

- Hydro One Indigenous Relations Policy

- Truth and Reconciliation Commission of Canada ("**TRCC**") "Calls to Action"[1] (Appendix B)

- United Nations Declaration on the Rights of Indigenous Peoples ("**UNDRIP**")[2] (Appendix C)

Preamble:

HONI's Indigenous Relations Policy provides that HONI has the goal of achieving "the agreement and support, articulated in UNDRIP as "Free Prior and Informed Consent", of Indigenous peoples" and recognizes the "obligations industry has in Reconciliation with Indigenous people, to address meaningful and measurable change in cultural understanding and economic outcomes."

Section 4(a) of the *United Nations Declaration on the Rights of Indigenous Peoples Act*,6 affirms UNDRIP as a universal international human rights instrument with application in Canadian law.

UNDRIP requires that Indigenous Peoples are consulted in good faith in order to obtain their free, prior and informed consent ("**FPIC**") (i) before measures are adopted that affect them (article 19) or (ii) when undertaking a project that affect their rights to land, territory and resources (article 32).

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[1] Truth and Reconciliation Commission of Canada "Calls to Action" (29 March 2016), available online at: https://crc-canada.org/wp-content/uploads/2016/03/trc-calls-to-action-english.pdf.

[2] UN General Assembly, United Nations Declaration on the Rights of Indigenous Peoples: resolution / adopted by the General Assembly (2 October 2007), A/RES/61/295, available online at: https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf.

The TRCC's Call to Action #92 calls upon the corporate sector in Canada to adopt UNDRIP as a reconciliation framework and to apply its principles, norms, and standards to corporate policy and core operational activities involving Indigenous peoples and their lands and resources.

Interrogatory:

a) Please place the HONI Indigenous Relations Policy on the record in this proceeding.

b) What agreements, authorizations, and or approvals with and/or from First Nation governments, including the TFG First Nations, does HONI envision needing or entering into to support the Project?

c) Please discuss whether section 1 of the Standard Conditions, includes the requirement to obtain the FPIC of affected Indigenous communities. If no, please explain whether HONI's determination that FPIC is not a "necessary approvals, permits, licences, certificates, agreements and rights required to construct, operate and maintain the project" is consistent with the HONI Indigenous Relations Policy and the TRCC's Call to Action #92.

d) Will HONI commit to obtaining the FPIC of TFG First Nations in relation to the potentially required permits, licenses and approvals? TFG notes the following in particular as having a high impact on the potential rights and interests of our First Nations:
    - MECP – Permit to Take Water
    - MECP – Approvals and/or Permits under the Endangered Species Act, 2007
    - MHSTCI – Archaeological Acceptance Letters
    - Essex Region Conservation Authority (ERCA) and Lower Thames Valley Conservation Authority (LTVCA)
    - Fisheries Act Authorization

Response:

In view of the content of the OEB's letter dated August 5,2022 to parties to this proceeding, Hydro One declines to respond to this interrogatory.

THREE FIRES GROUP INTERROGATORY - 04

Reference:

- The Chatham to Lakeshore 230 kV Transmission Line Class Environmental Assessment, Draft Environmental Study Report, June 11, 2021, Section 4, Environmental Inventory.

Preamble:

> *"Where private property access was not granted and the property was associated with a natural feature(s), [...] where access was granted."*

Interrogatory:

a) How many sites with natural features were denied direct access for monitoring?

b) Did any of the denied sites contain a natural heritage features and areas, as defined in the PPS (2020)?

Response:

The information requested in this Interrogatory falls outside of the scope of issues in this proceeding per the Board's Letter dated August 5, 2022). Hydro One therefore declines to provide any further response.

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THREE FIRES GROUP INTERROGATORY - 05

Reference:

- The Chatham to Lakeshore 230 kV Transmission Line Class Environmental Assessment, Draft Environmental Study Report, June 11, 2021, Section 4.3.1 Archaeology.

Preamble:

> *"Hydro One commits to completing the Stage 2 Archaeological Assessment for these identified areas of archaeological potential along the preferred Route Alternative prior to construction."*

Interrogatory:

a) Will HONI commit to sharing the most current Archaeological Assessment with TFG via the Consultation departments at each of the TFG First Nations and as a response to this IR?

b) Can HONI comment (in Agricultural Resources) potential effects to adjacent farm fields from the spread of soil borne pests, particularly soybean cyst nematode (SCN), from construction activities occurring on an infected field?

c) Please indicate whether HONI has a "best management / practice protocol" to minimize the spread of soil borne pest(s) in farm fields? If yes, please place the protocol on the record in this proceeding. If no, why not?

Response:

The information requested in this Interrogatory falls outside of the scope of issues in this proceeding per the OEB's Letter dated August 5, 2022. Hydro One therefore declines to provide any further response.

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THREE FIRES GROUP INTERROGATORY - 06

Reference:

- The Chatham to Lakeshore 230 kV Transmission Line Class Environmental Assessment, Draft Environmental Study Report, June 11, 2021, Section 4.6.4 Groundwater Hydrology.

Preamble:

> *"Groundwater hydrology was assessed in the Essex Region Groundwater Study Volume 1: Geological/Hydrogeologic Evaluation conducted by Dillon Consulting Limited and Golder Associated Limited (Dillon and Golder, 2004)."*
>
> *"As described in the report by Dillon and Golder (2004), [...] and the Lower Thames River."*

Interrogatory:

a) TFG notes that this study is out of date for the purpose of an ESR. Will HONI commit to conducting a new Groundwater Hydrology assessment?

Response:

a) The information requested in this interrogatory falls outside of the scope of issues in this proceeding per the OEB's Letter dated August 5, 2022. Hydro One therefore declines to provide any further response.

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THREE FIRES GROUP INTERROGATORY - 07

Reference:

- The Chatham to Lakeshore 230 kV Transmission Line Class Environmental Assessment, Draft Environmental Study Report, June 11, 2021, Section 4.6.7, Natural Heritage Features: Wetlands, Natural Heritage Features: Aquatic and Fish Habitats, Natural Heritage Features: Species at Risk ("**SAR**"), Wildlife and Significant Habitat.

Interrogatory:

a) Please provide TFG with protection plans for (1) SAR species and (2) SAR habitat for the five wetland units observed.

b) If the request in (a) is not available, please provide details on how potential SAR habitat and SAR species will be protected during construction and operation of the Project?

c) Please provide any and all results of field investigations regarding mussel species along the proposed route.

d) Please provide an explanation and quantity of Category 2 trees proposed to be listed for removal, given that Category 2 Butternut Trees "could support the protection or recovery of Butternut trees in the area in which the tree is located".

e) Please indicate whether any of the variations within Alternative 1A avoid the identified Butternut trees.

f) Does HONI have a tree replacement program? If yes, please provide details. If no, please explain why not.

g) Please indicate and provide details of whether the ERCA and/or LTVCA have identified critical habitat for lilliput.

h) Please indicate whether rare pin oak is present in the proposed route, noting rare pin oak is an important tree relative to TFG First Nations. Please provide details as to any and all mitigation measure(s) that will be taken to ensure and maintain the integrity of rare pin oak along the ROW?

i) Please indicate whether Climbing Prairie Rose and/or Honey Locust are located along the proposed route and whether they will be damaged or removed during project construction and/or right-of-way ongoing maintenance.

j) Please indicate what permits would need to be obtained to remove species of conservation concern. Please indicate whether HONI will obtain the FPIC of the TFG First Nations prior to removing species of conservation concern.

k) Please indicate whether HONI has an invasive species management plan to minimize the spread of introduced species on lands associated with the right-of-way. If yes, please place the plan on the record in this proceeding. If no, why not?

Response:

The information requested in this Interrogatory falls outside of the scope of issues in this proceeding per the OEB's Letter dated August 5, 2022. Hydro One therefore declines to provide any further response.

