

**NextBridge Interrogatory # 1**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application

**Interrogatory:**

Provide all work papers, including the electronic/active version of all spreadsheets, models, analyses, input files and documents, used, relied upon, referenced and/or created in the development of the Application and exhibits.

**Response:**

Hydro One refuses to provide the requested information. The purpose of interrogatories is not to seek an undifferentiated dump of information. NextBridge has asked dozens of interrogatories seeking information on specific components of the evidence. Those interrogatories are consistent with the OEB's Rules of Practice and Procedure. The request in this interrogatory is not.

**NextBridge Interrogatory # 2**

**Reference:**

EB-2017-0364 – March 29, 2018 HONI Lake Superior Link Application Additional Evidence.

**Interrogatory:**

Provide all work papers, including the electronic/active version of all spreadsheets, models, analyses, input files and documents, used, relied upon, referenced and/or created in the development of the Additional Evidence and exhibits.

**Response:**

Hydro One refuses to provide the requested information. The purpose of interrogatories is not to seek an undifferentiated dump of information. NextBridge has asked dozens of interrogatories seeking information on specific components of the evidence. Those interrogatories are consistent with the OEB's Rules of Practice and Procedure. The request in this interrogatory is not.

**NextBridge Interrogatory # 3**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application.

**Interrogatory:**

- a) Provide all documents, analyses, and studies presented or provided to HONI's Board of Directors that discuss the NextBridge East West Tie Line.
- b) Provide all documents, analyses, and studies presented or provided to the HONI Board of Directors that discuss the Lake Superior Link project.

**Response:**

a) and b)

Information provided to the Hydro One Board of Directors discussing both the NextBridge East West Tie Line and the Lake Superior Link Project was provided in Exhibit JT.2.19 of EB-2017-0364. That undertaking response provided the business case for the Development costs as well as presentations leading up to the February 13, 2018 meeting of the Hydro One Board of Directors.

In addition to those materials the following are included as attachments to this interrogatory response:

- Attachment 1: January 15, 2018 - Briefing re follow-up to December 8, 2017 Meeting
- Attachment 2: July 3, 2018 - Lake Superior Link Project Update
- Attachment 3: August 10, 2018 - Lake Superior Link Summary Slide

**Date:** January 15, 2018  
**Topic:** Follow-up to December 8<sup>th</sup> Board Meeting, re: East West Tie  
**Submitted by:** Greg Kiraly, Chief Operating Officer

## **Background**

At the December 8, 2017 meeting, the Board discussed the strategic content of the proposed application for Leave to Construct (LTC) to the OEB. The Board did not approve at the meeting, and asked Management to consider alternatives based on the Board's feedback and questions and return with additional information and recommendation for consideration. The team has assessed a number of alternatives to mitigate the negative effect of the risk and associated uncertainties. All alternatives all have both risk and reward to be considered. This briefing touches on three key areas as follows:

1. Risk exposure to Hydro One regarding the Not-to-Exceed price;
2. Risk of Environmental Assessment approvals, and what that means to the not-to-exceed price;
3. Project commitment with uncertainty of First Nations partnerships.

This briefing provides information and recommended path-forward around these three key areas, and will be complemented by materials to be presented at the February meeting.

## **Not-to-Exceed Capital Cost**

Management recommended a not-to-exceed price as a strategic differentiator to the NextBridge LTC submission, and strongly believes it would de-risk our bid being rejected by the OEB. Although Nextbridge's application is significantly higher cost, they are further advanced on the underlying project work and can offer an earlier completion date, having been selected for the development phase in 2013. A price-cap from Hydro One would likely be seen as a very attractive bid component for the regulator.

The Board expressed concern regarding the risk profile of the investment, particularly the potential for unrecovered costs given the number of uncertainties and the fixed price stipulation. The team has assessed a number of alternatives to mitigate the negative effect of the risk and associated uncertainties taking into account the fact that as the risk profile for unrecovered costs increases with the inclusion of price cap, but the risk of being rejected by the OEB also decreases. On the balance of our review, we intend to withdraw the price-cap component of our proposal. We will be returning to the Board in February to request the approval to submit the application for leave to construct, which will include our final assessment of risks and mitigation.

The proposed Hydro One LTC application to the OEB provides substantial benefits to customers as compared to the NextBridge LTC application in the form of both lower capital costs of over \$100million and lower on-going annual operation costs. The annual OM&A savings of \$5.6million, translates into an equivalent \$110million of capital savings when expressed on an NPV basis over a 30-year study period.

In the absence of the price-cap, Hydro One will continue to manage to a well-defined and tightly controlled project plan, targeting a delivery price of \$636 million utilizing fixed price lump-sum turn-key (LSTK) Engineer-Procure-Construct (EPC) contract with SNC-Lavalin.

## Project Cost Comparison

During the December 8<sup>th</sup> board meeting, a number of large-scale transmission projects were referenced to demonstrate the potential for cost increase from initial approved amounts. A total project cost and variance analysis of the several referenced large scale transmission projects with cost variances has been completed and summarized below, with additional details in Appendix 1.

- Each project has its own set of circumstances and variance explanation, but on average they are at a 22% variance between the Initial Cost and Final Cost.
- Note that Final Cost in below table accounts for changes such as approved scope-change notices during project execution, as well as more impactful changes like re-routing, changes to contracting strategy, and in-flight design changes.

Project Name	<u>East West Tie</u> <u>(Hydro One)</u>	<u>East West Tie</u> <u>(NextBridge)</u>	<u>NTL Northwest BC Transmission Line</u> <u>(BC Hydro)</u>	<u>ILM Interior Lower Mainland Transmission</u> <u>(BC Hydro)</u>	<u>WATL Western Alberta Trans. Line</u> <u>(AltaLink)</u>	<u>EATL Eastern Alberta Trans. Line</u> <u>(ATCO)</u>	<u>Fort McMurray West Transmission</u> <u>(Alberta Powerline)</u>	<u>Bipole III</u> <u>(Manitoba Hydro)</u>  <i>On-going</i>
INITIAL COSTS (\$M)	\$636 Target	\$737 target	\$561	\$602	\$1,499	\$1,665	\$1,430	\$3,300
FINAL COSTS (\$M)			\$736	\$743	\$1,699	\$1,900	\$1,600	\$4,600+
Variance (\$M)			\$175	\$141	\$200	\$235	\$170	\$1,300
<b>Variance (%)</b>			<b>31%</b>	<b>23%</b>	<b>13%</b>	<b>14%</b>	<b>12%</b>	<b>39%+</b>

**Northwest BC Transmission Line (NTL) and Interior Lower Mainland (ILM) Projects** had similar challenges that substantially drove project variances:

- Both contracts were initially planned under the BC Transmission Company (BCTC) entity and the concept was to utilise functional specifications and award as EPC contracts.
- During the course of the project, BCTC was re-integrated back into BC Hydro.
- The contracting strategy was changed mid-project in that BC Hydro introduced their own prescriptive standards and requirements which resulted in delay in the design period due to re-design, and changes to material and equipment to be procured
- BC Hydro introduced a requirement of live-line maintenance after the initial project budget was set. This modified the clearances and impacted the tower design, steel procurement, foundation design, line hardware. Equitable adjustments (schedule and cost) were claimed by the EPC contractor.
- On NTL, 76 structures had to be changed from lattice to monopole to fit within the revised route alignment.
- On NTL, the contracting strategy with corridor vegetation clearing was not done in a manner that drove efficient budget and schedule alignment. The clearing work was contracted directly to the FN Contractors by BC Hydro, with the contract between BC Hydro and FN Contractors. The work was project managed by the EPC contractor (Valard), but there was no tie-back to the EPC Contract. Hence corridor and access clearing requested by Valard to the FN Contractors was to BC Hydro account and wasn't being managed in an integrated cost-manner. Valard were also able to claim delays resulting from delays in the execution of the works by the FN Contractors.
- Specific to the ILM project, the general contractor (Graham-Flatiron JV) had no prior transmission line construction experience

Final cost variances on the **WATL, EATL and Fort McMurray West** projects were largely a result of changes in project evolution between the initially approved project amount, including routing changes following Environmental Assessment approvals and out-of-scope change notices approved by the utility.

**The Manitoba Hydro Bipole III project** has been a project with extensive changes driven largely by political forces, and has been the subject of multiple critical reviews.

- The transmission line routing was altered by the NDP government in power at the time, and resulted in a substantially longer to the west of Lake Winnipeg as opposed the original lower cost route to the east
- The Conservatives won a majority government in the spring 2016 election and immediately made substantial changes to the Manitoba Hydro board and executive. Boston Consulting Group was retained by the new Board to complete an independent review of contentious major capital projects, which is publically available.
- The incoming chair of the Manitoba Hydro board is on record as saying "Rerouting the Bipole III transmission line down the west side of the province was obviously a wrong decision, one forced on [Manitoba] Hydro by the previous government, and has cost Manitobans an additional \$900 million."
- In-flight alternatives were assessed in 2016, but it was determined the lowest-cost option was to complete construction along the updated route. The project is still on-going and forecast to be completed in late 2018.

**With respect to East West Tie, Hydro One and SNC-Lavalin** have taken into account the lessons learned regarding other projects in developing the proposal for the EWT. The parties have been working together in a cost-shared collaborative and open-book manner throughout the entire project development phase, which has resulted in the following differences with some of the above referenced projects:

1. Clear engineering and construction solution built on a mature and stable project specification
2. Up-front clarity and agreement on design standards, material standards, and maintenance standards to minimize extension of design cycle and re-work
3. Clarity and commitment on contracting strategy with accountability and risk management clearly defined between SNC-Lavalin and Hydro One
4. Utilization of construction contractors who are experienced with transmission line construction
5. Hydro One's solution is a generally widening of existing corridor, which is inherently less risky than creating new corridor as was the case in several of the comparator projects.
6. A contingency of \$68 million (10.7%) is included within the project total, and built upon industry best-practice of risk definition and probabilistic modeling.
7. SNC-Lavalin has extensive experience in delivering LSTK EPC projects on a fixed-price basis. A letter from the President of their Power division is attached as Appendix 4, outlining their commitment.

In the event that a designated transmitter was to incur costs beyond their approved LTC, they may elect to seek cost recovery for the incremental amount from the OEB as per established regulatory process. Hydro One would plan to seek recovery for costs prudently incurred outside of our control including such things as force majeure events; scope changes driven by government or regulatory policy; archeological discovery; changes to import duties; commodity pricing & foreign exchange risk beyond November 2018. These will be articulated in our LTC application.

### **Cost Benchmarking Comparison**

The project team has undertaken a benchmarking and comparison review of other large-scale 230kV transmission projects in Canada which are similar to the EWT. Supporting details are contained within Appendix 2, and the following key excerpts of the benchmarking review:

- The Hydro One EWT proposal has an EPC cost of \$1.34 million per kilometer
- Similar completed comparison projects, when normalized for such factors as material and labour costs, range from \$1.27 million to \$1.37 million per kilometer. The NextBridge submission is \$1.41 million per kilometer.
- After normalizing the other projects to a unitized basis, making index adjustments for material and labour costs, and applying these factors to the 400km length of the Hydro One proposed solution, the variance across the similar projects sits in a range of -\$31 million to +\$25 million, or a -6% to +5% spread compared to Hydro One. This is a tight range and gives confidence that our unitized EPC price is appropriate.

## **Environmental Assessment Approvals**

Based on a review of past precedents and the current situation, we confirm that proceeding with the LTC application to the OEB is an acceptable risk to Hydro One, due to the following considerations:

- A LTC application can be filed prior to obtaining an approved Environmental Assessment (EA) from the Ministry of Environment & Climate Change (MOECC).
- Hydro One will clearly indicate in the LTC application that receipt of EA related approvals is a condition to our proposal and Hydro One's ability to meet the cost and schedule commitments. The Hydro One solution cannot proceed as described if there is no regulatory solution to meeting EA requirements.
- Regulatory options exist to allow Hydro One to utilize the EA work already completed by NextBridge, and address changes in proposed route, should our proposal be compelling enough to the Province. Additional information is provided in Appendix 3.

It is typical to file a LTC application prior to EA approval for this large transmission projects. NextBridge filed its LTC application on July 31, 2017, however, approval of the associated Individual EA is not anticipated until Q2 2018. It is likely that approval will be delayed longer, given that NextBridge is currently amending their EA. Hydro One is assuming Q2 2019 for EA approval for the Hydro One solution.

It should be noted that, in the case of the EWT, the Terms of Reference (TOR) prepared by NextBridge has already been approved by the MOECC, and include the route proposed by Hydro One. The original reference route proposed in the NextBridge TOR is actually the route through Pukaskwa National Park as proposed by Hydro One.

### **EA Approval as a Condition**

Hydro One proposes to reduce the risk of cost recovery associated with delays in obtaining, or inability to obtain EA approval by clearly stating the nature of the EA dependency in the LTC application. Hydro One will be clear that receipt of EA related approvals is a condition of being able to meet the cost and schedule commitments. The project cannot proceed as described if there is no regulatory solution to meeting EA requirements for the proposed route and associated cost savings.

Hydro One will also outline to the OEB that if through the process to finalize the EA approvals, the MOECC were to impose substantial conditions, or mandate substantial changes that would impact Hydro One's price and schedule, we would submit to the OEB for their approval of the associated incremental costs. This instrument would be reserved for substantial changes that cannot be managed within project contingencies (i.e. route alterations). Approval for recovery of these costs would still be subject to OEB approval, but are viewed as low risk given they would have been mandated by another agency and the concept of additional costs due to EA obligations will be outlined in the LTC application.

## **First Nations Partnerships**

Hydro One has not undertaken exchanges with Bamkushwada LP, the partnership formed by the directly affected First Nations communities, nor with Supercom Industries LP, its commercial arm, given the alleged exclusivity agreements with NextBridge. We will clearly indicate Hydro One's positive intentions on First Nations partnership without specific commercial details in our Leave to Construct submission to the OEB. We expect the OEB will be interested in considering the matter of First Nations partnerships on the overall context of the LTC process.

Regardless of any exclusivity agreements, Hydro One can begin the consultation process with First Nations, because consultation is a constitutional duty. If the OEB feels that Hydro One's proposal is compelling and in the interest of electricity customers, the OEB could elect to award to the LTC to Hydro One on a conditional basis, subject to reaching agreement with First Nations partners within a short period of time, say 45 days. This will be signalled in our LTC application.

The concept of conditions is not new to the OEB; the normal practice in granting LTC approvals is to include Conditions of Approval, which typically include that the applicant apply with the requirement of the Class EA. However, this concept of a condition associated with a Partnership agreement will be new.

It is Hydro One's view that the exclusivity agreements entered into between NextBridge and affected communities are anti-competitive, and not in the best interests of customers. Although the OEB does not have authority to nullify such agreements, our view is the OEB will not look kindly on them, and the OEB may be persuaded that NextBridge's entering into such agreements was not part of "development work" awarded by the OEB to NextBridge in 2013. Therefore, NextBridge should not have presumed that it would be the successful bidder to construct the project, and NextBridge should not have taken the step of "locking up" First Nations in a way that would preclude another transmitter from bidding to construct the project.

Also of note, Bamkushwada LP was a 33.3% partner with Hydro One and Brookfield in the 2012 EWT LP submission to the OEB. The impacted communities maintain constructive relations with Hydro One, and we strongly believe the affected communities will welcome our interest in the project and will be open to working with Hydro One again.



## Appendix 1: Comparison Transmission Line Projects and Variance to Initial Cost

Project Name	<u>East West Tie (HONI)</u>	<u>East West Tie (NextBridge)</u>	<u>Northwest BC Transmission Line (BC Hydro)</u>	<u>Interior Lower Mainland Transmission (BC Hydro)</u>	<u>WATL (AltaLink)</u>	<u>EATL (ATCO)</u>	<u>Fort McMurray West Transmission (Alberta Powerline)</u>	<u>Bipole III (Manitoba Hydro)</u> <i>On-going</i>
INITIAL COSTS (\$M)	\$636	\$737	\$561	\$602	\$1,499	\$1,665	\$1,430	\$3,300
FINAL COSTS (\$M)			\$736	\$743	\$1,699	\$1,900	\$1,600	\$4,600
Increase (%)			31%	23%	13%	14%	12%	39%
Current	AC	AC	AC	AC	DC	DC	AC	DC
Length (km)	400	450	344	255	350	485	500	1384
Structure Type	360km guyed mast + 40km self supporting	290km Guyed Y + 160km Self supporting steel lattice	Steel Lattice - Guyed Y	Steel Lattice - Guyed V and self supporting	Steel Lattice - Self Supporting	Steel Lattice - Self Supporting	Steel Lattice - Guyed V	Steel Lattice - Guyed Mast
Number of Circuits	2	2	Single	Single	Single (Bipole)	Single (Bipole)	Single	Single (Monopole)
Operating Voltage (kV)	230	230	287	500	+/- 500	+/- 500	500	+/- 500
Conductor	1192 Grackle	1192 Grackle	477 Hawk		1590 Falcon	1590 Falcon		
Conductors per phase	Single	Single	Twin	Twin	Quad	Quad	twin	Triple
Foundations	Mainly rock anchor - some grillage (85/15%)	A mixture		Piles / Grillage / Pad & Column	Deep piles	Deep piles		
Notes			Guyed Y structures same as Nextbridge offer Valard construction. Monopoles also had to be used for 75 structures to cope with standard change.	Flatiron-Graham construction	SNC-Lavalin execution		Valard construction	
Delays / Changes			<ul style="list-style-type: none"> <li>- Heated labour market</li> <li>- Introduction of new structure type</li> <li>- Change in design requirements</li> <li>- Access and clearing not in EPC scope of work</li> </ul>	<ul style="list-style-type: none"> <li>- Heated labour market</li> <li>- Change in design requirements</li> <li>- EPC Awarded to construction JV with limited Transmission Line experience</li> </ul>	<ul style="list-style-type: none"> <li>- Heated labour market</li> <li>- Change in line route</li> </ul>			<ul style="list-style-type: none"> <li>- Line had to be rerouted due to eco/political pressure</li> <li>-construction fatalities in 2017</li> </ul>

## Appendix 2: Unit Cost Benchmarks of Similar 230kV AC Transmission Lines

	<b>EWT – Hydro One</b>	<b>EWT - NxB</b>	<b>Northern Ontario Study</b>	<b>TL267</b>	<b>SFTP</b>	<b>CBW</b>
Voltage	230kV	230kV	230kV	230kV	240kV	240kV
Year of Execution	2019	2019	2011	2017	2013	2011
Client	Hydro One	NextBridge	Hydro One (Study to support budgetary pricing for LTEP)	Newfoundland Hydro	AltaLink	AltaLink
EPC Firm	SNC-Lavalin	Burns & McDonnell as Engineering Valard as Procure & Construct	SNC-Lavalin	SNC-Lavalin Engineer & Owners Engineer	SNC-Lavalin as EPC	SNC-Lavalin as EPC
Location	Northern Ontario	Northern Ontario	Northern Ontario	St John's, Nfld	Southern Alberta	Southern Alberta
Length (km)	400	450	300	188	123	240
Average span (m)	365			320	350	337
Number of circuits	Double	Double	Double	Single	Double	Double
Number of structures	1100			586	338	713
Conductor (# per phase)	1192 kcmil (1)	1192 kcmil (1)	795 kcmil	804 kcmil (1)	1033 kcmil(2)	1033 kcmil (2)
Construction Constraints	Heavy Wooded	Heavy Wooded	50% Wooded	Heavy Wooded	Prairie	Prairie
<b>Cost Analysis</b>	<b>\$/km</b>	<b>\$/km</b>	<b>\$/km</b>	<b>\$/km</b>	<b>\$/km</b>	<b>\$/km</b>
Materials	\$147,090	\$198,684	\$273,600	\$249,316	\$282,247	\$296,382
Access	\$257,665	\$290,580		\$264,711	\$172,357	\$238,280
Foundations	\$281,096	\$305,913		\$260,056	\$351,924	\$171,006
Lines	\$562,192	\$567,382		\$492,266	\$564,780	\$565,423
<b>TOTAL COST / km</b>	<b>\$1.34m</b>	<b>\$1.41m</b>	<b>\$1.39m</b>	<b>\$1.27m</b>	<b>\$1.37m</b>	<b>\$1.27m</b>
Applied Indexes / Factors			- Steel	- Steel, Aluminum - Provincial Labour - x1.5 Single to double	- Steel, Aluminum - Provincial Labour	- Steel, Aluminum - Provincial Labour
<b>Total Variance if applied to EWT – Hydro One solution @ 400km</b>	+\$0	+\$25.9m (+4.8%)	+\$20.6m (+1.5%)	-\$31.2m (-5.8%)	+\$10.8m (+2.2%)	-\$29.3m (-5.2%)

### **Appendix 3: Regulatory Options to Meet EA Requirements**

Hydro One has engaged in preliminary discussions with MOECC regarding possible options for obtaining EA approval for the proposed approach to the EWT Project. MOECC has confirmed that regulatory measures exist that would allow Hydro One to utilize the EA work already completed by NextBridge, and address changes in proposed route. It should be noted that these measures are relatively unprecedented with respect to Individual EAs in the electricity sector, and would likely only be possible should the Hydro One proposal be considered compelling enough to the Province and a LTC granted.

MOECC is limited in how much they can discuss the EWT file as the NextBridge Individual EA is currently in front of the Minister for a decision and is currently under amendment by NextBridge based on additional stakeholder comments. The nature of amendments is not known to H1 and it is possible some of these amendments could benefit Hydro One.

MOECC has been clear to date that a project can be carried out by another proponent so long as it is conducted in the way that is described in the EA, and that it meets the commitments in the approved EA. Hydro One proposes to use the same route as NextBridge for 264 km of the 403 km proposed Hydro One route. Changes to the approach in the approved EA in these sections are minimal, and are considered comparable in impact, such as minor changes in tower design, or a significant reduction in impacts, such as widening the corridor by only 37 m compared to 64 m proposed by NextBridge.

EA reports and associated studies are publicly available documents, and with the exception of necessary changes required for Hydro One's solution, are beneficial to and useable by Hydro One. Although Hydro One cannot legally "rely" on the NextBridge EA and associated studies, it is not general industry practice to obtain reliance on an EA document. Obtaining reliance from the consultants that have completed the EA studies would not reduce the risk associated with Hydro One assuming those same EA studies. Studies, such as natural heritage, are highly subjective and legal recourse for errors and omissions in the absence of negligence would not likely be successful. As a result, there would be no advantage to Hydro One obtaining formal reliance on these reports, or commissioning duplicate studies.

The key regulatory challenges lie in addressing EA requirements for areas where the Hydro One proposal does not conform to the Nextbridge EA conditions, if approved by the MOECC. These areas include the modified routes through Pukaskwa National Park and West of Nipigon. MOECC has confirmed that the route change proposed by Hydro One is considered significant in magnitude such that an addendum or amendment to the existing EA would not be considered appropriate to meet Hydro One's EA obligations.

MOECC has offered several other means to potentially meet EA requirements, many of which are not viable as they do not align with the project schedule or they result in a significant duplication of effort by H1 with respect to the NextBridge EA studies. The most attractive option is a Ministerial exemption to typical EA requirements, combined with Studies and Consultation for sections of the route that deviate from the approved route. This would require a Regulation or Declaration Order combined with Cabinet Approval and Consultation. A second possible option would be assuming the EA from NextBridge prior to finalization. This would be considered only if there is a significant delay in NextBridge finalizing their EA such that the LTC decision would be made prior to completion.

**Regardless, the MOECC has made it clear that some solution to EA approvals could likely be reached should the Hydro One proposal be considered the best solution for the Province.**

Based on the above considerations, proceeding with the EWT project commitments despite some uncertainty associated with the nature and timing of associated EA approvals is considered an acceptable risk to Hydro One.

## **Appendix 4: Letter from SNC-Lavalin President, Power Division**



**SNC-Lavalin Group Inc.**  
455 Boul. Rene-Levesque, Ouest  
Montreal, Quebec  
Canada H2Z 1Z3  
☎ (514) 393-8000

December 12<sup>th</sup>, 2017

Hydro One Networks Inc.  
483 Bay Street  
Toronto, ON M5G 1P5

Attention: Mr. Greg Kiraly, EVP and Chief Operating Officer

Subject: **SNC-Lavalin Commitment to Hydro One Network's Lake Superior Link Project**

Dear Mr. Kiraly,

As you are aware, SNC-Lavalin has provided its full lump sum EPC proposal to Hydro One Networks for the Lake Superior Link Project (the "Project") on November 24<sup>th</sup>, 2017. This letter serves as an acknowledgement from myself and the rest of SNC-Lavalin's senior leadership of the awareness and commitment of this Project within SNC-Lavalin.

This Project has been thoroughly reviewed through all levels of internal governance, evaluating and quantifying the scope, schedule and risks of the Project. Especially as this is a lump sum price, we require that the teams go through a rigorous process, including market surveillance and peer reviews to ensure we provide a proposal that is both achievable and profitable for SNC-Lavalin. We feel that the expertise, experience and resources we have within SNC-Lavalin will make this a successful project for both our organizations.

We understand that this will be a large high profile project, but it is not unlike other large infrastructure projects we have and are currently executing. Maintaining our reputation to deliver successful projects especially within our home country is essential to our continued prosperity.

We look forward in developing and executing this project (as well as others) with Hydro One Networks in the years to come. Feel free to contact me if you would like to discuss any of this with me personally.

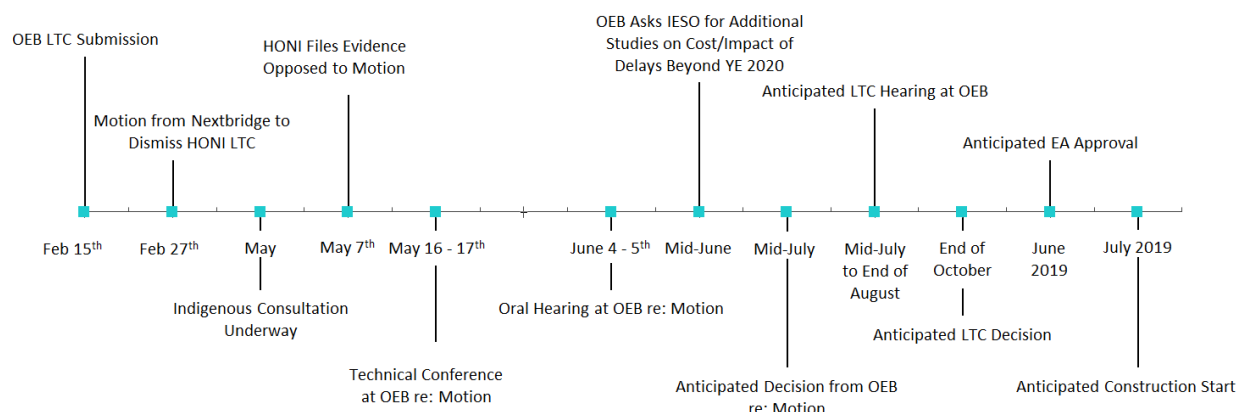
Sincerely,

**Sandy Taylor**  
President, Power  
**SNC-Lavalin Group Inc.**

## East-West Tie (Lake Superior Link) Transmission Line Project Update

The following is an update on Hydro One's Leave to Construct (LTC) application to the Ontario Energy Board (OEB) to build the East-West Tie Transmission Line project, which Hydro One has renamed the Lake Superior Link (LSL). Hydro One continues to pursue the project with full energy and enthusiasm as a core competency despite the resistance from NextBridge following our LTC application filing on February 15, 2018. Hydro One remains confident the LSL project delivers substantial benefits to rate payers, however there are some headwinds we are working to overcome.

Below is an update on progress made since the Board meeting on February 13, 2018 on the following chronology:



### Regulatory Process

Hydro One's LTC application was filed with the OEB on February 15, 2018. On February 27<sup>th</sup>, NextBridge filed a motion with the OEB to dismiss Hydro One's application primarily based on the premise that the Hydro One LSL project cannot meet the December 2020 in-service date and that our application was incomplete. Hydro One has stated the motion is without merit and has strongly opposed NextBridge's assertions on both the application being incomplete, and that the December 2020 in-service date is a requirement.

The following will provide the Board with the regulatory activities that took place to address the motion filed by NextBridge on February 27<sup>th</sup>:

- On May 7<sup>th</sup>, in response to a procedural order from the OEB, Hydro One submitted over 350 pages of comprehensive supplementary evidence to justify the dismissal of the NextBridge motion.
- On May 7<sup>th</sup>, Hydro One participated in a technical conference on the NextBridge application as an intervening party.
- On May 16 & 17<sup>th</sup>, a technical conference was held on the NextBridge motion where a panel of Hydro One and SNC-Lavalin witnesses were questioned by OEB staff and intervening parties.
- On June 4 & 5<sup>th</sup>, an oral hearing was held on NextBridge's motion to dismiss Hydro One's application, where a panel of three OEB Board members heard argument from Hydro One, NextBridge and eleven intervening parties.

Several parties opposed the NextBridge motion including Schools Energy Coalition, Consumers Council of Canada, and the Power Workers Union. They argued that it would be prudent to hold a full hearing to hear and test Hydro One's evidence given the magnitude of customer benefits, and they questioned the OEB's jurisdiction to dismiss Hydro One's application without a hearing.

There were several parties who supported NextBridge's motion, most notably OEB Staff, Bankkushwda LP, Vulnerable Energy Consumer's Coalition (VECC) and the Métis Nation of Ontario. The primary areas of argument were

- Hydro One's ability to meet its Duty to Consult and to attain economic participation agreements with the impacted parties in a timely manner;
- The importance and likelihood of project completion by December 2020 (the date mentioned in the Order-in-Council) as proposed by NextBridge, as contrasted with Hydro One's planned completion date of December 2021;

Hydro One outlined that formal consultation has begun with all potentially affected Indigenous communities and feels there is sufficient time in our overall project schedule to have meaningful consultation and reach economic participation agreements.

NextBridge argued the importance of the 2020 in-service date as a project requirement, being referenced in the Order-in-Council, and questioned whether Hydro One would be able to meet even a 2021 in-service date. Hydro One argued that the December 2020 in-service date was only a recommendation and is not a firm need from a power system perspective, based on evidence filed by Hydro One and a submission made by the IESO. The OEB has since asked the IESO for additional studies articulating the impacts of completion of the project under different timelines, reaching out as far as 2024.

We do not know when the OEB will render its decision on the NextBridge motion but anticipate it will not be prior to mid-July 2018. If the motion is dismissed, the OEB will define a process to fully hear both Hydro One's and NextBridge's LTC applications. We remain confident in our ability to deliver value on this project and are optimistic that the OEB will dismiss the NextBridge motion, thereby allowing Hydro One's LTC application to be heard in full. Under this scenario, we anticipate there will be a further regulatory process through the summer, and a potential the OEB decision on the two LTC applications as early as October 2018.

Hydro One continues to advance work in areas of engineering and environmental approvals, including field studies, Indigenous consultation, and discussion with landowners. We continue to be optimistic about this project and that we will be given an opportunity to fully articulate our value proposition to the OEB and others. Consultation with Indigenous communities is underway, and we are looking for opportunities to increase community economic participation in a number of forms.

A total of \$12.2 Million has been authorized by management for the project development phase up to the time of the OEB's LTC decision. Incurred and committed costs to date are approximately \$4 Million, and Hydro One will curtail spending in the unfortunate event that our application is dismissed by the OEB.

### Indigenous Relations

Hydro One has been delegated the procedural aspects of the legal Duty to Consult by the Provincial Crown via the Ministry of Energy for the LSL project. As per this delegation, Hydro One is fully committed to undertake meaningful consultation and accommodation with all impacted Indigenous communities as identified by the Crown. Hydro One has requested to meet with all impacted Indigenous communities to discuss potential LSL project impacts, accommodation and opportunities, including economic participation such as procurement, training and employment. Hydro One would consider accommodation measures including, without limitation, equity participation with Indigenous communities as identified by the Crown, capacity funding to participate in the engagement process, procurement and subcontracting opportunities, job training, and employment opportunities. There has been good progress on initial consultation engagements, and Hydro One continues to reach out to all identified communities to understand their unique needs and opportunities to participate.

Due to exclusivity agreements established by NextBridge with the six directly impacted First Nations communities who make up Bamkushwada LP, those communities have declined at this time our request to discuss accommodation measures such as economic participation. Hydro One continues to engage with them, and there has been some positive progress as of late.

We recently became aware that NextBridge is proposing to support the funding of the First Nations equity participation. Our current proposed economic participation, as approved by Hydro One Board of Directors in February 2018 was not premised on supporting the Bamkushwada equity raise. We are reviewing this matter internally in order to evaluate alternatives and recommend an optimized course of action.

One of the concerns from Indigenous communities is the potential delay to construction start and project completion, and how that may negatively affect individuals and indigenous companies who are preparing for the project. Members of Indigenous communities are currently completing project-related skills training through a program developed by Supercom, NextBridge and others. Hydro One has been a vocal supporter of this program which will enable local participation in the project's success, regardless of who is designated to build and operate the project. Hydro One is committed to maximizing the employment of members from local Indigenous communities, including those who have received or who are currently completing project related skills training. In addition, Hydro One is in a unique position to provide lasting employment opportunities for skilled Indigenous workers throughout its network across the province, beyond the construction of the LSL Project.

Hydro One and its construction partner SNC-Lavalin (SNC) recognize the importance of having involvement and participation of Indigenous communities and businesses in the execution of the LSL Project. Hydro One and SNC have a proud history of inclusion through employment and procurement and will be actively including, in the procurement of goods and services, qualified Indigenous suppliers and companies who have strong relationships with local Indigenous communities and businesses.

The Métis Nation of Ontario has been critical of Hydro One's consultation approach with Métis peoples on this project. Hydro One is committed to engagement with the Métis, as well as considering what further potential economic participation on the project may look like. Despite the concerns expressed by the Métis Nation of Ontario (MNO), our team has had productive discussions with Métis communities that are independent of MNO. This engagement will continue as part of our Indigenous community engagement program notwithstanding the position of the MNO.

### Environmental Approvals

One of the key issues that remain on the project is whether or not the Ministry of the Environment and Climate Change (MOECC) will permit Hydro One to utilize the Environmental Assessment (EA) work completed by NextBridge for approximately 80% of the route which is common with the Hydro One proposal. Hydro One's position is that the EA is a public document that can be utilized by Hydro One, subject to additional studies and consultation for differences in the two routes. While Hydro One cannot reproduce or distribute the NextBridge EA, Hydro One is entitled to reference it and rely on it at our own risk.

Hydro One has been regularly engaged with the MOECC since the Third Quarter of 2017 to understand options to obtain timely environmental approvals. Based on Hydro One's meetings with the MOECC, two options were identified to allow Hydro One to meet its EA obligations for the LSL Project; Option 1, a Declaration Order, or Option 2, an Individual Environmental Assessment. MOECC has confirmed, on numerous occasions and in writing, that both options are open to Hydro One, as they would be to any proponent under the *Environmental Assessment Act* (the Act). Hydro One is currently pursuing both options in parallel and is hopeful that either one would enable the planned construction start date of July 2019.

**Option 1: Declaration Order:** This option exempts a proponent from an Individual EA and is available if approved by the Minister of the Environment and Climate Change and then the Cabinet. (A Declaration Order is provided for under Section 3.2 of the Act and allows the Minister to declare that the Act, the regulations, or a matter provided for under the Act does not apply.)

Declaration Orders are usually considered when the proposal is in the public interest, potential environmental effects are likely to be minimal, and environmental impacts are already being adequately addressed. Having regard to these guidelines, the proposed LSL Project is a strong candidate for a Declaration Order for the following reasons:

- The proposal is in the public interest because of savings in excess of \$100 million in capital costs and additional \$3 million in annual operating costs;
- The environmental impacts of the LSL Project routing are expected to be minimal. In fact, the proposed LSL Project route reduces the linear distance of line proposed by NextBridge by approximately 50 km and reduces the required corridor width by approximately 50%; and
- Most of the environmental impacts of the proposed LSL Project will already be adequately addressed through the existing EA submitted by NextBridge, which assesses



approximately 80% of the proposed Hydro One LSL Project route. Additional studies and consultation, which are currently being conducted by Hydro One, will address any differences between the proposed LSL Project and the NextBridge Project.

Hydro One expects to be in a position to request a Declaration Order no later than December 2018, by which time the NextBridge EA is expected to be approved. This would allow a construction start date in mid-2019 as per project plan.

**Option 2: Individual EA:** Hydro One continues to believe that a Declaration Order is an appropriate regulatory measure for Hydro One's LSL Project, as it avoids the unnecessary cost and duplication associated with completion of an Individual EA and considers the interest of electricity customers and the Province. However, in the event that a Declaration Order is not granted, Hydro One has commenced an Individual EA in parallel and is working to a plan that would allow the Individual EA process to be completed by July 2019 for the sections which differ from the NextBridge route, in time for the planned start of construction.

### Project Next Steps

We anticipate a decision from the OEB in the coming weeks regarding whether Hydro One's LTC application will be allowed to proceed. If it is allowed to proceed, the OEB will outline a process for full evidentiary discovery and a hearing of both the NextBridge and Hydro One LTC applications.

## SUMMARY OF TOPIC / ISSUE

SITUATION OVERVIEW	<ul style="list-style-type: none"><li>▪ The East-West Tie is a 400km long 230kV transmission line project initiated in 2012 as Ontario’s first competitive process for transmission development. Hydro One submitted a Leave to Construct (LTC) application to the Ontario Energy Board (OEB) in February 2018 to design/build/own, which Hydro One renamed the Lake Superior Link (LSL).</li><li>▪ Our LTC application is in competition with NextBridge, whose costs have escalated over \$300M from 2013 submission.</li><li>▪ Hydro One’s proposal to develop and build the LSL is projected to cost \$636M, which, if successful, would add approx. \$15M to net income.</li><li>▪ Hydro One LTC application provides Ontario rate payers with over \$100 M savings in capital costs plus \$3M reduction in annual operating costs, as compared to the NextBridge submission. Our projected completion is up to 12 months later than NextBridge.</li><li>▪ Hydro One is engaging with Indigenous Communities (ICs) as part of delegated authority to consult and accommodate; in time, economic participation conversations are anticipated to enable equity partnership with ICs in the order of 34%.</li><li>▪ On July 19th, the OEB dismissed a motion filed by NextBridge to have OEB reject Hydro One’s LTC application.</li><li>▪ The regulatory process is on-going with the OEB. Additional evidentiary discovery and hearings are anticipated to carry through Q4 2018.</li></ul>								
RISKS & CONSIDERATIONS	<ul style="list-style-type: none"><li>▪ Uncertain process through OEB review, as this project is the first with two competing LTC applications.</li><li>▪ OEB has requested IESO to assess and monetize impact to power system and customers of a delay in project completion to 2021 as per Hydro One submission, and also as far out as to 2024. Potentially beneficial to Hydro One.</li><li>▪ NextBridge has been consulting with Indigenous Communities for several years, and has established economic participation agreements with many. This is adding stress to relationships with some communities given their concern around losing momentum and committed benefits. Potential for continued delays re engagement and accommodation, may affect project viability &amp; schedule however good progress has been made in past several weeks.</li><li>▪ Approved expenditure to-date: \$12.2M; incurred and committed: \$4M; pursuit costs will be write-off if not successful.</li></ul>								
DECISIONS & NEXT STEPS	KEY DECISIONS REQUIRED	NEXT STEPS / UPCOMING MILESTONES							
	<ul style="list-style-type: none"><li>• Environmental Assessment (EA) approval from the provincial Ministry of Environment, Conservation and Parks anticipated July 2019. Two parallel processes underway for EA submission and approval to minimize risk.</li></ul>	<ul style="list-style-type: none"><li>• In midst of consultation with 18 Indigenous Communities as part of delegated duty to consult and accommodate.</li><li>• EA studies on-going with plan to submit to Ministry of Environment, Conservation and Parks.</li><li>• Engineering and procurement activities on-going.</li></ul> <table><tr><td>Anticipated OEB decision</td><td>Q4 2018</td></tr><tr><td>Planned EA approval</td><td>July 2019</td></tr><tr><td>Planned construction start</td><td>July 2019</td></tr><tr><td>Planned in-service</td><td>Dec. 2021</td></tr></table>	Anticipated OEB decision	Q4 2018	Planned EA approval	July 2019	Planned construction start	July 2019	Planned in-service
Anticipated OEB decision	Q4 2018								
Planned EA approval	July 2019								
Planned construction start	July 2019								
Planned in-service	Dec. 2021								

**NextBridge Interrogatory # 4**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application.

**Interrogatory:**

- a) Explain in detail whether the recent change in HONI's executive and its Board of Directors requires any additional or new corporate approvals from new executives and/or its new Board of Directors for the Lake Superior Link project. If so, please provide all documents that address the need for additional or new corporate approval(s) for the Lake Superior Link project.
- b) If additional or new approvals are required, provide all documents related to the approval or denial of approval.
- c) If additional or new approval is required, but has not yet been granted, provide the plan and timeframe to receive the approval or be denied the approval.

**Response:**

- a) The change in Hydro One's executive and Board of Directors does not necessitate the need to obtain any new approvals to pursue the construction of the Lake Superior Link Project. Hydro One's new board, effective as of August 14, 2018, has been briefed on the Lake Superior Link Project.

Should the OEB indicate that Hydro One is the preferred proponent to construct the project, Hydro One would seek final approval from the Board of Directors regarding the pricing alternatives outlined in Staff 18 in Exhibit I, Tab 1, Schedule 18.

- b) Not applicable.
- c) Not applicable.

**NextBridge Interrogatory # 5**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application.

**Interrogatory:**

- a) Explain in detail why HONI decided to file its Application in February 2018 and not sooner?
- b) Explain in detail when HONI first decided to file the Application?
- c) Explain in detail when HONI first decided to attempt to route through Pukaskwa National Park.
- d) Confirm that HONI never worked towards developing a leave to construct application in order to meet a 2020 in-service date for the Lake Superior Link project. If not confirmed, explain your answer in detail.

**Response:**

- a) Hydro One and SNC-Lavalin formed a confidential project team in early 2017, and undertook feasibility studies to determine if a technically compliant and cost-effective solution could be developed. It was determined in the coming months that the joint experience was potentially beneficial, although against an unknown cost and project plan from NextBridge. When NextBridge filed their Leave to Construct on July 31, 2017 with a total construction price of \$777 million, Hydro One realized there was a significant cost savings opportunity based on feasibility studies.

While the IESO was updating the Needs Assessment at the Minister of Energy's direction given the updated cost filed by NextBridge, Hydro One commenced full project development efforts. Further work was undertaken with SNC-Lavalin on scope development, engineering, engagement with suppliers and construction partners, estimation of costs, schedule development, risk assessments, external engagement, etc.

A fully-costed EPC proposal was delivered by SNC-Lavalin in late November which underpinned the project review with the Board in December, and ultimately their approval on February 13, 2018 to submit the Application, which was filed on February 15, 2018.

- 1 b) On July 31, 2017, it was decided Hydro One had a cost-competitive alternative, and  
2 reaffirmed what was suspected during feasibility studies in the preceding months.  
3
- 4 c) Hydro One Networks first decided to attempt to route through Pukaskwa National Park in  
5 2012 during the designation hearing as a member of EWT LP, when the reference route went  
6 through the Park. Hydro One re-engaged on the project independent of EWT LP in early  
7 2017 including assessment of routing through the Park.  
8
- 9 d) No, due to the failure of NextBridge not disclosing the higher construction costs prior to July  
10 31, 2017, Hydro One, nor any other transmitter, would not have reasonably commenced in-  
11 depth development activities to achieve a 2020 in-service date.

**NextBridge Interrogatory # 6**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application; HONI Response to Undertaking JT2.17.

**Interrogatory:**

- a) Provide all correspondence between HONI and the Ministry of Energy related to Lake Superior Link.
- b) Provide all correspondence between HONI and the Ministry of Energy related to NextBridge East West Tie Line.
- c) Please update HONI's response to Undertaking JT2.17 to provide copies of correspondence between HONI, MOECC, MNRF, IESO and other government agencies regarding the proposed LSL project since May 25, 2018.
- d) Please provide all correspondence between HONI, MOECC, MNRF, IESO and other government agencies related to NextBridge East West Tie Line.

**Response:**

- a) In Exhibit JT 2.17 Hydro One provided all correspondence with the Ministry of Energy up until May 25, 2018. Please refer to Attachment 1 for any additional correspondence since then.
- b) Unless related to the Hydro One Station Project, Hydro One has not had any correspondence with the Ministry of Energy with respect to the NextBridge East West Tie Line.
- c) In addition to anything that is provided in part a) above, copies of correspondence between Hydro One and government agencies regarding the proposed LSL project are included as Attachments 2 through 6 of Exhibit I, Tab 1, Schedule 14 and Exhibit I, Tab 1, Schedule 15, Attachment 4. Additionally, Hydro One's correspondence with the IESO since May 25, 2018 is provided in Exhibit I, Tab 1, Schedule 2, and were related to outage planning during the LSL construction.
- d) Unless related to the Hydro One Station Project, Hydro One has not had any correspondence with any of these agencies with respect to the NextBridge East West Tie Line.

**NextBridge Interrogatory # 7**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 2, lines 11-12.

**Interrogatory:**

- a) Explain in detail how HONI accounted for the costs of the employees, executives, and contractors who worked on the development activities prior to the filing of the Application.
- b) Confirm that the costs were separately accounted for from HONI's general transmission cost accounts. If not confirmed, explain in detail your response.
- c) Explain in detail whether HONI intends to seek recovery of the Lake Superior Link development costs and how it will seek recovery.

**Response:**

- a) Hydro One has an overhead capitalization rate that is applied on all Project costs. This is a standard practice that Hydro One uses for all its project accounting and has been applied consistently and reviewed and accepted by the OEB in numerous filings.

Hydro One's executive team salaries are allocated between the regulated and unregulated Hydro One businesses. Any time spent on this project by Hydro One's executive team was not paid for by ratepayers.

Any contractor who worked on the project, would have been charged directly to the Project's costs.

- b) All project costs, including capitalized overhead costs are tracked and charged to the LSL Project, either through direct charges or through Hydro One's OEB-approved overhead capitalization methodology. These costs are recorded in CWIP and are not included in Hydro One Transmission revenue requirement.

Filed: 2018-09-24

EB-2017-0364

Exhibit I

Tab 2

Schedule 7

Page 2 of 2

- 1 c) Please refer to Exhibit B, Tab 7, Schedule 1, Section 1.1.



**NextBridge Interrogatory # 8**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 2, lines 11-12.

**Interrogatory:**

- a) Explain in detail how HONI accounted for any capital expenditures related to the development activities prior to the filing of the Application.
- b) Confirm that the capital expenditures were separately accounted for from HONI's general transmission capital accounts. If not confirmed, explain in detail your response.
- c) Explain in detail whether HONI intends to seek recovery of the Lake Superior Link capital expenditures and how it will seek recovery.

**Response:**

- a) Please refer to Exhibit I, Tab 2, Schedule 7.
- b) Please refer to Exhibit I, Tab 2, Schedule 7.
- c) Please refer to Exhibit I, Tab 2, Schedule 7.

**NextBridge Interrogatory # 9**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 2, lines 11-12.

**Interrogatory:**

- a) Explain in detail how HONI is accounting for the costs of the employees, executives, and contractors who worked on or are working on the Lake Superior Link project after the filing of the Application.
- b) Confirm that the costs were separately accounted for from HONI's general transmission cost accounts. If not confirmed, explain in detail your answer.
- c) Explain in detail whether HONI intends to seek recovery of its construction phase (i.e., post filing of its Leave to Construct) non-capital costs and how it will seek recovery.

**Response:**

- a) Please refer to Exhibit I, Tab 2, Schedule 7.
- b) Please refer to Exhibit I, Tab 2, Schedule 7.
- c) Any incurred costs during the construction phase are captured in CWIP, this includes both capital and non-capital (through overhead capitalization). Please refer to Exhibit I, Tab 2, Schedule 7.

**NextBridge Interrogatory # 10**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 2, lines 11-12.

**Interrogatory:**

- a) Explain in detail how HONI is accounting for the capital expenditures related to the Lake Superior Link project after the filing of the Application.
- b) Confirm that the capital expenditures were separately accounted for from HONI's general transmission capital accounts. If not confirmed, explain in detail your answer.
- c) Explain in detail whether HONI intends to seek recovery of these construction phase capital expenditures and how it will seek recovery.

**Response:**

- a) Hydro One uses project accounting to track all expenditures relating to the LSL Project, thus they are separately accounted for.
- b) Please refer to Exhibit I, Tab 2, Schedule 7.
- c) Yes, recovery will be sought through the normal revenue requirement mechanisms outlined by the Ontario Energy Board Chapter 2 Filing Requirements.

**NextBridge Interrogatory # 11**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 2, lines 11-12; EXHIBIT B, TAB 7, SCHEDULE 1, page 3, Table 2 (Development Costs); EXHIBIT B, TAB 7, SCHEDULE 1, page 7, Table 3 (Construction Costs).

**Interrogatory:**

- a) Provide a breakdown of costs related to all development activities prior to the filing of the Application in the same format as provided in EB-2011-0140 to Board Interrogatory 26 with the following columns: (1) the cost estimate provided in response to the EB-2011-0140 Board Interrogatory 26; (2) the “at filing of the Lake Superior Link Leave to Construct” cost estimate; (3) the amount of costs for each cost category attributable to development activities for routing through Pukaskwa National Park; and (4) the amount of costs for each cost category attributable to development activities for routing around Pukaskwa National Park. For each cost category, provide a detailed cost breakdown including separating expenses and capital costs.
- b) Confirm that since filing of the Application HONI is not aware of any costs that should have been but were not included in the Table 2 development costs. If not confirmed, please reproduce Table 2 with the inclusion of the new costs and provide a detailed explanation for why the cost was not included in Table 2 at the time of filing the Application.
- c) For each cost category identified in HONI’s response to a) above, please provide a detailed explanation of the development activities conducted and work product produced, including the dates of the activities and the production of work product. Provide copies of all work product produced.
  - i. For each identified activity(ies) and work product, indicate whether any of the activities or work product was competitively bid. For each competitively bid activity(ies) and work product, identify the selected bidder, whether the selected bidder was the lowest cost bidder and the criteria used to select the bidder. For each activity and work product not competitively procured, explain in detail why it was not competitively bid.
  - ii. For each identified activity(ies) and work product, identify any cost management or containment measures implemented.

- 1           iii.    For each identified activity(ies) and work product, identify whether any budgeted  
2                   or estimated costs were exceeded, and, if exceeded, explain in detail why the  
3                   budget or estimate was exceeded.  
4
- 5   d) For each cost category identified in HONI's response to a) above, please provide a detailed  
6       explanation of the development activities conducted and work product produced, including  
7       the dates of the activities and the production of work product. Provide copies of all work  
8       product produced.
  - 9           i.    For each identified executive, employee, and contractor provide the number of  
10               hours worked in relation to each cost category.
  - 11           ii.   For each identified executive, employee, and contractor provide his or her billing  
12               rate.
  - 13           iii.   For each identified executive, employee, and contractor provide their job title and  
14               scope of work.
  - 15           iv.   Identify the total costs (hours times billing rate) for executive, employee, and  
16               contractor time for each cost category.
  - 17           v.    For the balance of the costs (i.e., not attributable to executives, employee, and  
18               contractor billing of hours) identify in detail what comprises those costs.  
19
- 20   e) For each identified executive and employee, please identify their department or division.  
21
- 22   f) For each identified executive, employee, and contractor also identify if he or she has  
23       conducted any work related to the NextBridge East-West Tie Line project (e.g.,  
24       interconnection into HONI facilities or crossing of HONI facilities). For any identified  
25       executive, employee, and contractor provide their job title and the scope of work associated  
26       with their work related to the NextBridge East-West Tie Line and scope of work on HONI's  
27       Lake Superior Link.
  - 28           i.    Confirm that no costs associated with these executives, employees, and  
29               contractors are included in HONI's development costs. If confirmed, explain in  
30               detail hoe HONI is capturing these costs, If not confirmed, explain your answer in  
31               detail.  
32
- 33   g) For each cost category identified in HONI's response to a) above, identify each activity or  
34       work product that continued to be conducted or developed after the filing of the Application.
  - 35           i.    For each identified activity and work product, identify where the costs are  
36               captured in Table 3 (construction costs) of the Application.

- 1           ii.   For each identified activity and work product, provide the actual spend from the  
2           date of filing of the Application to present.
- 3           iii.   For each identified activity and work product, provide the estimated spend from  
4           present to the projected in-service date of the Lake Superior Link project if the  
5           project routes through Pukaskwa National Park
- 6           iv.   For each identified activity and work product, provide the estimated spend from  
7           present to the projected in-service date of the Lake Superior Link project if the  
8           project routes around Pukaskwa National Park
- 9           v.   For each identified activity and work product, provide the estimated spend from  
10          present to a (i) December 2022 and (ii) December 2023 in-service date of the  
11          Lake Superior Link project if the project routes through Pukaskwa National Park
- 12          vi.   For each identified activity and work product, provide the estimated spend from  
13          present to a (i) December 2022 and (ii) December 2023 in-service date of the  
14          Lake Superior Link project if the project routes around Pukaskwa National Park.
- 15

16   **Response:**

- 17   a) Hydro One's LSL Project is not the same project as was provided in EB-2011-0140,  
18   therefore the information provided in the designation proceeding is no longer relevant.  
19   Please refer to Exhibit I, Tab 1, Schedule 11 for an explanation of Development costs  
20   between the original filing date and the current forecast cost. There is no development cost  
21   differential between going around or through the Park. The costs shown in Table 1 of the  
22   referenced exhibit are all considered capital costs.
- 23
- 24   b) Please refer to part a) and Exhibit I, Tab 1, Schedule 11.
- 25
- 26   c) Please see Exhibit I, Tab 2 Schedule 39.
- 27
- 28   d) The overhead cost is explained in Exhibit I, Tab 2, Schedule 7. The following list outlines the  
29   individuals who have contributed to the LSL Project:
- 30       • Andrew Spencer, VP Transmission & Stations
- 31       • Bing Young, VP Engineering Services
- 32       • Derek Chum, VP Indigenous Relations
- 33       • Vladimir Curguz, Project Manager
- 34       • Robert Reinmuller, Director System Planning
- 35       • CK Ng, Director Transmission Asset Management
- 36       • Elise Croll, Director Environmental Services
- 37       • Dan Levitan, Director External Relations

- Michael Engelberg, Assistant General Counsel
- Joanne Richardson, Director Major Projects and Partnerships
- Hamid Hamidanizadeh, Senior NMO
- Ibrahim El-Nahas, Senior Manager System Planning
- Christine Goulais, Senior Manager Indigenous Relations
- Tausha Esquega, Senior Advisor Indigenous Relations
- Vicky Woodbeck, Coordinator Indigenous Relations
- Devi Shantilal, Senior Advisor Indigenous Relations
- Emily Spitzer, Coordinator Indigenous Relations
- Patty Staite, Manager Environmental Services
- Bruce Hopper, Project Planner Environmental Services
- Tony Seravalle, Manager Facilities and Real Estate Acquisition
- Aaron Fair, Senior Real Estate Coordinator
- Jamie Waller, Acquisitions Support Coordinator
- Kevin Bros, Real Estate Coordinator
- Yumna Qureshi, Leasing and Billing Clerk
- Denise Jamal, Senior Manager Community Relations
- Steve Mantifel, Manager Special Projects
- Stephanie Hodsoll, Community Relations Consultant
- Melissa Fast, Community Relations Consultant
- Wade Frost, Manager Decision Support
- Adam Haulena, Environmental Planner
- Marylena Stea, Public Affairs Officer
- Neil Anderson, Forestry Manager
- Pasquale Catalano, Regulatory Advisor

Any executives on this Project, salaries are recovered from Hydro One shareholders, not from ratepayers.

e) Please refer to part d)

f) Any Hydro One employees who have worked on Nextbridge's East-West Tie Line project, costs would be included in Hydro One's general transmission budget. Time spent on that Project would not be included in Hydro One's development costs.

- 1 g)
- 2 i. Please refer to Exhibit I, Tab 1, Schedule 11.
- 3 ii. Please refer to Exhibit I, Tab 1, Schedule 11.
- 4 iii. Please refer to Exhibit I, Tab 1, Schedule 11.
- 5 iv. Please refer to Exhibit I, Tab 1, Schedule 11.
- 6 v. Please refer to Exhibit I, Tab 1, Schedule 18 for the 2022 estimate. There is no
- 7 estimate provided for a 2023 in-service date as Hydro One will have the line in-
- 8 service before that date.
- 9 vi. Please refer to above v.



**NextBridge Interrogatory # 12**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 2, lines 11-12; EXHIBIT B, TAB 7, SCHEDULE 1, page 3, note 8; Exhibit B, TAB 7, Schedule 1 at pages 6-7.

**Interrogatory:**

- a) Do each of the four assumptions identified in Reference 3 remain critical to the completion of the Project, both with respect to schedule and overall costs? If yes, explain how each impacts schedule and how each impacts costs. If not, please explain why not.
- b) Identify the costs that HONI estimates it would incur if it is not allowed to use any component of NextBridge's EA filings.
- c) Identify the costs HONI would incur if it is allowed to only use the public portion of NextBridge's EA.
- d) Explain HONI's current position whether it intends to rely on all or a portion of NextBridge's EA. To date, has HONI used any portion of the NextBridge EA-specific development work in relation to Lake Superior Link project development? If so, please identify the materials used
- e) Identify the impact to the Lake Superior Link's projected in-service date if HONI is required (1) to file its own EA, without reliance on any component of NextBridge's EA or (2) to only use the public portion of NextBridge's EA. Provide a response that considers both of the following scenarios: (1) the Lake Superior Link routes through Pukaskwa National Park and (2) Lake Superior Link around Pukaskwa National Park.
- f) Identify any other (non-EA related) NextBridge activity(ies) and/or work product that HONI plans to use or leverage, so it does not need to conduct the same activity or produce the same work product.
  - i. Identify the costs that HONI would incur if it was required to conduct the identified activity and produce the work product without any use or leveraging of NextBridge's activities and work product.
  - ii. Identify the impact to the Lake Superior Link's projected in-service date if HONI is not able to use or leverage the identified activity or work product for both of the

following scenarios: (1) the Lake Superior Link routes through Pukaskwa National Park and (2) Lake Superior Link around Pukaskwa National Park.

**Response:**

a) The criticality of the four assumptions in Reference 3 remain as follows:

Assumption i – Co-Operation with MECP

In order to meet the updated schedule provided at Exhibit I, Tab 1, Schedule 14 Attachment 1 and achieve an end of 2021 in-service date it remains a requirement that a Declaration Order or an Individual EA is received prior to October 2019, which also allows Hydro One to achieve the end 2021 in-service date. If this approval is not received then cost and schedule delays to the overall project will result (refer to EA Approval Date Scenario Analysis provided at Exhibit I, Tab 1, Schedule 7

Assumption ii – Utilization of Existing EA

This assumption remains a requirement to achieve an end of 2021 in-service date. Refer to Exhibit I, Tab 1, Schedule 14 regarding Hydro One's position on use of this information and possible schedule and cost implications of the unlikely scenario where Hydro One cannot avail itself of this information.

Assumption iii – Disclosure of the NextBridge EA

The NextBridge amended EA has been completed and was available to Hydro One prior to the end of Q3 2018, therefore this is no longer a risk as Hydro One is aware of any changes to the NextBridge EA scope. However, NextBridge does not yet have an approved EA and the end of Q3 2018 is approaching. Please refer to Exhibit I, Tab 1, Schedule 14 for the details regarding the reason for the Q3 completion date assumption, and the implication of NextBridge not achieving this expected date to the Hydro One project schedule and cost. Based on the delay to NextBridge's EA approval, the anticipated Hydro One EA approval date to meet the in-service date of end 2021 is now August 15, 2019, per the updated schedule in Exhibit I, Tab 1, Schedule 14 Attachment 1. Refer to response relating to Assumption i) of this Interrogatory for the impact on schedule and cost.

1 Assumption iv – Agreement with Impacted Indigenous Communities

2  
3 Yes, assumption iv. remains critical to the completion of the project. With respect to schedule,  
4 Hydro One remains committed to reaching agreeable finalized terms within 45 days following  
5 OEB approval. With respect to costs, Hydro One does not anticipate any additional costs  
6 associated with achieving these agreements.

7  
8 b) Please refer to Exhibit I, Tab 1, 14.

9  
10 c) Please refer to Exhibit I, Tab 1, Schedule 14. To date, Hydro One has reviewed all publicly  
11 available portions of the NextBridge EA and utilized relevant portions in its development  
12 work. Exact references will not be available until the Hydro One EA is finalized.

13  
14 d) Please refer to Exhibit I, Tab 1, Schedule 14.

15  
16 e) Please refer to Exhibit I, Tab 1, Schedules 7 and 14. Additionally, for both the Reference  
17 and Alternative route around PNP the internal development cost, including the EA costs, will  
18 be the same. Details of the impact on the proposed in-service date are provided as EA  
19 Approval Date Scenario Analysis provided at Exhibit I, Tab 1, Schedule 7

20  
21 f) There are no other (non-EA related) NextBridge activities that Hydro One plans to use or  
22 leverage.

23 i. Please refer to part e) above.

24 ii. Please refer to part e) above.

**NextBridge Interrogatory # 13**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 2, lines 11-12.

**Interrogatory:**

- a) To the extent possible, breakdown the Lake Superior Link development costs and activities with the same level of detail included in NextBridge's March 14, 2018 Additional Evidence filing, Exhibit B Tab 16 Schedule 1, Attachments 1-10.
- b) Identify whether HONI conducted or continues to conduct these activities since the filing of its Application. For any identified activity, add columns that show (i) the current amount spent for each activity from the date of filing its Application to present; (ii) the projected spend to the projected in-service date; (iii) the projected spend if the in-service date is December 2022; and (iv) the projected spend if the in-service date is December 2023.
  - i. Provide the same information for a scenario in which the Lake Superior Link routes around Pukaskwa National Park.

**Response:**

- a) Hydro One does not track development cost with the level of detail included in NextBridge's March 14, 2018 Additional Evidence filing, Exhibit B Tab 16 Schedule 1, Attachments 1-10. Please refer to Exhibit I, Tab 1, Schedule 11.
- b) Hydro One continues to conduct development activities since the filing of its Application. Refer to Table 3 in Exhibit I, Tab 1, Schedule 11 for current amount spent and projected spend until the assumed LTC approval, currently forecast for January 2019. Receipt of LTC approval marks the end of development phase; after which construction phase starts. Therefore, questions (ii), (iii) and (iv) cannot be answered.
  - i. There is no development cost differential between going around or through the Park.

**NextBridge Interrogatory # 14**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 2, line 11; HONI Letter of Intent to file Leave to Construct Application – East West Tie Line dated September 22, 2017.

**Interrogatory:**

- a) Confirm that HONI is not offering a “not-to-exceed” total fixed cost for the Lake Superior Link for either (1) its preferred route through Pukaskwa National Park, and, if required, (2) to route around Pukaskwa National Park. If not confirmed, explain your answer in detail, incorporating a breakdown and detailed explanation of what costs are included in the not to exceed total fixed price and what costs are not included in the “not-to-exceed” total fixed cost, including costs due to government agency imposed conditions, force majeure, etc. for both the preferred route through Pukaskwa National Park, and, if required, (2) to route around Pukaskwa National Park.

**Response:**

- a) Please refer to Exhibit I, Tab 1, Schedule 18.

**NextBridge Interrogatory # 15**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 4, lines 10-14.

**Interrogatory:**

- a) Provide copies of all documents and correspondence between HONI and Parks Canada related to routing the Lake Superior Link project through Pukaskwa National Park.
  - i. Identify whether any of HONI's documents or correspondence includes visual simulations of the proposed four circuit transmission towers.
- b) Provide copies of all correspondence received by HONI expressing concerns with or opposing HONI's proposed routing through Pukaskwa National Park.
- c) Provide an estimate of when Parks Canada is expected to grant or deny HONI's request for permission to route the Lake Superior Link project through Pukaskwa National Park.
- d) Provide an update on the status of negotiations of the License of Occupation between HONI and Parks Canada for the Lake Superior Link project and existing HONI transmission line.
- e) Provide copies of any documents related to an impact assessment under the *Canadian Environmental Assessment Act* to route through Pukaskwa National Park.
  - i. Explain in detail the tasks, milestones, and timing related to such an impact assessment.
  - ii. Confirm whether it is a basic or detailed environmental assessment that is being undertaken.

**Response:**

- a) Please refer to Exhibit JT 2.7 for all correspondence up to May 25, 2018. Any additional correspondence since that time is provided at Exhibit I, Tab 1, Schedule 14, Attachment 2 and 5. Drawings showing potential tower designs have been provided to Parks Canada and the final design continues to be refined.
- b) Hydro One has not received correspondence which has expressed concern or opposed the proposed route through Pukaskwa National Park with the exception of the Wildlands League which is provided as Attachment 1 of this interrogatory response. Hydro One is working

1 directly with the Wildlands League to ensure they have accurate information regarding the  
2 LSL project and address any concerns that may remain.

3  
4 c) Please refer to schedule provided in Exhibit I, Tab 1, Schedule 14, Attachment 1.

5  
6 d) Negotiations with Parks Canada are ongoing. Parks Canada has confirmed that the existing  
7 licence is in overhold and has agreed to renew the licence. The parties have agreed to an  
8 annual payment and Parks Canada has agreed to a 20 year term. Completion of the licence  
9 renewal is pending the results of Hydro One's LSL application and related Environmental  
10 Assessment(s).

11  
12 e) Please Refer to Exhibit I, Tab 2, Schedule 70 and Exhibit I, Tab 1, Schedule 14, Attachment  
13 1.

August 21, 2018

Paul Dobson, Acting President and Chief Executive Officer and Chief Financial Officer  
Hydro One Networks Inc.  
483 Bay Street  
South Tower, 6<sup>th</sup> Floor  
Toronto, Ontario, M5G 2P5

*Via email: Paul.Dobson@HydroOne.com*

Dear Mr. Dobson,

**RE: Rejecting any renewed or replaced transmission within Pukaskwa National Park**

CPAWS Wildlands League is writing to urgently request that you avoid Pukaskwa National Park in the proposed Lake Superior Link Transmission Project. This Hydro One project is currently undergoing consultation on its revised draft Terms of Reference for an independent environmental assessment under the province's *Environmental Assessment Act* and its preferred route would extend through the National Park.

Wildlands League does not support renewing or replacing existing transmission through Pukaskwa National Park because it is inconsistent with the maintenance and restoration of ecological integrity (the first priority in managing all aspects of the Park). We urgently advise Hydro One to use an alternative around the Park called the Reference Route Alternative.

Hydro One's preferred route through the Park would delay restoration of the Park's ecological integrity and ultimately lead to more fragmentation and disturbance within the Park. This is not in the public interest and not consistent with the first priority of maintaining and restoring ecological integrity. A line through the Park, including a proposal to renew or replace existing transmission, must be rejected because it would be moving park management in the wrong direction on the ecological integrity continuum. Hydro One must avoid Pukaskwa National Park and phase out the existing transmission line so the Park's ecological integrity can be restored, allowing the Park to fulfill its proper role in helping to preserve the nation's biodiversity.

In May of this year, the Honourable Catherine McKenna, Minister of Environment and Climate Change, and Minister responsible for Parks Canada issued a formal declaration<sup>1</sup> reaffirming that "ecological integrity is the first priority in considering all aspects of management of national parks – through focused investments, limiting development, and by working with Indigenous peoples, provinces and territories." We welcome and support this statement as it reflects our long standing position too.

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<sup>1</sup> See <https://www.newswire.ca/news-releases/minister-mckenna-affirms-ecological-integrity-is-the-first-priority-in-the-management-of-parks-canada-681944261.html>





Wildlands League has been following the planning for East-West Tie Expansion Project. We shared our view over five years ago directly with proponent NextBridge Infrastructure that any proposed transmission line must avoid Pukaskwa National Park in order to maintain and restore the ecological integrity of the Park. We were pleased to see that proponent's preferred route avoid the National Park. This is also consistent with Parks Canada's direction in 2014 to not allow a study of a route through the Park by then Acting Field Superintendent R. Lessard. This was and still is the correct course of action. Limiting development in the Park is what's needed at this time.

As you may know, Canada is not immune to the biodiversity crisis gripping the planet. Our national parks are key anchors in our country's protected areas network and we cannot allow them to continue to be degraded. We need them and other new protected areas if we are going to reverse the decline of biodiversity and meet our obligations under the Convention for Biological Diversity. Wildlands League strongly urges Hydro One to avoid Pukaskwa National Park in order to limit development within the Park, to demonstrate support for affirming maintenance and restoration of ecological integrity as the first priority for Park management, and to support the phase out of the existing transmission line so that the corridor and Park's ecological integrity can be restored.

We understand that Hydro One is committed to the communities it serves, and has been rated highly in Canada for its corporate citizenship, sustainability, and diversity initiatives. In order to maintain your reputation as a top utility in Canada for sustainability, we strongly advise you to avoid Pukaskwa National Park.

Please feel free to call me if you have any questions or comments.

Sincerely,

Anna Baggio  
Director Conservation Planning

Cc: Steven Mantifel, Special Manager, Community Relations, Hydro One  
[Community.Relations@HydroOne.com](mailto:Community.Relations@HydroOne.com) and [regulatory@HydroOne.com](mailto:regulatory@HydroOne.com)

**NextBridge Interrogatory # 16**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 6, lines 15-19:

**Interrogatory:**

Preamble: “Hydro One is confident in its ability to deliver the Project for \$120 million less than NextBridge’s submitted price primarily due to a more efficient route which is 10% shorter, traversing through the Pukaskwa National Park parallel to existing Hydro One infrastructure as well as an optimized tower design to reduce material and construction costs.”

- a) Provide the following information for the last 10 years for all HONI capital projects at or above \$100 million dollars: (1) the name and a detailed description of project; (2) the initial cost estimate for the project (including the date of the original cost estimate and its AACE Class designation); (3) the cost estimate at the time an application was filed with a governmental agency seeking approval to construct the project (including the date of the application and its AACE Class designation); (4) the actual cost for the project (including the date on which the actual cost was determined); (5) the original estimated in-service date for the project (including the date on which the estimated in-service date was developed); and (6) the actual in-service date for the project.
- b) For each capital project where the actual cost for the project was higher than the original cost estimate or the cost estimate at that time of filing an application for authority to construct, provide a detailed explanation of why the actual costs were higher, and include the name of the company who was the Engineering, Procurement and Construction contractor.
- c) For each capital project that the actual in-service date was later in time than the originally proposed in-service date, provide a detailed explanation of why the in-service date was not accomplished consistent with the original estimate, and include the name of the company who was the Engineering, Procurement and Construction contractor.

**Response:**

a) The table below contains investments that have been completed in the last 10 years (2009-18) that were budgeted to cost \$100M or greater at the time of approval. Note – The AACE classification was not implemented for the timeframe of the below projects, however a comparable classification has been provided. Hydro One has not included the IT or smart metering projects over \$100M in the table as these projects are not comparable to the facilities related project contemplated by this response.

a1			a2, a5					a3						a4, a6						
\$million			Internal Approval for Execution (Original)					Assumptions at Similar Point in Time (Government Application)						Actual		Variance vs. Approval		Variance vs. Similar Time		
Project	Project Type	Detailed Description	Approval Year	Date of Estimate	AA CE Class	Gross Cost	In-Service	Date	Date of Estimate	AA CE Class	Gross Cost (iii)	In-Service (vi)	Reference	Gross Cost (iv)	In-Service (vii)	Cost (%)	In-Service (Years)	Cost (%)	In-Service (Years)	Date of Cost Info
Claireville TS - 230kV GIS Replacement	Station	Replacement of six EOL ‘ITE’ 230 kV GIS circuit breakers and the associated GIS facilities. Addition of 230 kV GIS diameter to reconfigure the 230 kV circuits, improving operability of the system and enhancing its performance and reliability.	2006	2005/06	3	120	2009	2006	2005/06	3	120	2009	EB-2006-0501 - 2007/08 Tx Rates - Project S4	107	2009	-11%	-	-11%	-	2017
Claireville x Cherrywood: Unbundle 500kV Circuits	Lines	Unbundling of two super circuits to create four 500kV circuits between Cherrywood TS and Claireville TS.	2007	2005/06	3	107	2009	2006	2005/06	3	107	2009	EB-2006-0501 - 2007/08 Tx Rates - Project D17	115	2010	7%	1	7%	1	2017
Hydro One-Hydro Québec 1,250MW Interconnection	Lines	Provide 1250MW continuous interconnection with Quebec with replacement of existing 115 kV (H9A) and 230 kV (D5A) single circuit lines between Hawthorne TS and Ottawa river crossing with two new double circuit tower lines	2007	2006/07	3	124	2009	2000	1999/00	3	97	2003	RP-2000-0068 - S92	122	2009	-2%	-	26%	6	2017
Northeast Transmission Reinforcement (SVCs at Porcupine/Kirkland Lake)	Station	-100 MVar / +300 MVar Static Var Compensators at Porcupine TS and +200 MVAR at Kirkland Lake TS	2008	2005/06	3	109	2010	2006	2005/06	3	100 <sup>c</sup>	2010	EB-2006-0501 - 2007/08 Tx Rates - Project D6	103	2010/11	-6%	1	3%	-/1 <sup>a,b</sup>	2017
Southwest Ontario SVCs (Nanticoke/Detweiler)	Station	350 MVar SVCs at Nanticoke TS and Detweiler TS	2009	2007/08	3	165	2011	2008	2007/08	3	149	2011	EB-2008-0272 - 2009/10 Tx Rates - Project D13/14	114	2011	-31%	-	-23%	-	2017
New 500kV Bruce to Milton Double Circuit Transmission Line	Lines	New (176km) 500kV double-circuit line between the Bruce Nuclear Complex and the Milton switching station	2010	2009/10	3	696	2012	2007	2006/07	3	635	2011	EB-2007-0050 - S92	697	2012	0%	1	10%	1	2017
Midtown Transmission Reinforcement: Leaside x Bridgeman	Lines	Rebuild existing two-circuit 115kV tower line (1.7km); Install underground 115kV cable circuits in a tunnel (2.2km); reconductor overhead L14W circuit to a higher capacity (1.4km); new circuit breaker and reconfiguration at Leaside TS and Bridgeman TS	2010	2008/09	3	115	2013	2009	2008/09	3	105	2013	EB-2009-0425 - S92	115	2016	0%	3	10%	3	2017
Hearn Rebuild	Station	Replace existing 115kV switchyard with a new indoor switchyard	2011	2009/10	3	104	2013	2010	2009/10	3	85	2012	EB-2010-0002 - 2011/12 Tx Rates - Project D11	97	2013	-7%	-	14%	1	2017
Riverside x Strachan: H2JK and K6J	UG Cable	Replace H2JK and K6J (5.6km) underground cable from Strachan TS to Riverside Jct	2012	2011/12	3	103	2014	2010	2009/10	3	45	2013	EB-2010-0002 - 2011/12 Tx Rates - Project S39	56	2014	-46%	-	-24%	1	2017
Clarington TS: New 500/230kV Station	Station	Building of a new transformer station to offset the retirement of Pickering NGS	2013	2012/13	3	297	2017	2007	2007	3	294	2017	EB-2014-0140	241	2018	-19%	1	-18%	1	2018
Guelph Area Transmission Reinforcement	Lines /Station	New transmission facilities in the Guelph area: upgrading Campbell TS to CGE Junction to 230kV; two 230/115kV transformers and four 115kV breakers at Cedar TS; and associated equipment for D6V and D7V at Guelph North Junction.	2014	2012/13	3	103 <sup>d</sup>	2016	2013	2012/13	3	88	2015	EB-2013-0053 - S92	88	2016	-15%	1	-	1	2017
Notes																				
a) Porcupine: 2010 In-Service																				
b) Kirkland Lake: 2011 In-Service																				
c) Initial forecast of \$67M excluded the installation of Series Capacitors at Nobel SS (\$33M) for a total planned cost of \$100M.																				
d) Costs include the Line/Station component as well as the relocation of an Operating Centre																				

- b) and c) The table below contains material variance explanations were actual costs greater or in-service dates later relative to the originally approved internal budget and schedule or authority to construct.

### Material Variance Explanations

Project	Cost Variance	Schedule Variance	EPC Contractor
Claireville x Cherrywood: Unbundle 500kV Circuits	Higher costs due to material cost escalation, fluctuations in the foreign exchange rate and additional interest expenses as a result of an extended schedule.	Extended implementation schedule as a result of a change in delivery approach from EPC to material supply as a result of no responses to the initial tender request.	n/a
Hydro One-Hydro Québec 1,250MW Interconnection	Deferral of in-service date from 2003 to 2009. Installation of 36 steel poles vs. lattice towers as recommended by the OEB	Legal and political issues deferred the commencement of construction until Nov. 2006.	n/a
Northeast Transmission Reinforcement (SVCs at Porcupine/Kirkland Lake)	n/a	The Kirkland Lake SVC in-service date was delayed as a result of the discovery of contaminated soil, and delays in the submission of the Certificate of Approval engineering package to the Ministry of the Environment.	Porcupine SVC: Alstom Grid Canada ULC Kirkland Lake: ABB Inc.
New 500kV Bruce to Milton Double Circuit Transmission Line	Increased cost related to line clearing and civil construction costs the result of land acquisition process; construction costs related to delay in attaining EA	4-month in-service delay the result of 15 month delay in attaining EA (resulting in construction start delay), offset by staged construction and favorable weather.	Valard Construction LP
Midtown Transmission Reinforcement: Leaside x Bridgeman	Installation of a new ventilation building, tunnel ventilation, discharge system and project delays.	Challenges with construction of the main tunnel shaft at Mt. Pleasant Road, the learning curve with the use of new technology (ground freeze for excavation of shafts), outage constraints during the summer months, and increased scope of ventilation.	MMM Group Ltd. Technicore Underground Inc. Arno Electric Ltee Black & McDonald
Hearn Rebuild	Higher costs for GIS station and protection and control modification and facilities.	Property acquisition for new switchyard.	ABB Inc.
Riverside x Strachan: H2JK and K6J	Updated scope and in-service date after earlier filing	Updated scope and in-service date after earlier filing	Black & McDonald
Clarington TS: New 500/230kV Station	n/a	EA approval was delayed due to community opposition. The late approvals together with the fact that circuit outages were not permitted during summer months delayed start of station construction.	Black & McDonald
Guelph Area Transmission Reinforcement	n/a	Due to some unforeseen delays in the delivery of certain equipment and conflicting outages required to install protection equipment.	EPTCON Ltd.

**NextBridge Interrogatory # 17**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 7, lines 10-11; EXHIBIT B, TAB 7, SCHEDULE 1, page 8, Table 4 and EXHIBIT E, TAB 1, SCHEDULE 1, pages 1-9.

**Interrogatory:**

- a) Explain in detail the status of obtaining the land rights for the “new right-of-way (ROW)”. Has HONI initiated land acquisition for the Lake Superior Link Project? If so, please describe what land rights have been acquired to date.
- b) Identify how many parcels have been identified as needed to be expropriated?
- c) Explain in detail what is meant by the phrase “accelerated land acquisition program”.
- d) How many parcels is HONI estimating will be acquired and/or expropriated through this “accelerated land acquisition program”?

**Response:**

- a) Hydro One has initiated land acquisition activities. Activities and progress to date are outlined in the list below:
  - Hydro One has conducted title searches of all impacted patented properties (IPP)
  - Hydro One has made contact with all IPP owners, explaining Hydro One requirements and its land acquisition process.
  - Hydro One has completed early access agreements for 90% of IPP
  - Hydro One has completed property valuation inspections of all IPP’s with early access agreements
  - Hydro One has completed 25% of property valuation appraisals and is now proceeding with presentation of offers for Option Agreements.
  - Hydro One has apprised MNR of its Lake Superior Link project
  - Hydro One has advised MNR of its intent to secure rights through Memorandum of Understanding/Master Land Use Permit for its occupation within Provincial Crown Lands
  - Hydro One has commenced identifying and contacting underlying interests within Provincial Crown Lands impacted by the LSL project

1 b) To date, no discussions with IPP owners have suggested the need to expropriate.

2  
3 c) Accelerated land acquisition by Hydro One entails the following:

- 4 • Early engagement of experienced service providers through approved vendors list and
- 5 single source approval;
- 6 • Upon Section 92 application submission, Hydro One initiated early contact in writing
- 7 to IPP owners of its project, the direct impact on their properties, the Land
- 8 Acquisition Compensation Principles (LACP) to be employed by Hydro One and its
- 9 acquisition process;
- 10 • Early direct engagement with IPPs through meetings to explain Hydro One's LACP,
- 11 which sought early acceptance with the aim to secure timely voluntary property
- 12 settlements through flexibility and choice of terms and payments;
- 13 • LACP is constructed on recent and successful transmission projects with a high
- 14 owner acceptance rate of early voluntary settlement ;
- 15 • Service Providers engaged in the Project have the capacity to apply the requisite
- 16 resources to meet accelerate timelines (if required);
- 17

18 d) Please refer to Exhibit I, Tab 1, Schedule 10.

**NextBridge Interrogatory # 18**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, page 8, Table 4.

**Interrogatory:**

Please update the key risks included in the Monte Carlo simulation identified in Table 4 with the best information known to HONI at this time.

**Response:**

Please refer to Exhibit I, Tab 1, Schedule 13.

**NextBridge Interrogatory # 19**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1 pages 5-9, Table 4.

**Interrogatory:**

- a) Provide any Monte Carlo simulation conducted by or for SNC-Lavalin to determine its contingency.
- b) Identify the amount of contingency to be carried by SNC-Lavalin.
  - i. Explain whether SNC-Lavalin contingency is a contractual obligation, and, if so, provide a copy of the contract that requires SNC-Lavalin to carry contingency, and identify the provision in the contract that obligates SNC-Lavalin.
  - ii. Identify whether HONI's construction cost estimates in Table 3 of its Application capture SNC-Lavalin's contingency cost. If yes, identify where these costs are captured in Table 3. If the costs are not captured in Table 3, explain your answer in detail.
- c) Explain the purpose of HONI carrying contingency, including what the contingency covers and does not cover.
  - i. Explain what could cause HONI to exceed its contingency.
- d) Explain the purpose of SNC-Lavalin carrying contingency, including what the contingency covers and does not cover.
  - i. Explain what could cause SNC-Lavalin to exceed its contingency.
- e) Confirm that if all other things are equal, if HONI exceeds its contingency any exceedance increases HONI's construction cost estimate. If not confirmed, explain your answer in detail.
- f) Confirm that if all other things are equal, if SNC-Lavalin exceeds its contingency any exceedance increases the HONI construction cost estimate. If not confirmed, explain your answer in detail.



**Response:**

- a) SNC-Lavalin confirms that a Monte Carlo analysis has been done on its Fixed Price estimate. This Monte Carlo has been done to a P-85 probabilistic simulation and was the basis of determining its contingency. The Monte Carlo will not be provided.
- b) Please refer to Exhibit I, Tab 1, Schedule 10, for the amount of contingency SNC-Lavalin is carrying in its Fixed Price estimate.
- i. Carrying contingency is not a contractual obligation, but is a prudent and necessary measure to provide a fixed price for the EPC works on the Project.
  - ii. Hydro One's construction cost estimate in Table 3 does include this contingency and is embedded in the various categories handled by the EPC fixed Price amount specifically: Construction, Site Clearing, Material and Construction Management.
- c) Please refer to Exhibit I, Tab 1, Schedule 13. Please also refer to Exhibit B, Tab 7, Schedule 1, Section V.
- d) Please refer to Exhibit I, Tab 1, Schedule 10.
- i. The SNC-Lavalin contingency is part of the Fixed Price estimate. The Fixed Price will only vary per the terms of the EPC contract which is further answered in Exhibit I, Tab 5, Schedule 7.
- e) Confirmed. As with all capital projects, including NextBridge's, if Hydro One or NextBridge exceeds its contingency the cost of the Project will increase. However, since over 85% of Hydro One's Project is defined through a fixed-price contract, the impact on ratepayers is significantly reduced should Hydro One exceed its contingency. Please refer to Exhibit I, Tab 1, Schedule 18.
- f) Please refer to part d) above.

**NextBridge Interrogatory # 20**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 7, lines 12-13.

**Interrogatory:**

- a) Explain in detail the status of obtaining the land rights for the “57 km greenfield bypass around the communities of Loon Lake and Dorion.”
- b) Explain in detail why HONI intends to bypass Loon Lake.
- c) Explain in detail why HONI intends to bypass Dorion.
- d) Provide copies of all correspondence from a landowner, Indigenous Community, and governmental agency that have expressed a concern or opposition to HONI’s routes to bypass Loon Lake and/or Dorion.

**Response:**

- a) The status of obtaining the land rights for the 57 km greenfield bypass is as follows:
  - Hydro One has conducted title searches of all impacted patented properties (IPP);
  - Hydro One has contacted all IPP owners and apprised them of its requirements for its LSL project and its associated land acquisition process;
  - Hydro One has apprised MNRF of its Lake Superior Link project and advised the MNRF of its intent to secure rights through the Memorandum of Understanding/Master Land Use Permit for its occupation within Provincial Crown Lands; and
  - Hydro One has completed approximately 90% of agreements for early access with the 20 IPP owners and completed associated property appraisal inspections; this represents 56.5 of 57 kilometres of early access requirements
- b) Hydro One recognizes that consultation has been undertaken for other similar projects in the region. Hydro One has utilized existing public records of consultation to inform its own consultation processes and to identify and mitigate previously raised concerns. Using publicly available documentation, Hydro One recognizes the level of consultation that community members on Loon Lake have undergone to determine the preferred route. Hydro

1 One respects consultation and our preferred route remains around the Dorion/Loon Lake  
2 area.

3  
4 c) Hydro One recognizes that consultation has been undertaken for other similar projects in the  
5 region. Hydro One has utilized existing public records of consultation to inform its own  
6 consultation processes and to identify and mitigate previously raised concerns. Using  
7 publicly available documentation, Hydro One recognizes the level of consultation that  
8 community members in Dorion have undergone to determine the preferred route. Hydro One  
9 respects consultation and our preferred route remains around the Dorion/Loon Lake area.

10  
11 d) No opposition to the proposed reference route around Dorion/Loon Lake has been received  
12 to date.

**NextBridge Interrogatory # 21**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 7, lines 18-21; NextBridge July 31, 2017 EWT Line Project Leave to Construct Application, Exhibit C, Tab 2, Schedule 1, Attachment 4.

**Interrogatory:**

- a) Provide the estimated costs associated with Hydro One moving a 2-3 km length of Hydro One's existing 115 kV Marathon-Terrace Bay transmission line T1M, at two locations (one located about 23 km, and the other about 38 km, west of Marathon TS) away from the existing 230 kV line, to avoid crossing the T1M line with the new 230 kV Wawa-Marathon transmission Lake Superior Lake line.
- b) Is this cost included in HONI's construction cost estimate set forth in Table 3 in its Application; if yes, identify where it is included; if no, explain why not.
- c) HONI advised NextBridge in reference 2 that "Hydro One believes that four of the crossings, involving circuit T1M, can be avoided by relocating two short sections of circuit T1M. At these two sections (one located about 17 km and the other about 33 km west of Marathon TS) circuit T1M comes close to the existing 230 kV line, reducing the distance between their center-lines to less than 55 m, leaving insufficient room for the new EWT lines to pass between them." Confirm if the sections of T1M line that HONI advised NextBridge must be relocated are the same sections that HONI proposes to relocate in its application. If not confirmed, explain your answer in detail.

**Response:**

- a) Hydro One is finalizing the design of the Lake Superior Link (LSL) which will determine how many spans of the existing transmission line T1M need to be relocated. The high-level estimated cost of T1M relocation is \$1.5 M. Since the expected width of the LSL Right-of-Way (RoW) is smaller than the proposed width of the NextBridge EWT Line RoW, fewer spans of T1M would need to be relocated to accommodate the LSL ROW compared to the EWT Line RoW. Therefore, the cost of T1M relocation is expected to be lower for the LSL.
- b) The cost of T1M relocation is included in the revised project cost provided in Exhibit I, Tab 1, Schedule 11. It was not included in Hydro One's project cost estimate in Table 3 of the prefiled evidence at Exhibit B, Tab 7, Schedule 1 since detailed design of the LSL towers and

1        their exact locations were needed in order to estimate the scope and cost of the T1M  
2        relocation.

- 3
- 4    c) The two short sections of T1M line that Hydro One advised NextBridge must be relocated in  
5       the email of May 26, 2017<sup>1</sup> are the same sections that Hydro One proposes to relocate in its  
6       LSL application<sup>2</sup>. It should be noted that in the email of May 26, 2017, the location of the  
7       two sections were incorrectly indicated as “one located about 17 km and the other about 33  
8       km west of Marathon TS”. In the LSL application the location of these two sections of T1M  
9       are correctly indicated as “one located about 23 km, and the other about 38 km, west of  
10      Marathon TS”.

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<sup>1</sup> EB 2017-0182, Exhibit C, Tab 2, Schedule 1, Attachment 4, Page 1 of 2

<sup>2</sup> EB 2017-0364, Exhibit B, Tab 1, Schedule 1, Page 7 of 13

**NextBridge Interrogatory # 22**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 7, lines 22-26:

**Interrogatory:**

Preamble: “In the future, when the need for 650 MW east-west transfer capability materializes, Hydro One will upgrade sections of the existing 115 kV Alexander-Aguasabon transmission line A5A and Marathon-Terrace Bay transmission line T1M by modifying the cross-arms and/or insulators on some of the structures of these two lines.”

- a) Explain in detail why this work is necessary and related to the new Lake Superior Link project and identify its associated costs.
- b) Confirm that the estimated cost of this work is included in HONI’s construction cost estimate set forth in Table 3 in its Application. If confirmed, identify where the cost is included in the cost estimate. If not confirmed, explain what the estimated costs are, where these costs are to be captured and whether HONI intends to seek recovery of the costs.
- c) Explain in detail when this work will be scheduled in relation to the overall Lake Superior Link project schedule.

**Response:**

- a) The need for A5A and T1M upgrades had been identified by the IESO as far back as the EWT feasibility study of Aug. 18, 2011. The upgrade, which applies to both Hydro One’s LSL and NextBridge’s EWT Line, is required so that a double-circuit contingency of the 230 kV transmission line at 650 MW transfer level would not cause overload on these underlying 115 kV transmission lines. Upgrading the A5A and T1M Continuous Summer Ratings to at least 500 A (about 100 MVA) was verified in the IESO’s System Impact Assessment of October 15, 2014 (CAA\_ID 2014-514) for NextBridge.
- b) Following the decision to provide 450 MW transfer capability in the first stage of the EWT project, the A5A and T1M upgrades are postponed until the need for 650 MW transfer

1 materializes<sup>1</sup>. As such, the future cost of this upgrade (and the more important installation of  
2 an SVC at Marathon TS) is not included in the current applications by Hydro One or  
3 NextBridge. Hydro One would seek recovery of the upgrade cost, once the need has  
4 materialized and the transmission work is in-serviced, at a future rates application.

- 5  
6 c) The A5A and T1M upgrades and installation of the SVC at Marathon TS will occur when the  
7 IESO identifies the need for 650 MW East-West transfer capability regardless of which  
8 proponent constructs the new East-West Tie lines.

---

<sup>1</sup> EB-2017-0194, Exhibit B, Tab 1, Schedule 2

**NextBridge Interrogatory # 23**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 8, line 2-3:

**Interrogatory:**

Preamble: “Hydro One will install a new 230 kV double-circuit transmission line, 133 km in total, on a new Right-Of-Way...”

a) Provide the status of obtaining the land rights for this 133 km.

**Response:**

a) Hydro One’s land rights acquisition process has commenced as follows:

- Hydro One has conducted title searches of all impacted patented properties (IPP)
- Hydro One has contacted all IPP owners and apprised them of its requirements for its LSL project and its associated land acquisition process;
- Hydro One has apprised MNRF of its Lake Superior Link project and advised the MNRF of its intent to secure rights with Memorandum of Understanding/Master Land Use Permit for its occupation within Provincial Crown Lands;
- Hydro One has apprised the First Nation of Michipicoten of the LSL project and requisite land requirements of Reserve and non-Reserve lands;
- Hydro One has completed approximately 75% agreements for early access with the 17 IPP owners and completed associated property appraisal inspections; this represents 131.5 of 133 kilometres of early access requirements on IPP



**NextBridge Interrogatory # 24**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 8, lines 11-14; EB-2017-0364 LSL Motion Additional Evidence Attachment 5; EXHIBIT C, TAB 2, SCHEDULE 1.

**Interrogatory:**

Preamble: "Hydro One is proposing to convert approximately 35km of the existing 230 kV double-circuit transmission line by upgrading to a four circuit transmission line (replace the existing double circuit towers with four circuit guyed towers and add conductors and insulators for the two new circuits."

- a) Provide copies of the current tower designs for the four circuit transmission line, including all load trees, finite element models, and tower weight.
- b) Provide the all-in (design, testing, manufacturing, delivery, assembly, construction) cost estimate for the four circuit towers to be used in Pukaskwa National Park. Explain where in Table 3 of the Application these costs are captured.
  - i. Breakdown the all-in costs by design, testing, manufacturing, delivery, assembly and construction, including conductor, insulators, and retrofitting the existing foundations.
  - ii. Compare the all-in cost of the four circuit transmission towers to the all in cost estimate for double circuit transmission towers outside of Pukaskwa National Park.
  - iii. Provide copies of all workpapers associated with the all-in costs for the four circuit and double circuit transmission towers.
- c) Provide the right of way width selection criteria for HONI's four circuit transmission tower design, including conductor blowout clearance criteria to the edge of the existing East-West Tie Line right of way, and any conductor blowout weather cases.
  - i. Provide a table of the blowout clearance to the edge of the right of way in all of the swing conditions and using the OEB's 5 year gust condition for all span lengths.
- d) Identify any example in which a transmission line of 230 kV or higher has used 80- to 90 consecutive four circuit transmission towers. If any example is provided, identify the owner of the line, the geographic location of the line, whether the line has experienced a forced outage over 1 day, including the cause and duration of the outage, and whether the outage

1 was caused by a tower collapse. If there was a tower collapse, identify whether the tower was  
2 designed to a 1 in 50 or 1 in 100 year weather event.

3  
4 e) Provide copies of all documents and correspondence with and from NPCC and NERC related  
5 to the use of the Lake Superior Link four circuit transmission towers.

6  
7 f) Provide any visual simulations of the four circuit transmission line.

8  
9 g) For the last 3 years, provide copies of all documents, analyses, and studies related to the  
10 design, testing, manufacturing, delivery, assembly, construction, maintenance, and operation  
11 of the proposed four circuit transmission line.

12  
13 **Response:**

14 a) Please refer to Exhibit I, Tab 1, Schedule 2 for an update on the current quad circuit for the  
15 Pukaskwa National Park. Drawings of the current quad circuit tower design are included in  
16 Attachment 1.

17  
18 b) The cost of design, testing, manufacturing and delivery are considered under the material  
19 cost. The cost of assembly and construction are reflected under the construction cost of Table  
20 3.

21 i. This will not be provided.

22 ii. The option of a double circuit line outside of PNP was not considered due to the  
23 increased footprint and higher environmental impact.

24 iii. Costs of material supply and construction have been determined through a  
25 confidential bid process and extensive industry knowledge. The results of this  
26 exercise are confidential.

27  
28 c) The existing ROW width is 150 ft. The determination of the Right of way width has been  
29 done based on Hydro One standard LD-50-002 and LD-11100-001. Refer to PNP - Clearance  
30 Requirements to the Edge of the ROW in Attachment 1.

31  
32 d) Hydro One does not have any examples of transmission line of 230 kV or higher with 80-90  
33 consecutive four circuit towers. That said, Hydro One has successfully built and operated the  
34 230 kV Cherrywood TS by Clarington TS transmission lines which have a section with 48  
35 consecutive four-circuit towers. None of these towers have failed since they were installed.

1 e) There is no correspondence with the NPCC or NERC related to the LSL four-circuit towers.  
2 No such correspondence is required or relevant as documented and thoroughly explained by  
3 Mr. Bing Young at the technical conference in his discussions with Mr. Murphy pertaining to  
4 KT 2.3 on Day 2 of the NextBridge Motion to Dismiss Technical Conference<sup>1</sup>.

5  
6 f) Please refer to Exhibit I, Tab 1, Schedule 24, Attachment 1.

7  
8 g) The proposed four circuits' guyed tower defined under question 24 a. is a new design that is  
9 being specifically developed for this project. We have currently completed the design aspects  
10 and we are scheduling to fabricate, assemble and test the prototype tower by May 2019.

11  
12 The design documentation related to the 4 circuit guided structure is proprietary information  
13 and will not be provided in this response. The other documents requested are not available at  
14 this stage.

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<sup>1</sup> EB-2017-0364 – NextBridge Motion to Dismiss Technical Conference – May 17, 2018 – Commencing at Page 79, Line 26 through to Page 88, Line 16.

# **REDACTION IN FULL**

**NextBridge Interrogatory # 25**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 8, lines 11-14; EB-2017-0364 LSL Motion Additional Evidence Attachment 5; EXHIBIT C, TAB 2, SCHEDULE 1.

**Interrogatory:**

Preamble: "Hydro One is proposing to convert approximately 35 km of the existing 230 kV double-circuit transmission line by upgrading to a four circuit transmission line (replace the existing double circuit towers with four circuit guyed towers and add conductors and insulators for the two new circuits)..."

a) Provide copies of all documents and plans on how HONI will deliver, assemble and construct, operate, and maintain the four circuit transmission towers and string its conductor.

i. If not in these documents and plans, explain if the existing conductor will be used on the new four circuit transmission towers. If it will be used, explain how the existing conductor will be removed and protected during construction and re-connected to the new four circuit transmission towers. If it will be used, explain the age of the current conductor, and why given its age it is not in need of replacement, and how it will be protected from damage during the transition to the four circuit transmission towers. If it will not be used, identify the cost of the new conductor, and explain whether HONI's construction cost estimate in Table 3 of its Application includes the estimate of new conductor for all four circuits. If it does include the costs, identify where in the cost estimate it is included in Table 3. If it does not include these costs, explain why HONI did not include these costs in the construction costs estimate for the Lake Superior Link.

ii. If not in these documents and plans, explain in detail the delivery and assembly process for the four circuit transmission towers and stringing of conductor, including what will occur on each day, the location of laydown yards, use of helicopters, clear cutting or trees to allow for use of helicopters and laydown yards.

iii. In reference 2 at p.10 HONI states: "It must still be verified that sufficient landing clearance is available for helicopters, so it is possible that some isolated areas would require clearing for aerial access." Has this verification been completed? If yes,

1 provide a copy of the verification documents, and explain if there is any cost increases  
2 to the construction cost estimate set forth in Table 3 of the Application due to the  
3 verification. If not, when is it expected this verification will be completed and explain  
4 the potential for the verification to increase the construction cost estimate set forth in  
5 Table 3.

6  
7 iv. If not in these documents and plans, explain where the helicopter pads will be located,  
8 including whether any pads will be in the Pukaskwa National Park, but outside of the  
9 current right of way for the existing East-West Tie Line.

10  
11 v. If not included in these documents and plans, explain the safety codes and practices  
12 that must be implemented for the helicopter landings and evacuations, if needed, in the  
13 context of the use of land beyond the existing East-West Tie Line rights of way.

14  
15 vi. If not in these documents, identify the exact locations where the four circuit  
16 transmission towers will be delivered, assembled, and erected and whether the  
17 locations are all within the existing East West Tie Line right of way.

18  
19 vii. If not in these documents, explain whether temporary structures will be used during  
20 the construction of the four circuit transmission towers. If temporary structures are to  
21 be used, provide the following:

22 1. Explain in detail what type of temporary structures, including the foundation  
23 type will be used, how many temporary structures are needed, the placement  
24 and safety criteria to be used, the impact of the structures on the Park,  
25 including the need to clear trees for their placement, and whether the structures  
26 and foundations will all be located within the existing East West Tie Line's  
27 right of way.

28 2. For any temporary structure to be placed outside of the existing right of way,  
29 explain how HONI will obtain the land rights needed to locate the structure.

30 3. Identify the costs of using the temporary transmission structures and what will  
31 be done with these structures once they are no longer needed in the Pukaskwa  
32 National Park. Explain whether the costs for the use of the temporary  
33 structures are included in Table 3 of the Application. If yes, identity where the  
34 costs are captured. If no, explain in detail your answer and whether HONI will  
35 seek recovery of these costs.

viii. If not in these documents, explain if any ground based access will be required in the Park and will any roads be constructed in Pukaskwa National Park. If roads will be constructed, explain whether all roads will be within the existing East West Tie Line right of way.

**Response:**

a) Documents will not be provided due to proprietary reasons.

- i. The existing conductor through the Park will be reused. While component replacements, specifically insulators, are planned by Hydro One in the next 10 years, we do not expect to replace the conductors. In addition, condition assessments are also planned at the same time and based on the current age, the conductors should remain in use for another 30-40 years. As a result, the existing conductor will not be replaced as the outage scope is focused on adding the new required infrastructure for the Lake Superior Link Project. The alternate quad circuit towers are such that they can be erected before the removal of the existing dual circuit towers. In doing so the existing EWT conductors can be installed in temporary wood structures or protected on the ground as deemed necessary in order to provide enough working space for the structure installation. The conductors will be transferred to the quad circuit towers without them touching any obstacle or stressing the conductors. The cost of transferring and protecting the conductor during the transfer is included in the construction costs of Table 3
- ii. Tower steel for this section of the line will be delivered to lay down areas outside of the park. All towers will be pre-assembled inside the lay down yard and flown to their final location during the two week outage. Refer to Exhibit I, Tab 2, Schedule 53 and Exhibit I, Tab 1, Schedule 2, for further details.
- iii. Verification is ongoing and planned to complete by October 2018.
- iv. See ii. Above
- v. We do not envisage use of lands outside of the ROW within the PNP.
- vi. See ii. Above
- vii. Temporary structures are not required for this work

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Exhibit I

Tab 2

Schedule 25

Page 4 of 4

- 1       viii.   Ground access will be via specialized off-road or tracked equipment within the limits
- 2           of the ROW and no road will be constructed for this section of line.



**NextBridge Interrogatory # 26**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 8, lines 11-14; EB-2017-0364 LSL Motion Additional Evidence Attachment 5; EXHIBIT C, TAB 2, SCHEDULE 1.

**Interrogatory:**

Preamble: "Hydro One is proposing to convert approximately 35km of the existing 230 kV double-circuit transmission line by upgrading to a four circuit transmission line (replace the existing double circuit towers with four circuit guyed towers and add conductors and insulators for the two new circuits)..."

- a) Confirm that up to 12 guy anchors will be used for some of the four circuit transmission towers. If not confirmed, explain your answer in detail.
- b) Identify the number of four circuit transmission towers that will use 12 guy anchors as well as those that will only use 10 guy anchors, 8 guy anchors, and 6 guy anchors. Explain in detail the rationale for the use of different numbers of guy anchors.
- c) Confirm that HONI will only place the guy anchors within the right of way of existing East West Tie Line for the Pukaskwa Park segment. If confirmed, explain how HONI will assure that all guyed anchors will be within the existing right of way under all terrain scenarios, including providing copies of all supporting engineering and modeling. If not confirmed, explain how far outside the existing right of way certain guy anchors will be placed and how HONI will obtain the land rights needed to locate these guy anchors.
- d) Confirm that, all other things being equal, it would be HONI's design preference to use less than 12 or 10 guy anchors on the four circuit transmission towers by expanding the existing right of way versus using more guy anchors within the existing right of way. If not confirmed, explain your answer in detail.
- e) Confirm that, all other things being equal, it would be HONI's design preference to use closer spans between the four circuit transmission towers than is allowed by its plans to use the existing foundations. If not confirmed, explain your answer in detail.

- 1 f) Explain in detail HONI's experience in designing, operating, and maintaining towers with 4  
2 legs (moment resisting foundations) and guy wires like those proposed through the Pukaskwa  
3 National Park.  
4
- 5 g) Confirm that no additional tree clearing will be required for the four circuit transmission line  
6 either during construction or operation. If not confirmed, explain your answer in detail and  
7 provide the cost of the tree clearing. If not confirmed identify where these costs are captured  
8 in HONI's construction cost estimates in Table 3 of its Application.  
9
- 10 h) Confirm that HONI will not need to use any land outside of the right of way for the existing  
11 East West Tie Line in Pukaskwa National Park for the placement of its four circuit  
12 transmission towers, guy anchors, conductors, construction easements, access roads, laydown  
13 yards or any for any other reason.  
14 i. If not confirmed, explain your answer in detail, including the amount of land  
15 implicated, the need to use the land, the impact to the land, the plan to obtain the  
16 necessary rights to use the land, the plan to restore the land to its original condition  
17 (including the costs of the additional land rights and restoration and whether the cost  
18 was included in the construction cost estimates set forth in Table 3 of the Application).  
19 If the costs are included, identify where in Table 3 they are captured. If the costs are  
20 not included, confirm that inclusion of these costs would increase the construction cost  
21 estimate in Table 3.  
22

23 **Response:**

- 24 a) Please refer to Exhibit I, Tab 2, Schedule 24. The single tower mast has 4 guy anchors as  
25 shown in the Tower F drawing provided in Attachment 1 of that response.  
26
- 27 b) All the towers inside the park will have 4 guys.  
28
- 29 c) It is confirmed. All the guy anchors will be installed inside the ROW. SNC-Lavalin has  
30 developed PLS-CADD models and in combination with the LiDAR data collected for the  
31 ROW, they have confirmed that all 87 locations will enable guys within the existing ROW  
32 footprint. Please refer to Exhibit I, Tab 2, Schedule 69 for a footprint sketch, however  
33 engineering models will not be provided as part of these proceedings.  
34
- 35 d) Please refer to part a) above.

- 1 e) All the foundations will be new, please see foundation drawings for tower F at Exhibit I, Tab
- 2 2, Schedule 24, Attachment 1.
- 3
- 4 f) N/A with the alternate tower design described in Exhibit I, Tab 1, Schedule 2.
- 5
- 6 g) Confirmed.
- 7
- 8 h) Confirmed.

**NextBridge Interrogatory # 27**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 8, lines 11-14

**Interrogatory:**

Preamble: “Hydro One is proposing to convert approximately 35km of the existing 230 kV double-circuit transmission line by upgrading to a four circuit transmission line (replace the existing double circuit towers with four circuit guyed towers and add conductors and insulators for the two new circuits)...”

- a) Explain in detail the process and status of the full scale testing of the tower designs for the four circuit transmission line, including what company is completing the testing, the cost of the testing, when the testing is estimated to be completed, and whether the completion date impacts the start of construction schedule.
  - i. Provide copies of all documents that provide any test results, even if the results are preliminary in nature.
- b) Provide the same information for each of the double circuit transmission tower designs to be used in the Lake Superior Link that are also undergoing full-scale testing.
- c) Explain in detail the potential for the results of the testing to add costs to the final designs of the transmission towers to be used in the Lake Superior Link project. Confirm whether these additional costs are captured in HONI’s construction cost estimates in Table 3 of its Application. If confirmed, identify where these costs are captured in Table 3. If not confirmed, explain whether the additional costs would increase HONI’s cost estimates in Table 3.

**Response:**

- a) There are numerous companies around the world that SNC-Lavalin have successfully used in the past 5 years for similar load guyed towers that have the capability and experience to conduct such testing. The tower testing facility will be selected based on availability and proximity to the selected tower manufacturer. Typical tower testing costs average around 4000 USD/Metric ton. The 4 circuit guyed structure will be tested by May 2019. Based on the proposed manufacturing and construction schedule we do not foresee any impact to start of construction.

1 i. We cannot provide any test results at this time, as tower testing is scheduled for May  
2 2019.

3  
4 b) All towers designed for Lake Superior Link Line will be full scale load tested. Please refer to  
5 the proposed test schedule below. The answer provided in part a) above is also applicable for  
6 all other tower types.

7  
8 Full scale tower test tentative schedule:

- 9 • Tower Types A and B: Mar 2019  
10 • Tower Types C and D: April 2019  
11 • Tower Type E: May 2019  
12

13 c) The tower testing will not have any impact to the costs for the transmission towers to be used  
14 on the Lake Superior Link project and are all included in the project costs estimate provided  
15 in Exhibit I, Tab 1, Schedule 11.

**NextBridge Interrogatory # 28**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 8, lines 11-14; EB-2017-0364 LSL Motion Additional Evidence Attachment 5; EXHIBIT C, TAB 2, SCHEDULE 1.

**Interrogatory:**

Preamble: "Hydro One is proposing to convert approximately 35km of the existing 230 kV double-circuit transmission line by upgrading to a four circuit transmission line (replace the existing double circuit towers with four circuit guyed towers and add conductors and insulators for the two new circuits)..."

- a) Explain in detail the impact to the environmental footprint for retrofitting the existing foundations for the four circuit transmission towers.
- b) Explain the status of the inspections of the existing foundations that will be used for the four circuit transmission tower designs. If inspections have not occurred for some or all the foundations, provide an explanation of when they will occur.
- c) For any inspections that have occurred, provide the following information: do any of the foundations need to be re-built or completely replaced to support the four circuit tower designs?
  - i. If yes, explain in detail the reasons for the need and number of foundations that need to re-built or replace the four circuit tower design and whether the footprint of the foundation will be increased, and, if increased, by how much.
  - ii. If yes, please provide all the inputs and assumptions that went into preparing the cost estimate to re-build or replace the foundations for the four circuit transmission tower designs.
  - iii. If yes, provide the cost estimates for the re-build or replacements, and explain whether those cost estimates were included in Table 3 of HONI's Application. If included, identify where these costs are captured in Table 3. If not included, confirm that the inclusion of these costs would increase HONI's construction cost estimate in Table 3.
- d) Provide the following for the existing foundations:

- i. The testing of existing foundations, characterization of subsurface conditions, foundation retrofit designs, construction equipment and materials, testing and capping for installation of tower connections;
  - ii. A scope and schedule breakdown that includes the various construction activities from testing of existing foundations through to setting of tower connections; and
  - iii. The equipment to be used to install deep big/swamp anchors.
- e) Explain in detail what was the standard design criteria used to design and construct the existing foundations.
- i. Explain in detail what is the current design and construction standards for foundations to support four circuit transmission towers, including whether the existing rebar will be used and whether it meets the existing concrete code.
  - ii. Provide the number of foundations that have cracks that would need to be fixed to comply with current code requirements. Explain whether the cost of fixing the cracks was included in the construction cost estimate set forth in Table 3 of the Application.
  - iii. Confirm that HONI will ensure that the existing foundations meet the current design and construction standards. If confirmed, explain in detail how the foundations will meet the current design standards and the cost of meeting the new design standards. If not confirmed, explain in detail your answer.
  - iv. Describe the expected modifications to the foundation and stub angle contemplated for the new structure types and required loading.
  - v. Explain in detail whether HONI has hired an independent third party to verify the reasonableness of use of the existing foundations for the four circuit transmission towers, including HONI's cost estimates, design and construction plans for the existing foundations. If HONI has not hired an independent third party expert, explain in detail why such an expert has not been hired. If HONI has hired an independent third party expert, provide the scope of work and all correspondence with the expert and any documents, analyses, and studies produced by the expert.
  - vi. Confirm that all costs associated with use, retrofitting, and potential replacement of the foundations are captured in the construction cost estimates in Table 3 of the Application. If confirmed, identify where they are captured in Table 3. If not included, confirm that the inclusion of these costs would increase HONI's construction cost estimate in Table 3.

1 **Response:**

2 a) All the foundation will be new. For more information, please refer to Exhibit I, Tab 2,  
3 Schedule 24, Attachment 1. The existing foundations will be decommissioned. The impact  
4 to the environmental footprint for upgrading the existing foundations for the four circuit  
5 towers will be a net benefit. Through additional engineering design and consultation with  
6 Parks Canada, Hydro One has optimized the tower design to reduce the foundation footprint.  
7 The proposed tower design will require only one footing. The previous four footings for  
8 each tower will be cut off at grade and the areas allowed to re-naturalize, thus reducing the  
9 environmental footprint through the Park. This optimized design is the basis for current  
10 consultation with Indigenous Communities, Parks Canada and other interested parties.

11  
12 b) – e) Please refer to part a) above.



**NextBridge Interrogatory # 29**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 9, lines 6-17.

**Interrogatory:**

- a) Provide the status of HONI's acquiring of land rights outside of Pukaskwa National Park to support the Lake Superior Link, including rights for construction easements, access roads, and laydown yards.
- b) Provide the status of HONI's acquiring of land rights if it must route around Pukaskwa National Park to support the Lake Superior Link, including rights for construction easements, access roads, and laydown yards.

**Response:**

- a) Please refer to Exhibit I, Tab 2, Schedule 17; in addition, Hydro One has arranged with property owners for on-site review of off corridor temporary access for approximately 95% of the required properties.
- b) The route around Pukaskwa National Park is not Hydro One's preferred route and has not been the focus of the LSL land rights acquisition process. Hydro One has investigated the route which is primarily located within Crown Land, approximately 95%, with only 5 IPP's.

**NextBridge Interrogatory # 30**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 10, lines 3-9.

**Interrogatory:**

Explain in detail all work that HONI has completed with respect to its Environmental Assessment (“EA”). As part of this explanation, please include:

- a) The status of the “exemption” discussed in HONI’s May 7, 2018 Additional Evidence. Has HONI applied to MOECC (now MECP) for a Declaration Order?
- b) HONI’s plans on how it will complete the required studies that are impacted by seasonal or other restrictions in a timely manner to obtain the environmental permits required for the Lake Superior Link project.
- c) HONI’s understanding of the need for Indigenous consultation in the context of the environmental permits.
- d) A schedule showing the required steps, milestones, and timing to file the Lake Superior Link draft EA and final EA as well to receive approval from the MECP and MNRF.
  - i. Include when final MECP and NMRF approvals are estimated to occur, and the probabilities that these dates may be missed, and probability of the missing of the approval dates, and the implications of missing those approval dates on the in-service date of the Lake Superior Link project.
- e) Provide a copy all documents in which HONI considers conditions that may be placed in the Lake Superior Link project by MECP and NMRF, including identifying the estimated costs that could be associated with these conditions.
  - ii. Identify where in its cost estimates the costs associated with implementing these conditions are included. If not included, please add the costs to the HONI costs estimate and update the overall estimate, accordingly.

**Response:**

- a) The status of the Declaration Order process is provided in Exhibit I, Tab 1, Schedule 14, Attachment 1. As stated in previous evidence, Hydro One cannot apply to MECP for a Declaration Order until the NextBridge EA has been approved. As outlined in the referenced response the NextBridge EA approval is now assumed to be by end of Q4 2018.
- b) Hydro One has been conducting required studies since March 2018. In order to fully engage Indigenous Communities contributing to studies within Pukaskwa National Park, Hydro One is currently finalizing Capacity Funding Agreements with the three communities most affected by work within the Park. As a result, some time-sensitive studies to be completed in spring and summer will have to be deferred to spring 2019.
- c) Indigenous Consultation is required for all aspects of the LSL project, including environmental permits. The EA consultation process is being utilized to ensure that each Indigenous Community has an opportunity to contribute to studies, be provided with results and documentation, and input into mitigation measures.
- d) Please refer to Exhibit I, Tab 1, Schedule 14, Attachment 1 and Exhibit I, Tab 1, Schedule 7.
- e) Consultation is ongoing and conditions have not yet been established by MECP or MNRF.

**NextBridge Interrogatory # 31**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT C, TAB 1, SCHEDULE 2, page 2, lines 10-13.

**Interrogatory:**

Preamble: For the route alternative proposed by HONI, it is assumed that an approval process can be agreed upon which will allow approximately 12 months for HONI to complete the necessary study, consultation, and reporting to meet the EA obligations and approximately six months for regulatory approval.

Has an approval process been agreed upon with MOECC (now MECP)? If so, please provide details related to the agreed-upon process and corresponding timeline.

**Response:**

MECP has agreed that either a Declaration order or Individual EA are suitable approval processes for the LSL.<sup>1</sup> As included in Exhibit I, Tab 1, Schedule 14, Attachment 2, MECP has engaged in regular meetings and discussions with Hydro One regarding the LSL project regarding the processes they have proposed.

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<sup>1</sup> EB-2017-0364 – Hydro One Additional Evidence – May 25, 2018 – Page 7 and Attachment 8

**NextBridge Interrogatory # 32**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, pages 3-5.

**Interrogatory:**

Confirm that all costs associated with permitting and approvals routing through Pukaskwa National Park are included the Table 2 and Table 3 cost estimates. If not confirmed, explain your answer in detail, including if inclusion of these costs would increase the total cost estimate for the Lake Superior Link Project.

**Response:**

The Real Estate permitting costs are not included in the capital costs documented in Tables 2 and 3. The incremental costs associated with the annual payment for the real estate permit is included in OM&A costs. Please refer to Exhibit B, Tab 7, Schedule 2.

**NextBridge Interrogatory # 33**

**Reference:**

EB-2017-0364 - February 15, 2018 - HONI February 15, 2018 Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 11, lines 20-22;

**Interrogatory:**

- a) Provide copies of all correspondence and documents over the past 3 years that show “Hydro One has strong existing relationships with these Indigenous Communities... including the six directly impacted First Nation communities.”
- b) Provide copies of any correspondence and documents for the last 3 years in which any of the Indigenous Communities has expressed a concern about HONI or otherwise been critical of HONI.

**Response:**

- a) There is no particular piece of correspondence or document that shows that Hydro One has strong existing relationships. The existence of Hydro One’s meaningful relationships with all the Indigenous communities it serves, is reflected in many ways. As per Hydro One’s Corporate Indigenous Relations Policy 2018, 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. Over the last 9 years Hydro One conducted over 300 meetings with Indigenous communities across Ontario. In addition, between January 2018 and July 2018 Hydro One met with over 130 Indigenous communities.

Hydro One’s Indigenous Consultation approach is referenced in EB-2017-0364 Exhibit H, Tab 1, Schedule 1 and additional evidence (May 7,2018). Hydro One has maintained regular and ongoing communication with the Indigenous communities on Lake Superior Link project.

- b) Please refer to Exhibit I, Tab 1, Schedule 15, Attachment 1.

**NextBridge Interrogatory # 34**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, pages 11-12.

**Interrogatory:**

- a) Identify the Indigenous Communities that HONI will or has approached to consult in relation to the Lake Superior Link project.
- b) For each identified Indigenous Community, explain in detail the current status of HONI's consultation.
- c) Confirm that unless HONI is able to enter into consultation agreements with each of the identified Indigenous Communities, it will not proceed with the Lake Superior Link project. If not confirmed, explain your answer in detail how HONI would proceed to construction with the Lake Superior Link project without some or all consultation agreements in place.

**Response:**

- a)
  1. Animbiigoo Zaagi'igan Anishinabek First Nation (Lake Nipigon Ojibway)
  2. Biinjitiwaabik Zaaging Anishinabek First Nation (Rocky Bay)
  3. Biigtong Nishnaabeg
  4. Bingwi Neyaashi Anishinabek (Sand Point First Nation)
  5. Fort William First Nation
  6. Ginoogaming First Nation
  7. Long Lake #58 First Nation
  8. Michipicoten First Nation
  9. Missanabie Cree First Nation
  10. Ojibways of Batchewana
  11. Ojibways of Garden River
  12. Pays Plat First Nation
  13. Pic Mobert First Nation
  14. Red Rock Indian Band (Lake Helen)
  15. MNO Greenstone Métis Council
  16. Red Sky Independent Métis Nation
  17. MNO Superior North Shore Métis Council

1 18. MNO Thunder Bay Métis Council

2 19. Métis Nation of Ontario

3  
4 In addition, the following Indigenous communities have expressed an interest in the project and  
5 Hydro One has engaged them.

6 1. Métis Nation of Ontario - North Channel Metis Council

7 2. Métis Nation of Ontario – Historic Sault St. Marie Council

8 3. Jackfish Métis Association

9 4. Ontario Coalition of Indigenous Peoples

10  
11 b) Please refer to Exhibit I, Tab 1, Schedule 15.

12  
13 c) Reaching consultation agreements with each Indigenous community is not required for  
14 Hydro One to proceed with construction of the project. Hydro One has and will continue to  
15 make best efforts to reach consultation agreements with all Indigenous communities who  
16 wish to enter into consultation agreements. Not all Indigenous communities are interested in  
17 signing consultation agreements, however wish to be kept informed of project status.



**NextBridge Interrogatory # 35**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, pages 11-12.

**Interrogatory:**

- a) Identify the Indigenous Communities that HONI will or has approached to participate economically in the Lake Superior Link project.
- b) For each identified Indigenous Community, explain in detail the current status of reaching an agreement on participation.
- c) Provide copies of all correspondence and documents related to seeking or agreement with an Indigenous Community on participation.
- d) Confirm that unless HONI is able to enter into participation agreements with each of the identified Indigenous Communities, it will not proceed to construction with the Lake Superior Link project. If not confirmed, explain your answer in detail how HONI would proceed to construction with the Lake Superior Link project without some or all participation agreements in place.

**Response:**

- a) Hydro One has, to date, approached six First Nation partners in Bamkushwada Limited Partnership (BLP) which includes: Pays Plat First Nation, Fort William First Nation, Red Rock Indian Band, Pic Mobert First Nation, Biigtigong Nishnaabeg, and Michipicoten.<sup>1</sup>
- b) Although Hydro One has been sharing project related information and meeting with the BLP communities, Hydro One has been instructed by BLP legal counsel to not discuss economic accommodations and/or participation with these six First Nations. Please refer to Exhibit I, Tab 1, Schedule 15.

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<sup>1</sup> EB-2017-0364 – Hydro One Additional Evidence (May 7, 2018) page 12-13 and April 12 letter to BLP (Attachment 12 in additional evidence)

- 1 c) Specifically regarding equity participation, and for reasons outlined in a) and b) above, there  
2 is no additional correspondence than already provided as evidence in this proceeding.  
3
- 4 d) Following OEB approval of Hydro One's Application to construct the LSL, Hydro One will  
5 make best efforts to work with BLP to establish mutually agreeable terms with regards to a  
6 limited partnership that will own the Lake Superior Link Assets. Hydro One remains  
7 committed to reaching agreeable terms in principle within 45 days following OEB approval.  
8 Given the date of OEB approval is undefined, Hydro One cannot answer the question as to  
9 whether or not the status of equity participation discussions or agreements will impact the  
10 construction schedule.

**NextBridge Interrogatory # 36**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, pages 11-12.

**Interrogatory:**

Provide detailed milestones and timeline by which both consultant and participation agreements must be reached with Indigenous Communities in order for HONI to meet a December 2021 in-service date, as well as a December 2022 in-service date.

**Response:**

Please refer to Exhibit I, Tab 2, Schedule 34.

**NextBridge Interrogatory # 37**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, pages 11-12.

**Interrogatory:**

Provide (from start to finish) the milestones and timeline for the consultation and participation activities associated with the Bruce to Milton project.

**Response:**

Out of scope

**NextBridge Interrogatory # 38**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, pages 11-12; EXHIBIT H, TAB 1, SCHEDULE 1; UNDERTAKING JT 2.16.

**Interrogatory:**

- a) Provide the status of HONI's offer of an equity interest to Indigenous Communities, including any associated documents and correspondence.
- b) Identify the amount of costs associated with HONI's offer of an equity interest to Indigenous Communities.
- c) Confirm that these costs are included in the Lake Superior Link cost estimate of \$636 million. If confirmed, identify whether these costs are included in Table 2 and/or 3 of the Application, and if so, in what category(ies). If not included, confirm that inclusion of these costs would increase HONI's cost estimate for the project.
- d) Identify the costs associated with subcontracting opportunities with Indigenous Communities businesses. Confirm that these costs are included in the Lake Superior Link cost estimate of \$636 million. If confirmed, identify whether these costs are included in Table 2 and/or 3 of the Application, and if so, in what category(ies). If not included, confirm that inclusion of these costs would increase HONI's cost estimate for the project.
- e) Explain in detail what type and level of participation is anticipated for these Indigenous Communities, including any scope of work for Indigenous Communities sub-contracting opportunities.

**Response:**

- a) Please refer to Exhibit I, Tab 2, Schedule 35.
- b) Please refer to Exhibit I, Tab 2, Schedule 12
- c) Hydro One does not anticipate any additional costs associated with achieving equity participation agreements with Indigenous communities for the Lake Superior Link Project.

- 1 d) Specific costs for work expected to be undertaken by Indigenous contractors are included in  
2 the estimate provided in Site Clearing, Preparation and Site Remediation cost category in  
3 Exhibit B, Tab 7 Schedule 1, Table 3. Indigenous business participation in a variety of other  
4 contracts has not yet been detailed but is anticipated. It is the goal of Hydro One and SNC-  
5 Lavalin to maximize the inclusion of Indigenous businesses throughout construction in  
6 accordance with existing skill levels, experience and available resources. We also anticipate  
7 encouraging/facilitating partnerships (indigenous with indigenous business; and indigenous  
8 to non-Indigenous businesses) to help increase capacity to, in turn, increase the participation  
9 rate. It is not anticipated that the services provided by an Indigenous business or partnership  
10 on additional contracts will add additional cost to that provided in the construction cost  
11 estimate.  
12
- 13 e) Indigenous business participation in a variety of different contracts has not yet been detailed.  
14 It is the goal of Hydro One and SNC-Lavalin to maximize the inclusion of Indigenous  
15 businesses throughout construction (and operations/maintenance) in accordance with existing  
16 skill levels, experience and available resources. We also anticipate encouraging/facilitating  
17 partnerships (indigenous with indigenous business; and indigenous to non-Indigenous  
18 businesses) to help increase capacity to, in turn, increase the participation rate. It is not  
19 anticipated that the services provided by an Indigenous business or partnership on additional  
20 contracts will add additional cost to that provided in the construction cost estimate.

**NextBridge Interrogatory # 39**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 4, lines 3-8.

**Interrogatory:**

- a) Explain in detail the process HONI undertook to select an Engineering, Procurement and Construction(EPC) contractor, including the firms it contacted, timing of the contacts and when the final EPC contractor was selected.
- b) Confirm that a competitive bidding process was not used. If not confirmed, provide the results of the competitive bidding process, whether SNC-Lavalin was the lowest cost bidder and the selection criteria used.

**Response:**

- a) Hydro One and SNC-Lavalin formed a confidential project team in early 2017, and undertook feasibility studies to determine if a technically compliant and cost-effective solution could be developed. Both Hydro One Networks and SNC-Lavalin had familiarity with the project from the EB-2011-0140 proceeding, although working with different parties at the time.

SNC-Lavalin was already one of Hydro One's vendors of record, selected through a competitive qualification process in 2015, and has been engaged primarily as an engineering vendor since then. Around the same period in 2017, Hydro One also discussed the project informally with Burns & McDonnell, another vendor of record, to determine if they had an interest or ability to work with Hydro One. Burns & McDonnell was an engineering vendor for NextBridge application, and as such were conflicted and unable to work with Hydro One.

Following initial feasibility conversations, the commercial arrangement between Hydro One and SNC-Lavalin to develop the Application was finalized between June and September 2017.

- b) Although it is confirmed a bidding process was not used for the development of the Lake Superior Link project, a competitive process was used to qualify SNC-Lavalin as an engineering vendor of record. Of note, all elements of the EPC contract are competitively sourced and subject to full open-book review between Hydro One and SNC-Lavalin.

**NextBridge Interrogatory # 40**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 4, lines 3-8.

**Interrogatory:**

- a) Identify all development activities and work product SNC-Lavalin worked on and produced related to the Lake Superior Link project prior to the submittal of the Application, including the timing of those activities.
- b) For each identified activity and work project, provide the associated cost, and indicate where the cost is captured in HONI's Table 2 development costs.
- c) Provide copies of all SNC-Lavalin work product developed for the Lake Superior Link project that was finalized prior to the filing of the Application.

**Response:**

- a) Please refer to Exhibit I, Tab 2, Schedule 5 regarding the high-level chronology of Hydro One and SNC-Lavalin's work in 2017 prior to the submittal of the application. The final work products from SNC-Lavalin prior to submission of the application were delivered to Hydro One in late November 2017.
- b) Activities undertaken by SNC-Lavalin prior to filing of the application were done in accordance with a cost sharing agreement with Hydro One. Up to August 2017, costs were entirely borne by SNC-Lavalin at-risk and not sought from Hydro One, and are not included in the project's development costs. Activities and costs from August 2017 onwards through to the development of the fixed-price EPC proposal, informed the Leave to Construct application are covered within Table 2 under Engineering and Design.
- c) These work products are considered confidential as they contain commercially sensitive information.



**NextBridge Interrogatory # 41**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 4, lines 3-8.

**Interrogatory:**

- a) Identify all activities SNC-Lavalin has or will work on and work product it has or will produce related to the Lake Superior Link project after the submittal of the Application up to the completion of construction of the project.
- b) For each identified activity and work project, identify the estimated cost.
  - i. For each cost identified, indicate whether the cost is (1) fixed or (2) subject to change, even if the change is subject to certain conditions, such as force majeure.
    1. Confirm that the fixed costs are included in the costs estimates in Table 3 of the Application. If included, identify where the costs are captured. If not included, confirm that inclusion of the costs would increase the construction costs set forth in Table 3.
    2. Confirm that the “subject to change” costs are included in the cost estimates in Table 3 of the Application. If included, identify where the costs are captured. If not included, confirm that inclusion of the costs would increase the construction costs set forth in Table 3.
- c) Provide copies of all work product developed by SNC-Lavalin for the Lake Superior Link project since the filing of the Application.

**Response:**

- a) Please refer to part b)
- b) Please refer to Table 1 below.

**Table 1**

<b>SNC-Lavalin Fixed Price EPC</b>	<b>Hydro One S.92</b>	<b>Comment</b>
<b>Activity</b>	<b>\$ 546,639</b>	
Project Management and Engineering	\$ 29,557	Fixed
Materials	\$ 58,713	Fixed
Site Clearing, Preparation & Site Remediation	\$ 104,339	Fixed
Construction	\$ 354,030	Fixed

1. These costs are largely included in Table 3 under the categories (1) Construction, (2) Site Clearing, Preparation & Site Remediation, (3) Material, (4) Other Costs and (5) Construction management, Engineering, Design & Procurement.
2. Costs are fixed and included in Table 3.

Please refer to Exhibit B, Tab 7 Schedule 1, Section V for risk element not included in the Hydro One price.

c) Work product information is confidential between Hydro One and SNC-Lavalin.

**NextBridge Interrogatory # 42**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 4, lines 3-8.

**Interrogatory:**

- a) Provide copies of all Canadian (1) government agency rulings or (2) court pleadings and rulings or (3) executed settlements over the last 5 years in which SNC-Lavalin's procurement or construction practices and costs, including cost overruns, are the subject matter of the pleading, ruling or settlement, also including the identification of any fines, penalties or sanctions imposed.
- b) For the last 10 years, provide the following information for any transmission project over 50 kilometers and at least 100 kV and above worked on by SNC- Lavalin:
  - i. The estimated in-service date at the time SNC-Lavalin was contracted to work on the project and the actual in-service date.
  - ii. The estimated cost of construction at the time SNC-Lavalin was contracted to work on the project and the actual cost of construction.
  - iii. The estimated cost of any procurement of equipment or material over \$1 million to be undertaken by SNC-Lavalin at the time SNC-Lavalin was contracted to work on the project and the actual cost of the procured equipment and material.
  - iv. Identify any transmission tower(s) that collapsed during construction, including the reason for the collapse.
  - v. Identify any transmission tower(s) that collapsed during operation, the reason for the collapse and the time to restore the line into service, including the erection of a new tower.
  - vi. Identify any project owner or Indigenous Community concerns expressed or received related to safety, procurement, contracting or construction practices, including cost overruns, and provide copies of any associated documents.
  - vii. Identify any disallowance of the project owner's construction or capital costs. Provide copies of any order directing the disallowance.
- c) For the last five years, provide the following information for any capital project over \$100 million dollars:
  - i. The estimated in-service date at the time SNC-Lavalin was contracted to work on the project and the actual in-service date.

- 1        ii.    The estimated cost of construction at the time SNC-Lavalin was contracted to work on
- 2        the project and the actual cost of construction.
- 3        iii.    The estimated cost of any procurement of equipment or material over \$1 million to be
- 4        undertaken by SNC-Lavalin at the time SNC-Lavalin was contracted to work on the
- 5        project and the actual cost the procured equipment and material.
- 6        iv.    Any project owner Indigenous Community concerns expressed or received related to
- 7        safety, procurement, contracting or construction practices, including cost overruns,
- 8        and provide copies of any associated documents.
- 9

10    **Response:**

- 11    a) SNC-Lavalin Inc. and its affiliates are party to various claims and litigation arising in the
- 12        normal course of operations. Due to the inherent uncertainties of litigation and/or the early
- 13        stage of proceedings, it is not possible to predict the final outcome of ongoing claims and
- 14        litigation at any given time or to determine the amount of any potential losses, if any. With
- 15        respect to claims or litigation arising in the normal course of operations which are at a more
- 16        advanced stage and which present a better assessment of potential outcome, SNC-Lavalin
- 17        Group Inc. does not expect the resolution of these matters to have a materially adverse effect
- 18        on the solvency, liquidity or financial condition of SNC-Lavalin Group Inc. or any of its
- 19        affiliates including SNC-Lavalin Inc.
- 20

21        For further details regarding the various legal proceedings, please refer to SNC-Lavalin

22        Group Inc.'s (i) 2017 audited consolidated financial statements (see particularly Note 34 –

23        Contingent Liabilities), and (ii) unaudited interim condensed consolidated financial

24        statements as at and for the six-month periods ended June 30, 2018 and 2017 (see particularly

25        Note 13 – Contingent Liabilities), as filed on [www.sedar.com](http://www.sedar.com).

26

27        With respect to specific government agency rulings or court rulings, within the Clean Power

28        Sector, we are not aware of any such rulings. With respect to executed settlement agreements

29        over the last 5 years, please note that any such settlement agreements are confidential by their

30        nature between the parties and we do not have authority or consent to transmit any such

31        settlement agreements.

32

33        With respect to any public court cases, should there be any such judgments or court rulings in

34        Canada, such judgments would be searchable in the public databases. We are not aware of

35        any such public court judgments or rulings within the Clean Power Sector. We cannot,

36        however, confirm with certainty whether any of our colleagues in other Sectors would have

37        any such judgments.

1 b) With respect to this paragraph (b), the information requested is confidential and in some  
2 cases, proprietary information and SNC-Lavalin has strict contractual and confidentiality  
3 undertakings with our respective clients and therefore SNC-Lavalin cannot share any such  
4 information listed above.

5  
6 c) With respect to this paragraph (c), the information requested is confidential and in some  
7 cases, proprietary information and SNC-Lavalin is bound under contractual and  
8 confidentiality undertakings with our respective clients and therefore SNC-Lavalin cannot  
9 share any such information listed above.

**NextBridge Interrogatory # 43**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI 2018 Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 4, lines 3-8.

**Interrogatory:**

- a) Provide a copy of the referred to fixed price contract if different from the EPC contract provided in HONI's response to JT2.22.
- b) Define in detail what is meant and is included in "the delivery price."
- c) Confirm that the Engineering, Procurement and Construction contract has not been executed. If not confirmed, provide copies of the fully executed contract. If confirmed, explain why the contract has not been executed to date and when it is expected to be executed.
  - i. Explain whether the contract is applicable to a route through Pukaskwa National Park as well as routing around the Park.
- d) Explain in detail the following with respect to the executed or the anticipated EPC contract:
  - ii. Identify the contractual provisions that include the mechanisms or methodologies to estimate scope growth or scope changes. Explain in detail what impact that the implementation of these mechanisms and methodologies could have on HONI's construction cost estimate set forth in Table 3 of its Application, including the potential for an increase in the cost;
  - iii. Identify the contractual provisions to estimate and limit escalation costs related to an in-service date that extends beyond December 2021. Explain in detail what impact the implementation of these mechanisms could have on HONI's construction cost estimate set forth in Table 3 of its Application, including the potential for an increase in the cost.
- e) Explain in detail (with as specific a breakdown as possible) what construction and procurement costs and risks SNC-Lavalin has agreed to incur versus what costs and risks HONI has agreed to incur, and include an explanation how such a division of costs and risk impacts the construction costs estimate set forth in Table 3 of the Application.
  - i. Identify any EPC contractual provisions that permit cost overruns to be passed on to customers.

- 1        ii.    Identify each allocation of cost risk between SNC-Lavalin and HONI.
- 2        iii.   For each risk identified, explain in detail how it potentially can impact the actual cost
- 3               of the Lake Superior Link project, and the ability for those costs to increase the total
- 4               project costs for either the current plan to route through Pukaskwa National Park
- 5               and/or the alternative to route around the Park. For example, who bears the risk of
- 6               unconcealed subsurface condition costs – HONI or SNC-Lavalin, and how is the
- 7               overall construction costs impacted by that allocation of cost risk.
- 8

9        **Response:**

- 10       a)    There are no changes to the fixed price contract since what was filed in response to JT2.22.
- 11
- 12       b)    The delivery price as per the reference is intended to inclusively speak to the project's
- 13               construction costs, however the comment is made in the context that "Hydro One and SNC-
- 14               Lavalin have agreed to enter into a fixed price contract, providing further assurance on
- 15               meeting the delivery price and mitigating the risk to ratepayers". The fixed price contract
- 16               scope and cost estimate from SNC-Lavalin was reviewed by Hydro One under
- 17               confidentiality, and covers the following rows from Table 3 of reference: Construction; Site
- 18               Clearing, Preparation & Site Remediation; Material; Other Costs; Construction Management,
- 19               Engineering, Design & Procurement.
- 20
- 21       c)    Confirmed. The EPC contract is execution-ready for the route through Pukaskwa National
- 22               Park and will be executed upon being granted leave to construct.
- 23
- 24               i.    The EPC contract terms would be applicable to a route around Pukaskwa National
- 25               Park, however with an adjustment to contract price and schedule elements prior to
- 26               execution.
- 27
- 28       d)    ii) From JT2.22, refer to *Article 19 – Changes* regarding contractual provisions and
- 29               mechanism regarding changes. The fixed-price EPC remains at \$546 million based on the
- 30               current scope of work as defined at the time of Application. Should there be no authorized
- 31               changes due to things outside the control of SNC-Lavalin, the EPC portion of the project will
- 32               be delivered for \$546 million. However changes to the scope of work, schedule, etc. due to
- 33               things beyond SNC-Lavalin's control may be subject to contract changes for review and
- 34               potential approval by Hydro One (eg., adaptations to account for unforeseen imposed
- 35               conditions on environmental assessment approvals).

1           iii) From JT2.22, refer to *Article 25 - Substantial Completion, Article- 28 – Liquidated*  
2           *Damages for Delay*, and *Appendix D Liquidated Damages*. Hydro One's project schedule  
3           and cost is based upon receiving Leave to Construct Decision in January 2019 and  
4           Environmental Approvals prior to August 2019 to enable substantial performance and  
5           project completion by December 2021. Should either of those pre-requisite milestones be  
6           missed, there may still be opportunity to complete prior to December 2021. Further  
7           information is provided in response to OEB Staff #14 at Exhibit I, Tab 1, Schedule 14.

8  
9           Should SNC-Lavalin not meet the contracted substantial completion date, liquidated  
10          damages for delay will be pursued in accordance with the contract provisions.

11  
12       e) From JT2.22, refer to *Appendix A – Scope of Work - Division of Responsibility*. In general,  
13       SNC-Lavalin is entirely accountable for construction and procurement costs within their  
14       fixed price contract which together with other elements of the work account for 85% of the  
15       project total. Contained within this fixed price contract is \$54million of contingency and risk  
16       to account for the known risks and unknown risks within the scope of work.

17  
18       In general, Hydro One is accountable for obtaining regulatory and environmental approvals,  
19       Indigenous Relations, temporary and permanent real estate rights.

20  
21           i. Refer to part d) ii. Only authorized changes outside the control of SNC-Lavalin  
22           would be considered for approval. These costs would still be subject to OEB  
23           prudency review to be included in rate recovery .

24  
25           ii. The allocation of cost risk is detailed through the Division of Responsibility table  
26           referred to in e) above. The Contractor (EPC) and the Owner (HONI) then perform  
27           their risk assessments and analysis on their respective scopes and include their  
28           respective costs to cover these risks within their pricing. HONI has provided details  
29           of their key risks in Exhibit B, Tab 7, Schedule 1, Table 4 of the Application.

30  
31           iii. The impact of the actual cost will be determined by where the scope and  
32           responsibility of that event lies in the EPC Contract as detailed in the references  
33           within e) above. If the event is within the Contractor responsibility then it falls within  
34           its fixed price and there is no impact to the project price. To reply to the example if  
35           the unconcealed subsurface condition is geotechnical in nature then the EPC has the  
36           responsibility and no impact to project will occur, however if the unconcealed  
37           subsurface condition is hazardous then terms of Article 32 will apply which would be



- 1 handled through an authorized change process. These costs would still be subject to
- 2 OEB prudence review to be included in rate recovery.

**NextBridge Interrogatory # 44**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 5 Table 3 (Construction Costs).

**Interrogatory:**

- a) Provide a detailed explanation of (1) the activities (include a detailed scope for each activity) and capital items included in each of the cost categories listed in column 1 of Table 3; (2) the reasonableness of each activity and capital item; (3) how each cost estimate in column 2 was developed, including copies of all workpapers; and (4) the potential for an increase in any of the column 2 cost estimates. Include the following in the explanation:
- i. The roles of HONI and SNC-Lavalin in the development of each cost category in column 1 and the cost figure in column 2, including what activities, the timeframe of the activities, and scope of work performed by HONI and SNC-Lavalin.
  - ii. Identify the percentage of engineering design and work that was completed to support the construction cost estimates in column 2.
    1. Explain how this percentage of engineering design and work was completed.
    2. Confirm that the percentage of engineering completed does not provide sufficient information and details to ensure no construction cost overruns. If confirmed, provide an estimated cost of the possible construction cost overruns. If confirmed, explain whether the cost overrun figure is already included in the construction cost estimates in Table 3. If included, identify where it is included. If not included, confirm that inclusion of this figure would increase the construction cost estimate in Table 3.
- b) Identify the materials and equipment included in the “Material” cost category, including towers, insulators, conductors, line surge arresters.
- c) Confirm that the percentage of engineering completed to date does not provide sufficient information and details to ensure no procurement cost overruns. If confirmed, provide an estimated cost of the possible procurement cost overruns. If confirmed, explain whether the cost overrun figure is already included in the construction cost estimates in Table 3. If included, identify where it is included. If not included, confirm that inclusion of this figure would increase the construction cost estimate in Table 3.

- 1 d) Identify whether HONI's construction cost estimate in Table 3 is an AACE Class 2 or AACE  
2 Class 3 estimate. Explain in detail at what bandwidth of accuracy is HONI's estimate within  
3 the identified Class.
- 4 i. Explain what information or scope is lacking for HONI to provide a Class 1 estimate,  
5 and the timing of HONI being able to provide a Class 1 estimate.
- 6 ii. Confirm that the Table 3 cost estimate may increase until such time that HONI has a  
7 Class 1 cost estimate. If not confirmed, explain your answer in detail. If confirmed,  
8 identify the possible percentage increase in construction costs from the Table 3  
9 estimate at the time of the submittal of the Application to the Class 1 estimate.
- 10
- 11 e) Provide a detailed breakdown of the costs set forth in Table 3 associated with the  
12 construction of the four circuit transmission towers in Pukaskwa National Park.
- 13
- 14 f) Explain in detail what consultation and participation activities and costs are included in First  
15 Nation and Métis Consultation cost category. Is it HONI's position that there are no  
16 additional construction phase costs related to First Nation and Métis consultation and  
17 participation other than that in this cost category?
- 18 i. If yes, explain your answer in detail and confirm that HONI has no intention to spend  
19 any additional funds on First Nation and Métis consultation and participation than that  
20 which is represented in column 2 of this cost category. If no, identify and explain in  
21 detail the additional costs that HONI expects to expend on First Nation and Métis  
22 consultation and participation, respectively. Confirm that these additional costs are not  
23 included in HONI's current construction cost estimate in Table 3. If confirmed  
24 identify where they are captured in the construction cost estimate. If not confirmed,  
25 explain in detail why these costs were not included, and if HONI intends to add these  
26 costs to its construction cost estimate and seek recovery of the costs.
- 27
- 28 g) Confirm that since the filing of the Application HONI is not aware of any costs that should  
29 have been but were not included in the Table 3 construction cost estimate, such as escalation  
30 cost for materials or new tower designs due to the need for extra-long spans. If not  
31 confirmed, please reproduce Table 3 with the inclusion of the new cost estimate and provide  
32 a detailed explanation for why the cost was not included in Table 3 at the time of filing the  
33 Application.
- 34
- 35 h) Confirm that the Table 3 estimate cost estimate will increase if the in-service date for the  
36 Lake Superior Link is delayed beyond December 2021. If confirmed, provide the cost

1 estimate increase in Table 3 construction costs for a December 2022 in-service date. If not  
2 confirmed, explain your answer in detail.

- 3
- 4 i) Confirm that the Table 3 estimate cost estimate will increase if the in-service date for the  
5 Lake Superior Link is delayed until December 2023. If confirmed, provide the cost estimate  
6 increase in Table 3 construction costs for a December 2023 in-service date. If not confirmed,  
7 explain your answer in detail.
- 8
- 9 j) Reproduce Table 3 and each answer to all the questions set forth in this interrogatory for  
10 HONI's alternative to route around Pukaskwa National Park.
- 11

12 **Response:**

- 13 a)
- 14 1. The categories listed in Table 3 are self-explanatory for the particular activity.
- 15 2. Please refer to part d).
- 16 3. Each cost estimate was developed using standard estimating processes, as applicable, in  
17 Hydro One and SNC-Lavalin.
- 18 4. SNC-Lavalin is providing a fixed price for the EPC scope on this project; refer to i.
- 19 i. The fixed price contract scope and cost estimate from SNC-Lavalin covers the  
20 following rows from Table 3 of reference: Construction; Site Clearing,  
21 Preparation & Site Remediation; Material; Other Costs; Construction  
22 Management, Engineering, Design & Procurement. Time frame of activities  
23 was mid 2017 till Feb 2018.
- 24 ii.
- 25 1. Sufficient engineering was completed to support the construction cost  
26 estimate
- 27 2. Not confirmed.
- 28
- 29 b) The Materials category only includes material for the permanent asset as described in a). The  
30 equipment used to construct the asset remains in both the Construction and Site Clearing  
31 categories.
- 32
- 33 c) Sufficient engineering was completed at the time of the S92 application for meaningful  
34 material pricing to be included in the costs estimate. SNC-Lavalin is providing a fixed price  
35 for the EPC scope on this project that will mitigate any potential risk to ratepayers. As part  
36 of this fixed price, a risk and contingency allowance from a Monte Carlo analysis was  
37 performed and is included within the estimated costs.

- 1 d) Hydro One's cost estimate at the time of the S92 application would be considered an AACE  
2 Class 3 estimate based on scope definition. The published band accuracy per AACE is -20%  
3 to +30%, however Hydro One expects its accuracy band to be +/-6% given the portion of the  
4 estimate that is fixed under the EPC contract as well as the risk and contingency analysis and  
5 allowances provided within the estimate.
- 6 i. To bring the estimate to a Class 1, all permits and property access rights would need  
7 to be confirmed or secured, supplier and labour contracts would need to be signed and  
8 detailed engineering would need to be finalized.
- 9 ii. The possibility of the pricing within the Table 3 estimates increasing significantly is  
10 extremely low as over 85% of the costs are from fixed pricing through the SNC-  
11 Lavalin EPC contract.
- 12
- 13 e) The costs for the Pukaskwa National Park are included in SNC-Lavalin's fixed price estimate  
14 and are not broken out separately.
- 15
- 16 f) Please refer to Exhibit I, Tab 1, Schedules 10 and 11.
- 17
- 18 g) Please refer to Exhibit I, Tab 1, Schedule 11.
- 19
- 20 h) Table 3 cost estimate will increase if the in-service date is delayed beyond December 2021.  
21 Please refer to Exhibit I, Tab 1, Schedule 7.
- 22
- 23 i) Please refer to Exhibit I, Tab 1, Schedule 7. A 2023 cost impact scenario has not been  
24 developed at this time as Hydro One intends to deliver the Project before the end of 2022 and  
25 that a delay beyond 2022 is very unlikely.
- 26
- 27 j) Above answers can be associated to the alternative route around the Pukaskwa National Park  
28 except for item d). The uncertainty in costs for the alternative is increased as there has not  
29 been any engineering or site evaluations been done for the remainder of the line. This  
30 portion would be considered an AACE Class 4 with a -30% to +50% band accuracy.

**NextBridge Interrogatory # 45**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 5 Table 3 (Construction Costs).

**Interrogatory:**

- a) Compare HONI's cost category First Nation and Métis Consultation to NextBridge's same category in Table 2 of the NextBridge Application at Exhibit B, Tab 9, Schedule 1, Table 2. Explain in detail why HONI believes it can proceed with the Lake Superior Link project and only incur approximately \$1.1 M for such consultations?
- b) Provide copies of any documents or workpapers supporting HONI's answer.

**Response:**

- a) Please refer to Exhibit I, Tab 1, Schedule 11.
- b) Please refer to Exhibit I, Tab 1, Schedule 11.

**NextBridge Interrogatory # 46**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 5 Table 3 (Construction Costs).

**Interrogatory:**

- a) For each cost category in column 1, identify any cost that has been incurred (including when it was incurred) or any contract that has been executed (including when it was executed) that supports the reasonableness of the cost estimate in column 2, or, conversely, requires an upward adjustment to the costs in column 2. If an upward adjustment is required, identify the new cost estimate. Provide copies of any supporting documentation used to develop your answer.
- b) If the answer is that there are little known costs that have been incurred and contracts executed, explain in detail when these costs will be known and contracts executed.
- c) Reproduce Table 3 and answer each of the questions set forth in this interrogatory for HONI's alternative to route around Pukaskwa National Park.

**Response:**

- a) No construction costs have been incurred as the construction phase starts only after Hydro One receives LTC Approval. This is currently forecast for January, 2019.
- b) Construction cost will start once Hydro One receives LTC approval.
- c) See above a) and b).

**NextBridge Interrogatory # 47**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 5 Table 3 (Construction Costs).

**Interrogatory:**

- a) For each cost category, provide a detailed explanation of the activities conducted or to be conducted and work product produced or to be produced.
- b) For each identified activity(ies) and work product, indicate whether any of the activities or work product was competitively bid. For each competitively bid activity(ies) and work product, identify the selected bidder, whether the selected bidder was the lowest cost bidder and criteria used to select the bidder. For each activity and work product not competitively procured, explain in detail why it was not competitively bid.
- c) For each identified activity(ies) and work product, identify any cost management or containment measures implemented.
- d) For each identified activity(ies) and work product, identify whether any budgeted or estimated costs were exceeded, and, if exceeded, explain in detail why the budget or estimate was exceeded.
- e) For each identified activity and work product, provide the actual spend from the filing of the Application to present.
- f) For each identified activity and work product, provide the estimated spend from present to the projected in-service date of the Lake Superior Link project if the project routes through Pukaskwa National Park.
- g) For each identified activity and work product, provide the estimated spend from present to the projected in-service date of the Lake Superior Link project if the project routes around Pukaskwa National Park.
- h) For each identified activity and work product, provide the estimated spend from present to a (i) December 2022 and (ii) December 2023 in-service date of the Lake Superior Link project if the project routes through Pukaskwa National Park.



- 1 i) For each identified activity and work product, provide the estimated spend from present to a  
2 (i) December 2022 and (ii) December 2023 in-service date of the Lake Superior Link project  
3 if the project routes around Pukaskwa National Park.  
4
- 5 j) For each identified activity and work product, identify all executives, employees, and  
6 contractors (including the name of the contractor's employer) who supervises or conducts the  
7 activity or produces the work product.  
8
- 9 i. For each identified executive, employee, and contractor provide their job title and  
10 scope of work  
11 ii. For each identified executive and employee identify their department or division.  
12 iii. For each identified executive, employee, and contractor also identify if he or she has  
13 conducted any work related to the NextBridge East-West Tie Line project (e.g.,  
14 interconnection into HONI facilities or crossing of HONI facilities). For any  
15 identified executive, employee, and contractor provide their job title and the scope of  
16 work associated with their work related to the NextBridge East-West Tie Line and  
17 scope of work on HONI's Lake Superior Link.  
18
- 19 1. Confirm that no costs associated with the time that these executives,  
20 employees, and contractors participated in work related to the NextBridge  
21 East-West Tie Line Project are included in HONI's Lake Superior Link  
22 construction costs. If confirmed, explain in detail how HONI is capturing  
23 these costs and will they seek recovery for these costs. If not confirmed,  
24 explain your answer in detail.  
25

26 **Response:**

- 27 a) Please refer to Exhibit I, Tab 2, Schedule 44.  
28
- 29 b) The major cost elements in Table 3 are in categories secured through a fixed price estimate  
30 from SNC-Lavalin. The categories in question can be answered as follows:  
31
- 32 a. Construction: The fixed price estimate in this category has been developed by SNC-  
33 Lavalin through a competitive subcontract RFP. No commitments have been made as  
34 no LTC has been awarded.
- 35 b. Site Clearing, Site Preparation and Site Remediation: The fixed price estimate in this  
36 category has been developed by SNC-Lavalin through a competitive subcontract  
37 RFP. No commitments have been made as no LTC has been awarded.

1 c. Material: The fixed price estimate in this category has been developed by SNC-  
2 Lavalin through a competitive sub supply RFP. No commitments have been made as  
3 no LTC has been awarded.  
4

5 c) Standard project and contract cost management techniques will be used. The major cost  
6 elements in Table 3 are in categories secured through a fixed price estimate from SNC-  
7 Lavalin.  
8

9 d) Budgeted or estimated costs could not be exceeded as the construction phase starts only after  
10 Hydro One receives LTC approval, currently anticipated for January, 2019.  
11

12 e) Please refer to Exhibit I, Tab 2, Schedule 46.  
13

14 f) Please refer to Exhibit I, Tab 1, Schedule 11.  
15

16 g) Please refer to Exhibit JT2.20 and Exhibit I, Tab 1, Schedule 11.  
17

18 h) Please refer to Exhibit I, