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Regulatory Affairs

BY COURIER

August 23, 2019

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

Dear Ms. Walli:

EB-2019-0077 – Hydro One Networks Inc.'s and Hydro Ottawa Ltd.'s Application for Leave to Construct the Power South Nepean Project – Interrogatory Responses

In accordance with Procedural Order No. 1, dated July 31, 2019, in the aforementioned proceeding, Hydro One Networks Inc. ("Hydro One") is filing the joint interrogatory responses of Hydro One and Hydro Ottawa Limited. Responses to interrogartories posed by Board Staff are filed as Tab 1 and interrogatories posed by Pollution Probe are jointly filed as Tab 2.

The interrogatory responses have been filed through the Ontario Energy Board's Regulatory Electronic Submission System and a hard copy of the responses will be filed with the Board shortly.

Sincerely,

ORIGINAL SIGNED BY PASQUALE CATALANO ON BEHALF OF JOANNE RICHARDSON

Joanne Richardson

OEB STAFF INTERROGATORY #1

Reference:

Exh B-3-1/Att. 1/ Integrated Regional Resource Plan, p. 29
Exh B/Tab 6/Sch 1/ p.3

Interrogatory:

Figure 5-3 shows the Ottawa Region historical demand and the forecast scenarios which show a significant difference between the 2014 actual historical load level and the forecast starting point. The applicants state that this is due to the fact that historical demand includes the impact of actual weather at the time of peak, while forecast demand includes the expected demand of extreme weather at time of peak.

a) Please provide more detailed information on the electricity demand drivers to support the forecasted demand growth beginning in 2015. Please include an updated demand forecast for the South Nepean area that shows both historical and forecast demand.

b) Please comment on the stage of the anticipated developments in the South Nepean area – CitiGate Business Park, Nepean Town Centre commercial and high density residential areas, and the City of Ottawa Barrhaven South Expansion Community Design Plan

c) Please provide any updates to the planning information provided in the pre-filed evidence given that the second regional planning cycle that is now underway.

Response:

a)

i. With regards to electricity demand drivers within the South Nepean area, the major contributors to projected growth are the CitiGate Business Park, with primarily commercial and retail customers, the Nepean Town Centre concept plan, which envisions medium- and high-density mixed-use spaces within the existing Chapman Mills Marketplace, and the Barrhaven South Expansion Community Design Plan. For further detail on these residential and commercial developments, please see the response to part b) below.

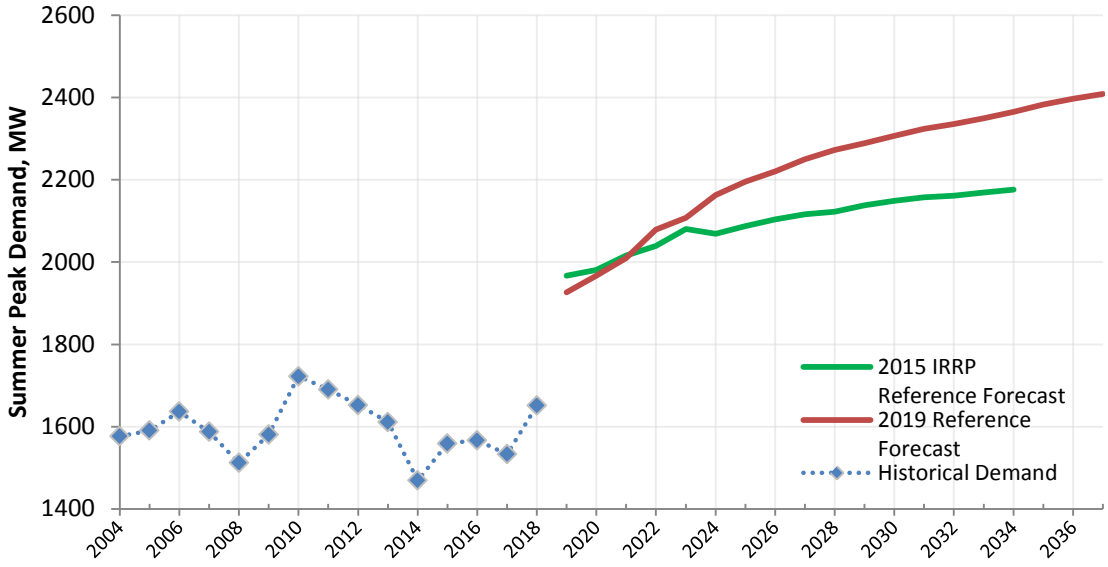
ii. The current regional planning cycle for the Greater Ottawa region was initiated in 2018 and is ongoing. A technical working group consisting of Hydro Ottawa, Hydro One and the Independent Electricity System Operator ("IESO") is currently developing an Integrated Regional Resource Plan ("IRRP") for the Ottawa sub-region.

The following figures provide updated planning forecasts for the Ottawa sub-region as well as for the South Nepean MTS service territory. These correspond to updated versions of the 2015 IRRP (filed as Exhibit B, Tab 3, Schedule 1, Attachment 1, Figure 5-3) and the IESO's Letter of Support ("the Letter") to the Applicants (filed as Exhibit B, Tab 3, Schedule 1, Attachment 3). These figures use a planning forecast methodology consistent with what was used to produce that which was submitted in the Application's pre-filed evidence, as described in Sections 5.2 and 5.3 of the 2015 IRRP[1].

1) 2019 Ottawa Sub-Region Planning Forecast Including Historical Demand

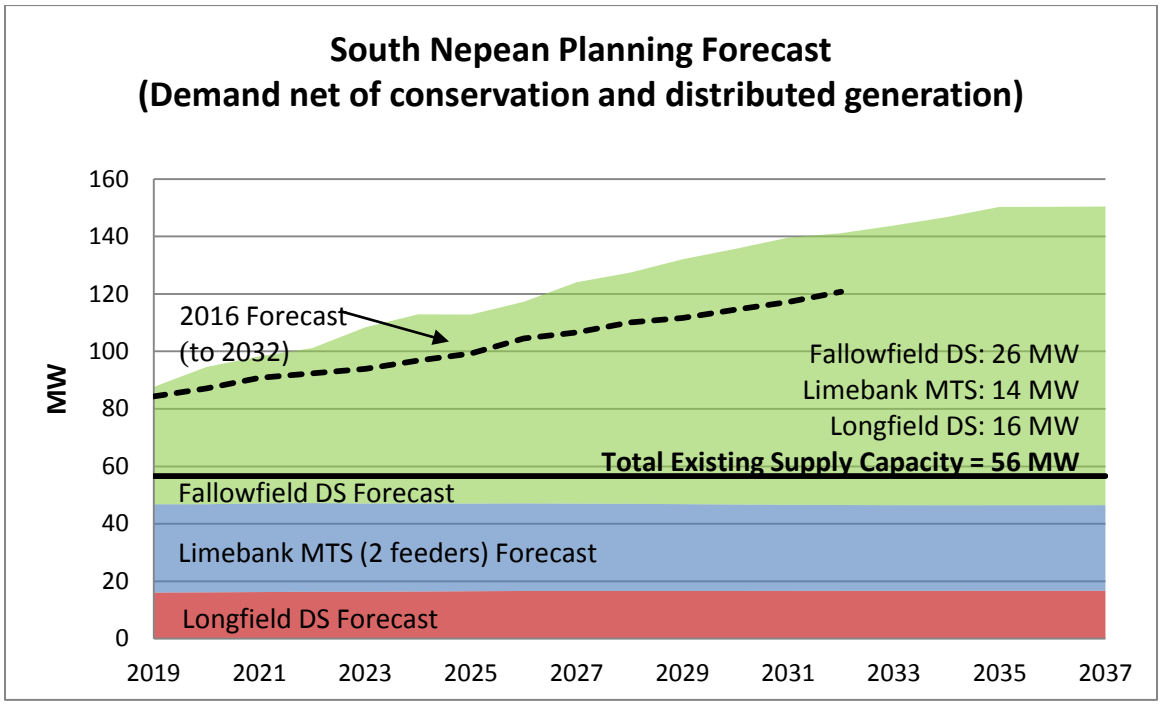
Historical demand shows the summer peak net electricity demand supplied from the transmission system recorded for the region from 2004 to 2018. The historical demand includes the impact of actual weather at the time of peak (i.e., not weather normalized), and also reflects the achievements of provincial conservation and peak-shifting initiatives. The forecast demand includes the expected impact of extreme weather at the time of peak.