MUNICIPALITY OF CHATHAM-KENT INTERROGATORY - 01

Reference:
Exhibit E-1-1, Pages 3-4

Interrogatory:
Hydro One's property agents have been meeting with affected property owners since 29 March 2021. The objective of these meetings has been to introduce Hydro One's land acquisition process. Independent site-specific property appraisals are on-going, and Hydro One is preparing voluntary property settlement offers based on these appraisals and the Company's Land Acquisition Compensation Principles.
…
The change to both of the above Option Agreements is Early Access (Schedule B, 5 clause 8b of the Easement Option; and Schedule B, clause 7b of the Fee Simple Option) while Hydro One's external conveyancer closes the Option Agreements. Another change to the Option to Purchase a Limited Interest – Easement is the addition of a liability clause (clause 3 of Schedule C). The change to the above Compensation and Incentive Agreements is a market value top-up (clause 1b) to recognize the dynamic real estate market in Ontario.

1. How will the Applicant account, and compensate landowners and impacted communities, for rising land costs in the project area?

2. Without limiting the foregoing, please elaborate on the market value top-up. Please explain any other measures adopted by the Applicant to compensate landowners and impacted communities for rising land costs.

3. Please provide any additional documentation and supporting material underlying the Applicant's accounting for increased land costs, including the market value top-up.

Response:
1. Independent third party site specific property appraisals conducted by appraisers with an Accredited Appraiser Canadian Institute ("AACI") designation are used to determine the value for all Hydro One permanent land acquisitions on directly impacted properties. These values are based upon relevant and applicable comparable real estate transactions to determine current fair market value of the required project land rights.

2. Please see the clause below that is included in the Hydro One Compensation and Incentive agreement between Hydro One and directly impacted property owners found as an attachment to Exhibit E, Tab 1, Schedule 1 of the prefiled evidence:

> "In recognition of a dynamic real estate market and that the effective date of HONI's appraised values in the HONI Appraisal are only relevant for a limited period of time, Hydro One shall provide a market value top-up where the passage of time between the effective date of the HONI Appraisal and the date Hydro One receives project approval pursuant to section 92 of the Ontario Energy Board Act, 1998, S.O. 1998, c. 15, Sched. B. (the "Section 92 Approval") warrants such top-up (the "Top-Up").
>
> Provided that the Owner and Hydro One have entered into an Option Agreement prior to Hydro One receiving the Section 92 Approval, the Owner shall be entitled to the Top-Up, if applicable. The amount of the Top-Up is the difference between the HONI Appraisal, and the market value as of the date of the Section 92 Approval (if such market value is greater than the amount in the HONI Appraisal), adjusted for time only (change in market conditions) and based on an independent land rate study considering this singular factor. The land rate study will be prepared by an independent third party appraiser with an Accredited Appraiser Canadian Institute designation from the Appraisal Institute of Canada.
>
> The Top-Up amounts will be paid by Hydro One to the Owner by adding the applicable amounts to the Purchase Price, Premium Above Fair Market Value, and the IA Compensation, if applicable."

No other measures have been used to account for rising land costs.

3. No additional documentation or supporting material was used to account for increased land costs.

MUNICIPALITY OF CHATHAM-KENT INTERROGATORY - 02

Reference:
Exhibit B-6-1, Page 1

Interrogatory:
At the reference above, Hydro One states:

> The new transmission line facilities will ensure that load in the Windsor-Essex area can be adequately supplied and avoid the potential for increased congestion in the west of Chatham area. The new line will also improve the reliability and quality of energy supply by providing an additional transmission path for system generation to be delivered to the area west of Chatham as well as preserve the Ontario-Michigan intertie capability.

1. How or does the project improve reliability or quality of service for:
   a) Commercial customers in Chatham-Kent?
   b) Residential customers in Chatham-Kent?

2. Please provide any additional documentation, supporting material, and analysis concerning improvement of reliability or quality of service for commercial customers and residential customers.

Response:
1. The Chatham to Lakeshore Project will improve the reliability of supply in the Windsor – Essex region by materially reducing the need to identify and select customers for potential rejection for system contingencies. Entegrus Powerlines Inc., the local distribution company for the Municipality of Chatham-Kent, is supplied from the recently built Leamington TS which will benefit from the reinforcement of the transmission network with the new line. Hence customers (residential and commercial) in the Municipality directly benefit from the new line. More benefit will accrue to customers (residential and commercial) in the Municipality if in future Entegrus is supplied from any new station in the Windsor – Essex region.

2. This transmission line provides the basis to meet long-term growth needs in the region in the most cost-effective manner as detailed in IESO Bulk Planning Report, “Need for Bulk Transmission Reinforcement in the Windsor-Essex Region” provided in Exhibit B, Tab 3, Schedule 1, Attachment 2. As detailed in the referenced report, the reinforcement of the transmission system west of Chatham provides additional

benefits beyond meeting the reliability requirements of the broader Windsor-Essex region. This reinforcement will provide system flexibility, relieve congestion to provide access to lower cost provincial generation and improve the economic dispatch of local resources to supply needs, decrease losses along the West of Chatham interface, and decrease exposure to local generation and transmission outages. Further, please refer to Exhibit F, Tab 1, Schedule 1, Attachment 1 for the System Impact Assessment which provides details of the rejection requirements following the incorporation of the new line and before its incorporation.

MUNICIPALITY OF CHATHAM-KENT INTERROGATORY - 03

Reference:
Exhibit B-3-1

Interrogatory:
At the reference above, Hydro One states: "Hydro One concurs with the IESO's determination that there is a need to increase the long-term transmission capacity to the Windsor-Essex area by winter of 2025/2026."

1. How quickly can the project be completed and what has and can be done by Hydro One to expedite the project?

Response:
Hydro One is forecasting an in-service date of December 2025. Please refer to Exhibit I, Tab 1, Schedule 5 for a description on steps Hydro One is taking to facilitate early implementation of the Project.

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POLLUTION PROBE INTERROGATORY - 01

Interrogatory:

a) Please identify any specific improvements to system reliability that will result from the project.

b) What reporting metrics (if any) will be used to demonstrate the projects contribution to reliability once in service.

c) Please explain how this project will support increased DER capacity in Ontario.

d) Please explain what supply and demand assumptions have been made in regards to increased electrification in Ontario over the life of the proposed assets.

Response:

a) Please refer to Exhibit I, Tab 5, Schedule 2.

b) Hydro One does not have a reporting metric that will demonstrate the Project's specific contribution to reliability.

c) The new line will enable more load supply stations to be developed which would then support the connection of new DER sources.

d) Please refer to Exhibit I, Tab 2, Schedule 1.

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POLLUTION PROBE INTERROGATORY - 02

Interrogatory:

a) Please confirm the specific "Project"' scope for Leave to Construct approval (including conditions of approval) purposes.

b) Please provide details on any other facilities or projects incremental to the approvals sought in this Leave to Construct proceeding that would also need to be constructed to meet the incremental need identified in this application.

c) Enbridge has also applied for a Leave to Construct (EB-2022-0157) to increase energy (natural gas) supply to south-western Ontario including many of the same customer needs. Please identify any coordination done to ensure that these independent projects are not duplicating energy supply to the same customers. If no coordination was done, please confirm.

Response:

a) Please refer to Exhibit B, Tab 2, Schedule 1 and Exhibit C, Tab 1, Schedule 1.

b) Please refer to Exhibit I, Tab 1, Schedule 3.

c) The IESO has been meeting with Enbridge to ensure coordination and awareness of on-going and planned projects in the west of London area since the second cycle of regional planning began for the Windsor-Essex region. Agricultural loads have separate gas and electricity requirements. Natural gas is typically used for heat and carbon dioxide to feed the crops, whereas electricity is typically used for lighting and ventilation. So, while both projects may supply the same customers, the needs and purposes of each project are unique and not duplicative. Coordination with Enbridge has focused on understanding their assumptions on forecast acreage expansion as one input to the IESO's load forecast.

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POLLUTION PROBE INTERROGATORY - 03

Interrogatory:

Given the Order in Council dated March 31, 2022 outlining the need for the project, please explain why did Hydro One not simply request an exemption from an OEB Leave to Construct (e.g. what does Leave to Construct approval provide that an exemption would not).

Response:

The scope of the OEB's legislative authority with respect to applications seeking leave to construct electricity transmission lines is set out in sections 92 and 96 of the *Ontario Energy Board Act*, *1998 (*"the Act"). The application, as filed, comports with these requirements.

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POLLUTION PROBE INTERROGATORY - 04

Reference:

Exhibit B, Tab 2, Schedule 1, Page 2.

> "For approximately 16 km, the proposed line will be located in an idle 115 kV transmission corridor between Chatham and Tilbury. The existing idle transmission line structures, conductor and associated components will be dismantled, removed, and replaced, and the corridor will be widened to accommodate the proposed double circuit transmission line."

Interrogatory:

a) Is the removal of the 115kV infrastructure part of the project scope for the Leave to Construct?

b) Will there be a net salvage benefit related to removing the 115 kV infrastructure? If yes, please indicate the estimated value.

c) How does the net salvage value (or incremental costs) for the 115 kV removal get passed along to rate payers (e.g. is it part of this project costs or will it be dealt with through an separate proceeding)

Response:

a) The removal of the 115kV infrastructure is part of the project scope for which leave is sought.

b) The salvage value has been incorporated and partially offsets the total removal costs by the contractor.

c) Please refer to part b).

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POLLUTION PROBE INTERROGATORY - 05

Reference:

Exhibit B-3-1, Attachment 2, Page 7.

> *"The scope of this project included an extension - approximately 13 km - of two existing 230 kV circuits …".*

Interrogatory:

Please reconcile the IESO recommendation for a 13 km section against Hydro One's proposal for a 49 km section.

Response:

The referenced section, in its entirety, states:

> "In April 2015, the IESO published an IRRP for the Windsor-Essex Region, which recommended the Supply to Essex Country Transmission Reinforcement ("SECTR") project. The scope of this project included an extension - approximately 13 km - of two existing 230 kV circuits from Chatham SS to Keith TS (located in Windsor), south to Leamington to supply a new transformer station for the area, Leamington TS #1."

The "project" noted above refers to the Supply to Essex County Transmission Reinforcement (SECTR) that was subject of proceeding EB-2013-0421 and has already been placed in-service. That project is not the subject of this proceeding.

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POLLUTION PROBE INTERROGATORY - 06

Interrogatory:

a) Was an Environmental Assessment conducted for the proposed project? If yes, please provide a copy. If not, please indicate why not or when one will be completed.

b) Have environmental and socio-economic mitigation plans been developed for the proposed route? If yes, please provide a copy. If not, please indicate why not or when they will be completed.

c) What are the environmental and socio-economic mitigation and restoration costs included in the project cost estimate and how were they developed?

Response:

a) Please refer to Exhibit I, Tab 1, Schedule 6.

b) Yes. Chapter 7 of the draft Environmental Study Report ("ESR) for the Project describes the potential environmental effects (both natural and socio-economic environment) of the project as well as associated measures that Hydro One has committed to avoid, mitigate or restore these effects. Table 7-1 of the draft ESR provides a summary of the information included in Chapter 7.

c) The environmental and socio-economic mitigation and restoration costs included in the line cost estimate is $ 3.8M. This includes restoration, drain tile work, road restoration, waste management, and environmental controls. This cost is included in the Equipment Rental and Contractor Cost component of the estimate provided in Exhibit B, Tab 7, Schedule 1. The environmental and socio-economic restoration cost estimate was developed based on limited opportunities for site visits and access during the planning process as described in Exhibit B, Tab 9, Schedule 1.

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POLLUTION PROBE INTERROGATORY - 07

Interrogatory:

Please indicate if Hydro One may apply for expropriation of any property along the proposed right of way. If no, please confirm the basis for confirming that expropriation will not occur (e.g. are all land agreements and easements complete).

Response:

It is Hydro One's strong preference to enter into voluntary agreements with directly impacted property owners; however, for those properties for which voluntary agreements are not reached, Hydro One will proceed and expropriate all required land rights in accordance with section 99 of the OEB Act.

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POLLUTION PROBE INTERROGATORY - 08

Interrogatory:

Please explain what capital (if any) has been OEB approved to fund the proposed project? If no capital approvals have been obtained, please explain how the project will be recovered from rate payers.

Response:

As outlined in Exhibit B, Tab 8, Schedule 1, the line costs of the Project are being recorded and tracked in the OEB-approved Affiliate Transmission Partnerships Regulatory Account ("ATP Account"). Recovery of costs recorded and tracked in the ATP Account will be part of a future revenue requirement application that will be sought by the utility that will ultimately own and operate this transmission line. A revenue requirement application following a leave to construct application is not uncommon and other priority projects have followed a same approach[1].

Costs for the station component of the Project are currently within the capital envelope being considered by the OEB in Hydro One's JRAP application[2]. Hydro One manages its overall capital portfolio through a redirection process. This process is explained in Exhibit B, Tab 1, Schedule 1, Section 1.7 of the above-mentioned JRAP application.

[1] Examples include Wataynikaneyap Power LP and NextBridge Infrastructure LP
[2] EB-2021-0110

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THE ROSS PROFESSIONAL CORPORATION FIRM
INTERROGATORY - 01

Reference:

Exhibit B, Tab 4, Schedule 1, Page 65

Reference is made to project categorization as “a non-discretionary project as it is being undertaken to comply with a mandatory requirement to satisfy obligations specified by the OEB in Hydro One’s transmission license as directed by government directives described in Exhibit B, Tab 3, Schedule 1”.

However, such document is not an OEB directive. Instead, it is the ordering Council and the IESO letter, but the license requirements are not described.

Section 4.3.2.3.2 of the Filing Requirements for Electricity Transmission states that the purpose of project categorization is to distinguish between a project that is “must do” beyond the control of the applicant (“non-discretionary”) and one that is at the discretion of the applicant (“discretionary”).

Section 4.3.2.3.2 of the Filing Requirements for Electricity Transmission Applications also classifies the reasons “reduce congestion” and “enhance reliability” as discretionary (to enhance transmission system performance).

Hydro One is still seeking OEB’s approval. It is not complying with a direction of the OEB re the transmission system’s reliability to be classified as “non-discretionary”, and consequently, a “must do”. “reduce congestion” and “enhance reliability” (discretionary characteristics) are the reasons Hydro One gave for the existence of the project in Exhibit B, Tab 6, Schedule 1 (page 67 of the Evidence) – Quantitative and Qualitative Benefits of the Project.

Interrogatory:

Please kindly provide clarification of, or reference to, the license requirements as opposed to the IESO directive or OIC.

Response:

Hydro One's transmission licence can be found at the link below:

https://www.rds.oeb.ca/CMWebDrawer/Record?q=CaseNumber%3DEB-2022-0085%20And%20WebDocumentType%3A%22%2ALicence%2A%22&sortBy=recRegisteredOn-&pageSize=400

As articulated in Footnote 1 and 2 of Exhibit B, Tab 2, Schedule 1, this Application satisfies the direction of the Minister of Energy, that was ultimately incorporated into Hydro One's transmission licence found at Section 19.7.

Section 19.7 of Hydro One's transmission licence reads as follows:

> The Licensee shall develop and seek approvals for a new 230 kilovolt double-circuit transmission line from the existing Chatham Switching Station to the new Lakeshore Transformer Station to be located at Leamington Junction (Chatham to Lakeshore Line), including associated station facilities to connect the Chatham to Lakeshore Line at the terminal stations. Development of the Chatham to Lakeshore Line shall accord with the project scope and timing recommended by the Independent Electricity System Operator.