[1] Exhibit B, Tab 3, Schedule 1, Attachment 1



2) 2019 South Nepean Planning Forecast

In 2018 the peak demand from Fallowfield DS was 47.9 MW, which significantly exceeds the station capability. As indicated in the Letter, the capability to transfer load at the distribution feeder level post-contingency permits Hydro Ottawa to maintain reliable supply beyond the planning threshold. However this is not a permanent solution.



b) The CitiGate Business Park has seen 12% of the concept plan developed, by area, as shown in Figure 1 below, with demand of approximately 2.7 MVA. The overall forecast has remained at 40 MVA due to the low-density of the developed area and the uncertainty inherent in over 80% of the concept plan remaining unfinished.

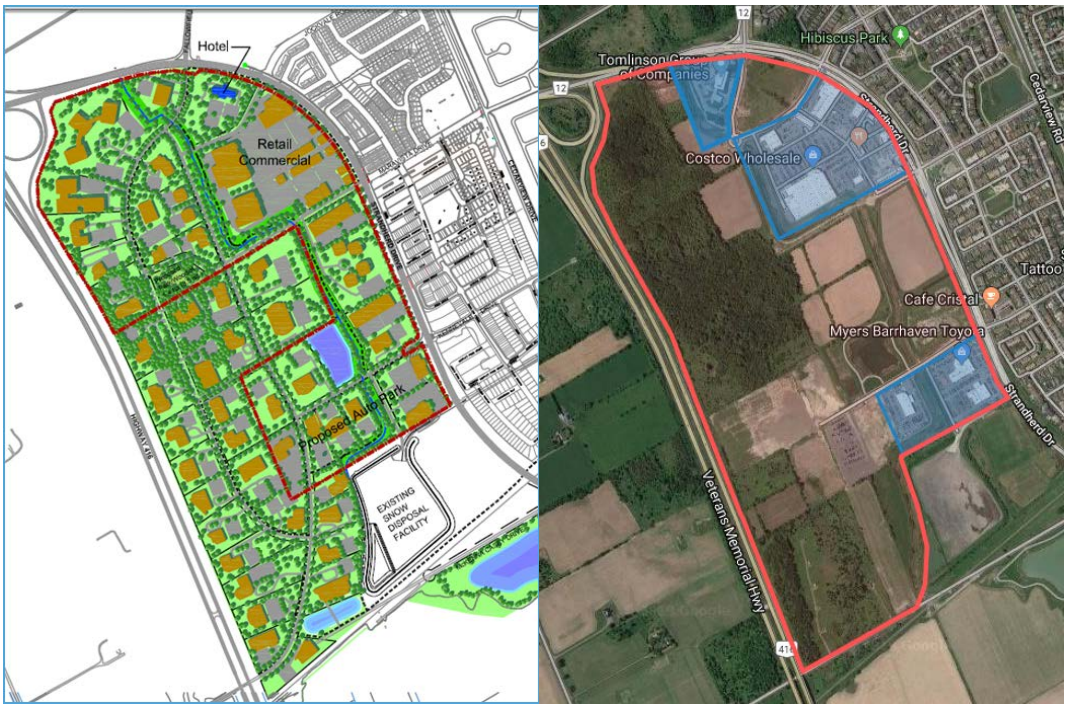


Figure 1: CitiGate Business Park Concept Plan and Current Development

The Nepean Town Centre concept plan has not seen any development to date. The first medium- and high-density developments, located at Strandherd Drive and Longfields Drive, are expected to be energized in 2021.

The development contemplated as part of the Barrhaven South Expansion Community Design Plan ("CDP") is planned to begin in 2022, after completion of the final phases of the precursor Barrhaven South CDP.

c) Several factors have influenced the Ottawa sub-region planning forecast provided in response to Part a) above compared to the forecast provided in the pre-filed evidence.

In March 2019, the Minister of Energy, Northern Development and Mines directed the IESO to immediately discontinue the 2015-2020 Conservation First Framework and implement a new Interim Framework with a centrally delivered program offering until December 31, 2020. As a result, the long-term province-wide conservation target of 30 TWh by 2032 described in the 2015 IRRP is no longer in effect.

Compared to the 2015 Ottawa IRRP, this change affects the energy efficiency programs portion of the conservation savings forecast beyond 2020. The codes and standards and time-of-use pricing portions of the forecast conservation savings are not affected. The result is an increase in the Ottawa sub-region planning forecast of nearly 200 MW by the end of 2032 (the end of the 2015 forecast period).

The updated planning forecasts for the region also reflect changes to contracted renewable distributed generation capacity compared to the pre-filed evidence. The result is an increase in the Ottawa sub-region planning forecast of 23 MW by 2032.

OEB STAFF INTERROGATORY #2

Reference:

Exh B-3-1/Att. 1/pages 41-43, Exh B-3-1/Att. 2/p.34
Exh B-3-1/Att. 3/pages 3-4

Interrogatory:

The application states that with forecasted growth, Hydro Ottawa anticipates the peak demand in the South Nepean area to reach 88 MW by 2020 and 134 MW by 2032. The application also states that each of the three stations supplying the area is reaching, or has already reached its planning capacity and that the 115kV single circuit transmission line (S7M) which provides the primary supply to this area is also approaching its limit, with forecast demand on this circuit expected to reach its capacity of 108MW in 2026.

a) When does Hydro One anticipate utilizing the increased 230kV capacity of the S7M line?

b) Please provide information on any plans that the applicants have for modifying the voltage of the existing stations connected to S7M or otherwise utilizing the 230kV capacity of the line.

c) The application indicates that Hydro Ottawa plans for a capacity increase at Richmond DS to accommodate an industrial customer load of 20 MW.

   i. Please provide a status update, confirming whether capacity has been increased and whether this load is now being served.
   ii. If Hydro Ottawa's plans with respect to this large customer have changed, please explain, setting out the implications for the area load forecast.

d) Please describe the impact on reliability for the existing stations and for the feeders supplied from these stations in the event that the 115kV circuit S7M is not available.

Response:

a) The conversion of the area, currently operating at 115kV, to a 230kV operation has been discussed as a long-term option for the area as part of the Greater

Ottawa Regional Planning process. To convert the operational voltage of S7M to 230kV operational voltage requires upgrading the existing 115kV stations (those being; Fallowfield, Richmond and Manotick) to 230kV operational voltage capability. Prior to any conversion, further analysis of the need, timing and cost assessment alternatives would be required. This determination would be initiated during future cycles of regional planning with the coordination of the study area working group, which includes the IESO, Hydro Ottawa and Hydro One.

b) Please refer to the part a) response above.

c)

i. The 2015 Ottawa Area Integrated Regional Resource Plan included the need for additional capacity at Richmond DS to accommodate a 20 MW pumping station planned for the Energy East pipeline project proposed by TransCanada (now known as TC Energy).
ii. In October 2017, TransCanada formally withdrew its application for the Energy East project from the National Energy Board's review process. As such, the planned capacity and scope of the Richmond DS expansion was reduced accordingly, and the demand associated with Energy East was removed from the updated forecast for the Richmond area.
iii. Please refer to c (i) above.

d) Fallowfield MTS, Richmond South MTS, and Manotick DS are supplied by the 115kV circuit S7M only. These stations will remain on single circuit supply and the supply reliability of these three stations will remain unchanged.

In terms of feeder reliability there will be an improvement for Fallowfield MTS feeders as some of these will be connected to the feeders out of the new South Nepean MTS. Once the PSN Project is energized, in the event an outage occurs at Fallowfield MTS, the Fallowfield MTS load can be quickly restored from the new South Nepean MTS

OEB STAFF INTERROGATORY #3

Reference:

Exh B-3-1/Att 3/p.6
Exh B/Tab 5/ pages 1-3

Interrogatory:

The IESO letter states that based on the timeline and magnitude of the need for additional supply capacity in South Nepean, it will not be feasible to address the need through additional conservation and local generation, and a new supply station and connection line are recommended for the South Nepean area.

The application states that four transmission alternatives were considered for the project. The application states that alternative 3 is the preferred and recommended alternative as it has the least community, landowner and environmental impact in addition to being the lowest cost alternative that provides for dual supply capacity to the South Nepean MTS and satisfies the IESO's Ontario Resource and Transmission Assessment Criteria.

a) The evidence indicates that the IESO recommends an integrated solution, comprising conservation and additional transmission and distribution facilities to meet the growing demand. Please comment on or provide any information which demonstrates the IESO's support for the applicants' specific proposed solution.

b) Please provide a cost estimate for alternative 4.

c) Please provide information on any other alternatives that were considered for meeting the forecast growth in the South Nepean area but rejected, including non-wires alternatives.

d) If the response to 1-Staff-1 indicates that the demand forecast for the South Nepean area is not as high as anticipated in 2015, please comment on whether additional local generation or conservation could be a solution to meet the growth forecasted for this area.

Response:

a) The scope of the Power South Nepean Project ("PSN Project" of "Project") is consistent with the IESO's recommendation and letter of direction. The PSN Project contains the elements and objectives requested in the IESO's Letter of Support ("the Letter")[1], provided to Hydro One and Hydro Ottawa on April 25, 2016, and satisfies the supply and reliability criteria required to deliver what the IESO described and recommended in that letter as,

> *"an integrated solution, which comprises conservation and additional transmission and distribution ("wires") facilities"*[2].

This Project has been discussed between all the participants of the regional working group, Hydro Ottawa, the IESO, and Hydro One., and they agree the proposed Project is the preferred solution.

b) The table below compares line component distances of Alternative #3 and Alternative #4.

Table 1 – Comparison of Line Distances (Km)

	Alternative 3	**Alternative 4**	**Variance**
	(Km)	**(Km)**	**(Km)**
Total Circuit Length	12.2	18.0	5.8
New Greenfield ROW Required	1.3	9.3	8.0
Existing Circuit Length for Upgrade	10.9	8.7	(2.2)

No estimate was prepared for Alternative 4 because, as shown above, and as explained in Exhibit B, Tab 5, Schedule 1, Alternative 4 requires approximately 6 additional km of circuit length than Alternative 3. In addition, 9.3 km of Alternative 4 route would be on new Right of Way ("ROW") (vs. 1.3 km for Alternative 3), which would require the acquisition of additional land rights.

[1] IESO Letter of Support - Exhibit B, Tab 3, Schedule 1, Attachment 3
[2] Page 1 IESO Letter of Support

As such Alternative 3 was selected as the preferred alternative, based on these high level criteria. As the benefits in construction and land use costs, of Alternative 3, considerably outweighed Alternative 4, Hydro One did not incur the cost to develop a cost estimate for Alternative 4.

c) The Letter of Support ("the Letter") describes how additional conservation and local generation were considered as means of increasing supply capacity in South Nepean. It states:

> *"Given the near-term timing of the need for additional supply, in order for a solution to be feasible it must provide firm capacity in about five years, and be able to meet the total capacity need of over 60 MW by the end of the forecast period.*
>
> *In order to rely entirely on conservation initiatives to provide additional capacity, more than four times the currently targeted level would need to be achieved. In terms of local generation, the magnitude of generation which would need to be connected to the distribution system in order to offset the need for additional station capacity is significantly higher than the historical uptake in the area. In addition, a distribution station like Fallowfield DS is not capable of absorbing a large amount of generation due to equipment rating limitations such as short circuit and thermal limits. New transmission connected generation in the area would not address the station limitation.*
>
> *Based on the timing and magnitude of the need for additional supply capacity in South Nepean, it is clear that it will not be feasible to address the need through additional conservation and local generation. Therefore, a new supply station and connection line are recommended for the South Nepean area."*[3]

[3] Page 5 IESO Letter of Support

In the IESO's view, the above reasoning continues to hold when considering the updated planning forecast provided in response to Exhibit I, Tab 1, Schedule 1 part a).

Four alternatives for the new supply station and connection line, including the preferred alternative, were considered. These consisted of:

1. Build a new 115 kV / 27.6 kV station and upgrade 115 kV circuit S7M;
2. Build a new 230 kV / 27.6 kV station and rebuild a section of 115 kV circuit S7M as double circuit 230 kV line;
3. Build a new 230 kV / 115 kV / 27.6 kV station and rebuild a section of 115 kV circuit (S7M) as a double circuit 230 kV line; and
4. Build a new 230 kV / 115 kV / 27.6 kV station and rebuild a section of 115 kV circuit L2M as a double circuit 230 kV line.

A description of each alternative as well as the rationale for recommending Alternative #3 as the preferred alternative is contained in Exhibit B, Tab 5, Schedule 1.

d) The response to Exhibit I, Tab 1, Schedule 1 part a) indicates that the South Nepean area's planning forecast is higher today compared to that provided in the pre-filed evidence, and therefore the need for additional supply capacity is greater. Additional conservation and local generation are not feasible alternative solutions based on the same reasoning described in the response to Part c) above.

OEB STAFF INTERROGATORY #4

Reference:
Exh B/Tab 9/p. 2

Interrogatory:
It is stated that the cost of the line rebuild will be part of the line connection pool and will be borne by both Hydro Ottawa and Hydro One. Hydro One will be responsible for the avoided cost of the sustainment work and Hydro Ottawa will be responsible for the remainder of the line project cost which will be paid through load revenue and capital contribution.

a) Please confirm whether the line project costs are included in Hydro One's application for its 2020-2022 transmission revenue requirement.

b) Please confirm whether Hydro One will continue to own and operate the new double circuit line.

c) Please comment on Hydro Ottawa's plans for the inclusion of the line and station costs of this project in its rate base, including whether Hydro Ottawa expects to recover these costs in its next cost of service application.

Response:
a) The Project's line connection costs are included in Hydro One's 2020-2022 transmission revenue requirement application, reflecting the estimated cost of the Project at the time of the rates application's filing.

This Leave to Construct application provides the most up-to-date project cost forecast. Any variance between the current forecast and that provided in Hydro One's transmission's 2020-2022 revenue requirement application will be managed by Hydro One's investment redirection process.

b) Confirmed. Hydro One will continue to own and operate the new double circuit line.

c) Hydro Ottawa plans to include the costs for the line and station in its rate base, as part of its forthcoming application for 2021-2025 distribution rates.

The bill impacts associated with this Project for Hydro Ottawa's customers are provided below in Table 1.

In order to show the rate impacts, Hydro Ottawa has created a rate rider for the South Nepean MTS and has applied it to Hydro Ottawa's existing 2019 rates. The rate rider uses the 2019 parameters to create a first full year in service revenue requirement. The one exception to this approach, however, is the use of accelerated depreciation rules in the calculation of Payment in Lieu of Taxes, as a result of federal legislation (Bill C-97). This results in slightly higher tax payable in the second year, as the first year in-service assets benefit from the larger deduction.[1]

Hydro Ottawa used the 2019 cost allocation revenue requirement from rates to allocate costs to the different rate classes. The rate riders were designed to be 100% variable with the exception of the residential rate class, which is 100% fixed. Hydro Ottawa's current Group 1 rate riders were eliminated from the comparison.

[1] For further details, please see the OEB's "Accounting Direction Regarding Bill C-97 and Other Changes in Regulatory or Legislated Tax Rules for Capital Cost Allowance," July 25, 2019.

Table 1 – Hydro Ottawa Bill Impact Summary			
Rate Class		**2019**	**2019 w/ S92**
Residential (750 kWh)	Monthly Distribution Charge	$ 28.34	$ 29.26
	Change in Distribution Charge		$ 0.92
	% Distribution Increase		3.25%
	% Increase of Total Bill		0.87%
General Service <50kW (2000 kWh)	Monthly Distribution Charge	$ 68.27	$ 70.47
	Change in Distribution Charge		$ 2.20
	% Distribution Increase		3.22%
	% Increase of Total Bill		0.81%
General Service 50-1,499 kWh (250 KW)	Monthly Distribution Charge	$ 1,392.00	$ 1,441.93
	Change in Distribution Charge		$ 49.93
	% Distribution Increase		3.59%
	% Increase of Total Bill		0.28%
General Service 1,500-4,999 kWh (2500 KW)	Monthly Distribution Charge	$ 15,095.93	$ 15,624.18
	Change in Distribution Charge		$ 528.25
	% Distribution Increase		3.50%
	% Increase of Total Bill		0.30%
Large Use (7500KW)	Monthly Distribution Charge	$ 46,311.32	$ 47,803.82
	Change in Distribution Charge		$ 1,492.50
	% Distribution Increase		3.22%
	% Increase of Total Bill		0.27%
Sentinel Lighting (0.4 KW)	Monthly Distribution Charge	$ 9.14	$ 9.44
	Change in Distribution Charge		$ 0.30
	% Distribution Increase		3.29%
	% Increase of Total Bill		1.56%
Street Lighting (1 KW)	Monthly Distribution Charge	$ 7.10	$ 7.46
	Change in Distribution Charge		$ 0.37
	% Distribution Increase		5.20%
	% Increase of Total Bill		1.51%
Unmetered Scattered Load (470 kWh)	Monthly Distribution Charge	$ 16.28	$ 16.84
	Change in Distribution Charge		$ 0.56
	% Distribution Increase		3.46%
	% Increase of Total Bill		0.88%

OEB STAFF INTERROGATORY #5

Reference:

Exh B/Tab 7/Sch 1/pages 6,7

Interrogatory:

Hydro One and Hydro Ottawa are presumably in the midst of the development work for this project.

a) Given the current stage of the development work, please comment on the AACE classification of the cost estimates provided in the application and whether any revision of these estimates is anticipated or required.

b) Please confirm whether the budgeted contingency costs are sufficient to cover the identified risks.

Response:

a) The Hydro One cost estimate provided for the South Nepean line scope of the project is an AACE Class 3 estimate, based on the level of scope definition completed at the time the estimate was produced. At this time, no revisions are expected.

Hydro Ottawa remains in the process of development work for this Project. Given the current stage of work, the cost estimate provided in the Application falls within a Class 3 estimate category, per the AACE classification. At this time, no revisions to the estimate are required or anticipated.

b) Hydro One confirms, that for the line scope of work, the baseline risk model is still valid and the budgeted contingency cost is reasonable to support the successful delivery of the Project.

At this time, for the station-related scope of work for the Project, Hydro Ottawa confirms that the budgeted contingency costs are sufficient to cover the identified risks to support the successful delivery of the Project.

OEB STAFF INTERROGATORY #6

Reference:

Exh C/Tab 1/Sch 1/pages 4,5

Interrogatory:

The application states that the double circuit line will be built along the existing S7M corridor (a ROW width of 30.48 metres), except when it spans over National Capital Commission (NCC)-owned land where the width will not be expanded but will remain at 20.12 metres so that Hydro One's tower and lines will be designed to fit within the existing NCC corridor.

a) Please confirm that with the exception of the NCC owned lands, the S7M corridor is being expanded so that the width of the corridor is 30.48 metres along the entire length of the ROW.

b) Please explain the constraints on the ROW width over the NCC owned lands.

c) Please explain why, for the remainder of the length of the ROW, the double circuit line is not being designed to fit within the existing corridor. Please discuss the cost, feasibility, environmental and other impacts as part of the explanation.

The application states that the existing S7M 115kV circuit is a radial feed to three existing stations: Fallowfield MTS, Richmond MTS, and Manotick DS, and that to maintain service to those stations during construction, Hydro One will require a temporary bypass to be constructed from the S7M Hunt Club Road connection point (STR 673N JCT) to Manotick JCT, and from Manotick JCT to Cambrian Road JCT.

d) Please describe the specific measures relating to the proposed temporary bypass construction that will provide assurance that no degradation of service quality and reliability will occur as a result of the construction.
   i. Please explain how and where the bypass will be constructed.
   ii. Please describe if and how this impacts the construction on the ROW.

Response:

a) The majority of the existing S7M Right of Way ("ROW") is 30.48 meters wide and does not require an expansion to accommodate the installation of the new double-circuit 230 kV transmission line. Only a 1.2 km section of the existing ROW is to be widened to 30.48 metres. This existing 1.2 km section of S7M's ROW is 20.12 metres wide at the north end of the proposed transmission line, and is located on the federal-owned lands (lands owned by Her Majesty the Queen, in Right of Canada). The right of way on the NCC lands will remain 20.12 metres wide because extending the ROW on that section of the route is not obtainable (for more information on the NCC lands please refer to part b) below.

b) Hydro One plans to maintain the existing 20.12 metres right of way width across the NCC owned lands for its new double-circuit 230 kV transmission line given the following:

- The land use adjacent to the existing S7M transmission line right of way and the proposed double-circuit 230 kV transmission line is a federally and provincially significant heritage site, known as the Log Farm, which includes pioneer farm buildings, agricultural fields, and nature trails constructed in the 1850s. The property is currently a tourist attraction and an events facility accessible by the public. Expanding beyond the existing corridor width would impact the existing nature trail which crosses under the corridor, and will impact the pedestrian experience of walking on the trail to the farm building complex. An expansion will therefore have an overall impact to the operation of this heritage tourist site.
- Expanding the right of way, beyond the existing 20.12 metres, would further impact National Capital Commission ("NCC") land designations of the subject lands which include federally designated Core Natural Areas and Natural Link Areas. Infringing on federally designated areas would require Hydro One to demonstrate there would be a "net ecological gain" resulting from the right of way expansion. In the absence of satisfying the criteria, Hydro One is constrained from expanding the right of way over the NCC lands. For the aforementioned reasons and in consultation with the NCC, Hydro One concluded that the right of way over the NCC owned lands will remain at its current width of 20.12 metres.

Maintaining the existing 20.12 metre ROW width over the NCC lands requires Hydro One to use one additional tower, than otherwise would be the case had the ROW been 30.48 metres. The towers used across the NCC lands will be of the same design as

those towers on the wider ROW sections of the Project (i.e. ROW with a width of 30.48 metres). With an additional tower situated on the NCC route section, it means the tower spacing across the NCC route section will be shorter, compared to the balance of the route section, and this enables Hydro One to maintain appropriate line clearances over the thinner NCC ROW route section.

c) The ROW on the remainder of the line route for the Project will be situated on ROW that is, and will remain 30.48m wide. The Project's 230 kV double circuit lines are designed to fit within the existing 30.48m corridor, including the 1.2km line section discussed in part a) above.

d) The bypass circuit installation will be undertaken as per standard engineering design. Vegetation removal will be done to maintain the same reliability as the existing 115kV S7M line.
   i. The 115kV bypass line ("the Bypass") will be built adjacent to the existing transmission line. The Bypass can be constructed and operated within the existing 30.48 metre ROW on a portion of the subject transmission line. In some instances where clearances do not allow for the Bypass to be erected within the typical 30.48 metre ROW, then a temporary easement will be required. Where required, the temporary easement for the Bypass range from 3 metres to 8 metres adjacent to the existing ROW.
   ii. The bypass line is an appropriate distance from the center line of the corridor such that it will not impact the construction of the permanent line.

OEB STAFF INTERROGATORY #7

Reference:

Ref: Exh E/Tab 1/Sch 1/p. 3 and Attachment 11

Interrogatory:

The evidence states that the right-of-way (ROW) associated with the project will require new land rights and provides information on directly impacted properties.

a) The ROW requires 10.43 hectares of land rights on lands owned by private landowners. Please provide additional information on the ownership of the privately-owned properties, identifying the number of residential properties and the number of commercial properties.

b) Please provide an update on the negotiations for the new permanent land rights required for the project with private landowners, including any concerns that have been expressed by landowners with respect to the proposed project.

c) Please provide an update on the status of the temporary access rights required for the project, including any concerns that have been expressed by these landowners.

d) Please provide an update on the status of permits related to the use of federal and municipal lands, municipal roads allowances and highways, as well as the rail and water crossing.

e) Please discuss any concerns that the applicants have with respect to obtaining any of required new land rights and/or permits for the project.

f) Please advise on the status of the purchase and sale agreement entered into between the private landowner of the site of the new South Nepean MTS and Hydro Ottawa and when this will be executed.

g) Please confirm whether the applicants intend to commence any construction work on the project prior to the completion of all land-related negotiations.

Response:

a) Table 1 summarizes additional information on the privately owned properties and the associated land use types that require new permanent land rights:

Table 1: Property Owners by Type and Area

Property Ownership Type	Number of Properties	Area of HONI Requirement (Hectares)
Vacant Rural Residential	2	0.59
Vacant Agricultural	3	3.02
Improved Agricultural	1	0.34
Sand & Gravel Resource	10	6.26
Commercial/Industrial	1	0.22
Total	17	10.43

b) Hydro One has initiated land acquisition activities with all impacted private landowners. Hydro One has negotiated and completed four of the required seventeen permanent land right agreements with private landowners to date.

To date, no significant concerns have been raised by private landowners with respect to the proposed Project. Hydro One continues to actively consult and discuss its requirements with impacted private landowners and is confident that voluntary agreements will be reached. It is expected that Hydro One will have all voluntary land agreements with these impacted landowners by Q4 2019.

c) The status for obtaining temporary land rights required for the Project are as follows:

- Hydro One has identified and acquired 100% of all required Early Access Agreements;
- Hydro One has identified all properties that require Temporary By-Pass land rights. To date Hydro One has acquired six of twenty-eight required Temporary By-Pass Agreements;
- Hydro One has identified all properties that require Temporary Access and Construction Laydown requirements. To date Hydro One has acquired one of seven Temporary Access and Construction Laydown requirements.

To date, no significant concerns have been raised by impacted landowners with respect to the proposed temporary land requirements on the Project. There has

been limited feedback surrounding the placement of temporary by-pass structures and required vegetation management for the temporary land rights. Hydro One continues to consult and discuss its requirements with these impacted landowners and is confident that voluntary agreements will be reached.

d) The status of permits related to the use of federal and municipal lands, municipal road allowances and highways, as well as rail and water crossings are as follows:

- Hydro One has identified all requirements for permanent land right agreements/permits on federal and municipal lands. All offers surrounding these permanent requirements have been presented to the applicable parties. A federal permit application was submitted for one butternut tree removal on the federal National Capital Commission lands, and approval is expected by the end of August 2019. For further status updates regarding approvals from federal agencies please refer to Exhibit I, Tab 1, Schedule 10.
- Hydro One has identified all municipal road allowance occupations and shared the location of the occupations to the local municipality. Hydro One does not require any permits/approval to occupy municipal road allowances as Hydro One enjoys legislated occupation rights pursuant to Section 41 of the *Electricity Act, 1998*.
- Hydro One has identified all crossing of Ministry of Transportation Ontario ("MTO") controlled highways. Hydro One has discussed with MTO regarding obtaining crossing agreements and expects to receive permits by Q2 2020.
- Hydro One has identified one rail crossing owned by Via Rail impacted by the Project. Hydro One has initiated discussions with Via Rail regarding obtaining a rail crossing agreement and is to enter into a rail crossing agreement by Q4 2019.

e) Since presenting formal offers to impacted landowners starting in June 2019, Hydro One has not had any significant concerns with respect to obtaining any of the land rights and/or permits for the Project. Hydro One continues to engage with the directly impacted landowners and expects to enter into voluntary agreements with all the impacted landowners.

Hydro Ottawa does not have concerns with respect to obtaining any permits for the Project or land rights for the proposed site of the South Nepean MTS. For additional details on the latter, please see the response to Part f) below.

f) The agreement of purchase and sale is valid until July 27, 2020. Hydro Ottawa has conditions detailed in the agreement that have not yet been fully satisfied. Pending the outcome of this Application, Hydro Ottawa would seek to satisfy its conditions after the date of issuance of the OEB's Decision and Order and would then proceed to execute the agreement in full.

g) No construction activities will be undertaken by Hydro One or Hydro Ottawa prior to obtaining Leave to construct approval from the Board. Likewise, no construction activities will be undertaken by Hydro One on a piece of land for which it has not obtained land rights. Hydro One does **not** anticipate the need for any non-voluntary land right acquisitions for this Project.

Assuming a successful adjudication of this Application, and once Board approval is received, Hydro Ottawa will begin construction on the South Nepean station site and Hydro One will start construction activities on some sections of the line prior to 100% of land rights for the line route having been negotiated. This would be in areas that Hydro One has existing fee simple ownership, easement agreements, and/or statutory easement rights on Infrastructure Ontario Bill 58 lands[1]. This will allow Hydro One to maintain the Project's schedule and in-service target date.

Hydro Ottawa will work closely with Hydro One in order to obtain a clear understanding of the risks associated with any outstanding land-related negotiations. Subsequent to the adjudication of this Application and to further risk assessment and quantification at that time, it is Hydro Ottawa's intent to commence preliminary site construction works on the station property in order to meet the Project energization date.

[1] These are land which do not require the acquisition of new land rights

OEB STAFF INTERROGATORY #8

Reference:
Exh E/Tab 1/Sch 1/p.7 and Attachments 2-9

Interrogatory:
The applicants have provided the land rights agreements that will be used to obtain the required land rights for the project.

a) Please confirm that all of the affected property owners had the option to receive, or will receive the option of, independent legal advice regarding the land agreements.

b) Please clarify whether approval of the form of agreements is being sought by both Hydro One and Hydro Ottawa or whether it is only Hydro One that requires this approval.

c) Please confirm that the forms of agreements are consistent with agreements previously approved by the OEB in Hydro One leave to construct decisions.

Response:
a) Confirmed. For the scope of work being performed by Hydro One all impacted landowners have the option to receive independent legal advice regarding the land agreements. Specific to private landowners, Hydro One commits to reimbursing these owners for reasonably incurred legal fees associated with the review and completion of the necessary land rights.

Likewise Hydro Ottawa confirms that the landowner of the property which is proposed to serve as the site for the South Nepean MTS has obtained independent legal advice regarding the applicable Agreement of Purchase and Sale with Hydro Ottawa.

b) Hydro One is seeking OEB-approval of the form of agreements provided in Attachment 2 through Attachment 9, of Exhibit E, Tab 1, Schedule 1.

The proposed scope of work being undertaken by Hydro Ottawa for the new MTS impacts a single landowner. Hydro Ottawa has entered into an Agreement of Purchase and Sale with this landowner. (For additional details, please see Exhibit I,

Tab 1, Schedule 7, part f). Please refer to Attachment 13 of Exhibit E, Tab 1, Schedule 1 for a copy of that agreement. Hydro Ottawa confirms that it is seeking Board approval for this form of agreement.

c) The following Hydro One form agreements included in this Application have been previously approved by the OEB in previous Hydro One leave to construct decisions:

- Temporary Land Use Agreement (Attachment 7 to Exhibit E, Tab 1, Schedule 1)
- Damage Claim Agreement (Attachment 8 to Exhibit E, Tab 1, Schedule 1)

The balance of the Hydro One form agreements included in this Application have not been previously approved by the OEB in previous Hydro One leave to construct applications. Those Hydro One form agreements are:

- Early Access Agreement (Attachment 2 to Exhibit E, Tab 1, Schedule 1)
- Option to Purchase a Limited Interest Agreement – Easement (Attachment 3 to Exhibit E, Tab 1, Schedule 1)
- Compensation and Incentive Agreement – Easement (Attachment 4 to Exhibit E, Tab 1, Schedule 1)
- Option to Purchase Agreement – Fee Simple (Attachment 5 to Exhibit E, Tab 1, Schedule 1)
- Compensation and Incentive Agreement – Fee Simple Corridor (Attachment 6 to Exhibit E, Tab 1, Schedule 1)
- Temporary By-Pass Agreement (Attachment 9 to Exhibit E, Tab 1, Schedule 1)

OEB STAFF INTERROGATORY #9

Reference:

Ref: Exh B/Tab 11/Sch 1, Project Schedule

Interrogatory:

The applicants provided a project schedule, setting out the construction and in-service timelines.

a) Please update the Project Schedule at the above reference if the schedule has changed.

b) The applicants have indicated that they hope to receive a leave to construct order by September 25, 2019. Please comment on the impact to the proposed in-service date of November 2021, if the OEB's decision is issued after that date.

Response:

a) Not applicable. The Project schedule remains the same.

b) The start of construction by September 25, 2019 is critical so that Hydro One can begin construction on the temporary access roads required. Similarly, the schedule for the station-related portion of the Project is premised upon being able to complete the majority of the site excavation and granular placement prior to winter conditions setting in for 2019. Completing access road construction and the bulk of station-site excavation are essential before the start of the 2019/2020 winter season, and, if not completed, could put the Project in-service date of November 2021 at risk by more than the duration of any potential delay in regulatory approval beyond September 25, 2019.

OEB STAFF INTERROGATORY #10

Reference:

Ref: Exh E-1-1/Att 10

Interrogatory:

The applicants have indicated that the project requires the following environmental approvals - compliance with the provincial Environmental Assessment Act Class EA and the Section 67 of the Canadian Environmental Assessment Act, 2012.

a) Please comment on the current status of these approvals.

Response:

a) Provincial Class Environmental Assessment (EA)

The final draft of the joint Hydro One Networks Inc. and Hydro Ottawa Limited Environmental Study Report ("ESR") summarizing all environmental studies and consultations was completed in early 2019, and was available for public and agency review between March 11- April 26, 2019 for a 45 day public view period. There were no EA Act Part II Order [Requests] EA Act appeals received. The final ESR and Statement of Completion was submitted to the Ministry of Environment, Conservation and Parks ("MECP") on June 26, 2019 and is also available on the project website: powersouthnepean.com.

Federal Lands Canadian Environmental Assessment Act (CEAA) Section 67 Process and the Federal Lands permit

A comprehensive environmental impact mitigation package and a butternut tree removal permit application was submitted to the National Capital Commission ("NCC"), Canadian Food Inspection Agency, and Environment & Climate Change Canada ("federal agencies") for approval in early July 2019. That submission and permit application is currently under review, and there will be continued communication between those federal agency staff and the Project team throughout August 2019. Hydro One requested one consolidated CEAA Section 67 approval and one consolidated butternut tree removal permit approval to be granted by August 30th, 2019, and based on recent feedback from federal agency staff, Hydro One believes this approval date is achievable.

OEB STAFF INTERROGATORY #11

Reference:

Ref: Exh B/Tab 7/Sch 1, Tables 1 and 5, pages 1 and 9

Interrogatory:

a) Please explain the discrepancy in the real estate costs for the project listed in Table 5 ($5.8M) versus in Table 1($4.9M).

b) Table 5 reflects $5.5M in costs for foundation micropiles. Please provide more information on the necessity of these materials for the project, including whether this is required for the entire length of the ROW and whether these are part of the Materials cost listed in Table 1.

Response:

a) The Real Estate costs contained in Table 5, for cost comparison purposes, include both interest and overhead. In Table 1, the interest and overhead costs are shown separately.

b) The use of 'Micropiles' as a tower foundation solution is used when encountering poor (soft) soil conditions, as is the case for the soil found along the majority of the PSN project line route.

In the surrounding South Nepean geographical route area, the depth to bedrock varies substantially. Typically the soil consists of 'weak marine clay' and for the majority of the line route bedrock is approximately 30 metres below ground level.

In areas where the bedrock layer is 30 metres below ground level and the soil level is of the 'weak marine clay' type, the following tower foundational solutions were not considered to be able to provide a satisfactory solution:

- An augured footings solution will not satisfactorily hold the foundation and tower weight because the poor soil quality; the bedrock layer is too deep below ground for this solution type.

- A ‘Pad and Pier’ footings solution will not provide a satisfactory solution because that foundation solution design will not be able to bear the tower’s weight on the soil in that location.
- A ‘Driven Piles’ foundation solution will not provide a satisfactory solution because the location does not contain soil layers that will satisfactorily hold the foundation and tower weight; the bedrock layer is too deep below ground level for this solution type.
- A ‘Helical Piles’ solution will not provide a satisfactory solution because the location does not contain soil layers that will satisfactorily hold the foundation and tower weight; the bedrock layer is too deep below ground level for this solution type as well.

In summary, of the 58 towers required for this line Project, 39 towers require the micropile foundation solution, and out of 12 line entrance structures, 6 need micropiles.

The costs for the micropile tower foundation solution are included in the ‘Equipment & Rental Contractor Costs’ line of Table 1: Estimated Cost of Line Work.

POLLUTION PROBE INTERROGATORY #1

Reference:

Ex.B; T3, S1

> *"The need for the Project was established in the Independent Electricity System Operator's ("IESO"s) Ottawa Area Integrated Regional Resource Plan ("IRRP") dated April 28, 2015, and the Greater Ottawa Regional Infrastructure Plan ("RIP") dated December 2, 2015."*

Interrogatory:

An updated Integrated Regional Resource Plan (IRRP) for this area has been underway and the final report is forecasted to be completed by fall 2019 (reference: http://www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Engagements/Integrated-Regional-Resource-Plan-Ottawa-Area-Sub-Region) that will provide more recent information than that contained in the 2015 plan filed in this application.

a) Please provide the justification for basing the application on the 2015 information and how updated information since 2015 has been considered in this application.

b) Please highlight what major differences have been identified since the 2015 IRRP and what their impacts are to demand in this community.

Response:

a) This Project was identified to meet the load requirement of Hydro Ottawa during the previous cycle of regional planning. Current information being developed as part of the next round of regional planning for the area indicates the continued need for the new facilities. Please see the response to Exhibit I, Tab 1, Schedule 1.

b) Please see the response to Exhibit I, Tab 1, Schedule 1.

POLLUTION PROBE INTERROGATORY #2

Reference:
Ex.B; T3, S1

Interrogatory:
Please explain what analysis has been conducted to update the projected forecast since the IESO's April 2016 letter was issued.

Response:
Since the IESO provided the Letter of Support ("the Letter") to the Applicants on April 25, 2016, monitoring of the recent demand trends in the South Nepean area by the IESO confirms the need for additional supply capacity.

In 2018 the peak demand at Fallowfield DS was 47.9 MW which significantly exceeds the station's capability. As indicated in the Letter, the capability to transfer load at the distribution feeder level post-contingency permits Hydro Ottawa to maintain reliable supply beyond the planning threshold. However, this is not a permanent solution.

POLLUTION PROBE INTERROGATORY #3

Reference:
Ex.B; T3, S1

Interrogatory:
The City of Ottawa has undertaken significant updates to its community energy plan since 2016, including public consultation and modeling as part of its Energy Evolution initiative (reference:https://ottawa.ca/en/residents/water-and-environment/climate-change-and-energy/energy-evolution).

a) Please indicate what renewable energy elements were included over the proposed life of the assets in this application.

b) Were any of the following renewable energy technologies included in your modelling for this project and if so, provide the details by technology (e.g. generation capacity or demand impact).
- Commercial Rooftop Solar
- Biogas
- Waterpower
- Wind
- District Energy
- Heat Pumps
- Electrification of Cars and Light Vehicles

c) Please provide details on how the utility is supporting or coordinating with the City of Ottawa's Energy Evolution initiative and integrating its future planning and operations with these initiatives.

Response:
a) As stated in the letter provided by the IESO to the Applicants in April 2016, there is a total of approximately 7 MW of distributed generation connected to the three existing supply points that will be transferred to South Nepean MTS. This amount has not changed since 2016.

This distributed generation consists of 6 MW of biofuel generation and less than 2 MW of solar generation.

The IESO's planning forecast methodology deducts a portion of the nameplate capacity of distributed generation resources, called the effective capacity, from the gross demand. The effective capacity contributions are 33% and 30% for biomass resources and solar resources, respectively. Therefore, the combined contribution of this local generation to the South Nepean area planning forecast is less than 2.5 MW. These contributions are assumed to persist for the forecast period.

b) As described in the response to part a) above, the contribution from existing local biofuel and solar generation has been factored into the South Nepean area's planning forecast. Based on previous Hydro Ottawa studies regarding electric vehicles ("EVs"), any impact to the demand forecast due to high EV penetration is expected to be negligible at the station level.[1] For example, a study on DC Fast Charging showed the impact of charging stations on Hydro Ottawa system-wide demand resulting in a 0.1% to 3.8% load increase expected by 2037, from weak and aggressive scenarios respectively.

c) Hydro Ottawa has been actively engaged in the development and implementation of the City of Ottawa's Renewable Energy Strategy project known as "Energy Evolution" since its inception in July 2015. At that time, City Council designated the launch and early progress on Energy Evolution as a key strategic priority for the 2015-2018 Term of Council, and directed City staff to "complete a baseline analysis of energy supply and demand within the City of Ottawa and assess options, in collaboration with community partners, for all such partners to advance energy conservation, energy efficiency and renewable energy generation within their respective areas of control/influence."[2]

[1] Previous studies include an "Electric Mobility Adoption and Prediction" study conducted in 2014, with the assistance of Pollution Probe, and the "Impact of Clusters of DC Fast Charging Stations on the Electricity Distribution Grid in Ottawa, Canada" study prepared in 2017, with the support of Natural Resources Canada.

[2] Status Update on the Air Quality and Climate Change Management Plan and the Renewable Energy Strategy (Energy Evolution), Report to Environment and Climate Protection Committee and Council, March 8, 2017, p. 5.

Examples of the substantive participation that Hydro Ottawa has maintained in the Energy Evolution initiative over the past four years include, but are not limited to, the following:

- Sounding Board: Hydro Ottawa executives and senior managers have been active members of this group of stakeholders that was convened by City staff to help define a vision, approach, and process for the preparation of options and recommendations to support achievement of Energy Evolution's core objectives.

- Working Groups: City staff established eight stakeholder working groups to facilitate discussion and action on specific aspects of Energy Evolution (Vision, Communication and Engagement, New Buildings, Existing Buildings, Transportation, Energy Supply and Distribution, Funding, Governance). Hydro Ottawa senior management and staff have participated in several of these working groups.

- In addition, in June 2018, the City formed a dedicated External Advisory Working Group to provide guidance and feedback on the development of the second phase of work under Energy Evolution. Hydro Ottawa is represented on this group through one of its grid technology subject matter experts.

- Stakeholder Workshops and Meetings: Hydro Ottawa executives, senior management, and subject matter experts have participated in the numerous workshops and meetings held by City staff to secure input from stakeholders on a range of issues related to the design and implementation of Energy Evolution. These meetings included the workshops organized by City staff during Summer 2017 to gather feedback from stakeholder experts on how specific energy technologies may be developed in Ottawa and what specific projects and initiatives may be actionable within the following three-year timeframe.

In addition to attending and participating in City-held meetings, Hydro Ottawa has also provided opportunities for City staff to directly engage the company's own stakeholders and customers. For example, Hydro Ottawa provided City staff with a platform to discuss Energy Evolution at one of the company's annual forums with Key Account customers.

- Catalyst Project: City Council's 2017 budget included funding to support catalyst projects under the auspices of Energy Evolution that will increase energy conservation, energy efficiency, and renewable energy in Ottawa. Hydro Ottawa secured funding from this program for a project entitled "Supplemental Use of Electric Water Heating for Environmental and Cost Reduction." This project involved the piloting of a proof of concept solution using clean, efficient electricity to supplement the use of natural gas boilers for space heating. Based upon results, the City is assessing various opportunities and scenarios for using electricity to reduce greenhouse gas ("GHG") emissions and energy costs at municipal facilities.

- Use of Surplus Dividend from Hydro Ottawa: In 2016, City Council adopted a new policy governing the receipt of dividends from Hydro Ottawa.[3] The scope of the amended dividend policy applies to regulated net income only. The policy mandates that annual dividends will be the larger of (i) 60% of the net income of Hydro Ottawa Limited, or (ii) $20 million.

  In December 2017, City Council passed a motion stipulating that any surplus in the dividend received from Hydro Ottawa in 2018 (i.e. any amount above the threshold established in the 2016 dividend policy) would be allocated such that 2/3 of the amount be directed towards road resurfacing and that 1/3 be directed towards energy efficiency programs. For 2018, this resulted in an extra $633,000 being available for projects and programs in support of Energy Evolution.

  In April 2019, City Council passed a motion declaring a climate emergency for purposes of naming, framing, and deepening the City's commitment to protecting its economy, ecosystems, and community from climate change. As part of the motion, City Council directed City staff to report back within the 2019 calendar year on a spending plan for any surplus dividend from Hydro Ottawa that would help reduce community and corporate GHG emissions beyond the scope of Ottawa's current climate targets while also saving money.

- Phase 1 Projects: City Council formally received Phase 1 of Energy Evolution in December 2017. Phase 1 focused primarily on renewable energy generation

[3] The City of Ottawa is the sole shareholder of Hydro Ottawa Holding Inc., the parent company of Hydro Ottawa Limited.

opportunities and included a three-year action plan with over 30 initiatives that are targeted for completion in partnership with community stakeholders. Hydro Ottawa and its affiliates were identified as preferred partners for four of these action items (i.e. in relation to virtual net metering, construction of a solar park at a municipal waste facility, discussion of options for facilitating grid connections for renewable resources, and expansion of rebate programs for heat pumps).

In addition, Hydro Ottawa provided strategic and technical advice to City staff in 2017, in support of the City's applications to the Government of Ontario's Municipal GHG Challenge Fund.[4] The City was seeking funding for energy retrofits and upgrades at various municipal facilities, consistent with the policy direction set forth in Energy Evolution. In April 2018, the government announced five funding awards for the City of Ottawa, four of which involved facility projects whose applications had been informed by Hydro Ottawa's support.

- Phase 2 Projects: In conjunction with its receipt and approval of Phase 1, City Council formally directed City staff to initiate plans for Phase 2, with a focus on reducing energy use in the building and transportation sectors. Over the course of 2018 and 2019, Hydro Ottawa representatives provided input to City staff on the development of the pathway studies set to govern Phase 2 activity on buildings, transportation, demand side management and energy storage, and energy from waste.

  Most recently, in June 2019, Hydro Ottawa attended a series of meetings hosted by City staff to share the results of modelling that was conducted based upon the technical analysis set forth in the pathway studies. The results spoke to what steps will be required in order for the City to achieve its GHG emission reduction target of 80% below 2012 levels by 2050.

  At present, City staff is preparing its final strategy and action plan for Phase 2, which is scheduled to be presented to City Council for approval before the end of 2019.

[4] The Municipal GHG Challenge Fund was administered under the auspices of the previous Government of Ontario's Climate Change Action Plan, with the goal of supporting community-led action on climate change.

Finally, with respect to how Hydro Ottawa is integrating Energy Evolution into its future planning and operations, Hydro Ottawa can confirm that its 2021-2025 Distribution System Plan ("DSP") will take into consideration the goals of Energy Evolution as a planning input. What's more, as articulated in the company's 2016-2020 DSP, and as will be affirmed in the 2021-2025 DSP, additional station capacity enables increased accommodation of renewable energy generation projects. In this regard, the South Nepean MTS (whose transformers have been designed to enable reverse-flow capabilities and accommodate injection of renewable energy onto the grid) is complementary to Energy Evolution's objective of greater deployment of renewable resources across Ottawa.

POLLUTION PROBE INTERROGATORY #4

Reference:

Ex.B; T3, S1

> *"The cost of the transmission line and related facilities for which Hydro One is seeking approval is approximately $58.8 million. The cost of the MTS and related facilities for which Hydro Ottawa is seeking approval is approximately $27.0 million.*
> *This results in a total project cost of approximately $85.8 million."*

Interrogatory:

a) Please indicate if additional capital or O&M costs will be incurred over the life of the assets proposed in this application and what those costs are estimated to be.

b) What local alternatives were considered (e.g. reduced demand through renewables, battery storage, local distributed generation, etc.) to reduce the need for additional supply to this community?

c) If alternatives were considered, please provide the cost of each alternative and how it compares to the costs to Ratepayers if the request in this application is approved.

d) What amount of renewable energy capacity (local and exported to the transmission grid) could be supported through these assets?

Response:

a) Hydro One does not expect that the rebuilt section of the circuit (i.e., the 10.9 km route spanning from West Hunt Club Road at the S7M connection point, known as S7M STR 673N JCT, to Manotick JCT and continuing to Cambrian JCT) to result in an increase to OM&A costs. The new 1.3 km circuit section between Cambrian JCT and the new MTS will contribute to slightly higher OM&A costs. Hydro One estimates the annual OM&A cost increase of that line section is approximately $1.6k.

Line Section	Annual OM&A Cost Increase ($k)
Hunt Club road to Cambrian JCT (a distance of 10.9 km)	No change
1.3 km Cambrian JCT to new station (a distance of 1.3 km)	1.6

For Hydro Ottawa's proposed South Nepean MTS, additional capital costs are not expected to be incurred over the life of the asset following energization. Additional O&M costs, however, will be incurred. Hydro Ottawa estimates that the average annual O&M costs over the life of this station will be approximately $26,000 per year.

b) Please see the response to Exhibit I, Tab 1, Exhibit 3 part c.

c) Additional conservation and local generation were screened out as alternatives using the reasoning described in the response to Exhibit I, Tab 1, Exhibit 3 part c. An economic comparison of these alternatives was not undertaken.

d) Hydro Ottawa has taken into account the need to enable new renewable energy connections through the technical specifications of the South Nepean MTS. While certain transformers at some of Hydro Ottawa's existing stations have limited reverse-flow capabilities, South Nepean MTS will be designed to enable such capabilities.

Available capacity for renewable energy (and conversely, potential limitations on capacity) will depend on the mix between synchronous- and inverter-based facilities in the portfolio of local renewable generation resources which may seek connection to Hydro Ottawa's grid through the South Nepean MTS.

POLLUTION PROBE INTERROGATORY #5

Reference:

Ex.B; T3, S1, Attachment 1

Interrogatory:

a) Please confirm that the energy conservation and distributed generation contributions outlined on page 19 of the IRRP are still accurate.

b) Will the utility's decreased Conservation and Demand Management (CDM) spending into the future have an impact on this forecast and if so, please indicate what that impact will be.

c) Was additional CDM activity considered to meet the needs of demand in this community and if so, how do the costs compare to the proposed project costs?

Response:

Part a) and b)

The 2019 planning forecast provided as part of the response to Exhibit I, Tab 1, Schedule 1 is based on updated conservation and distributed generation contributions. In March 2019, the Minister of Energy, Northern Development and Mines directed the IESO to immediately discontinue the 2015-2020 Conservation First Framework and implement a new Interim Framework with a centrally delivered program offering until December 31, 2020. As a result, the long-term province-wide conservation target of 30 TWh by 2032 described in the 2015 IRRP is no longer in effect.

Compared to the 2015 Ottawa IRRP, this change affects the energy efficiency programs portion of the conservation savings forecast beyond 2020. The codes and standards and time-of-use pricing portions of the forecast conservation savings are not affected. The result is an increase in the Ottawa sub-region planning forecast nearly 200 MW by the end of 2032 (the end of the 2015 forecast period).

As described in response to Exhibit I, Tab 2, Schedule 3 part a), the local generation contribution to the South Nepean area planning forecast has not changed since 2016.

c) Please see the responses to Exhibit I, Tab 1, Schedule 3 part c), and Exhibit I, Tab 2, Schedule 4 part c).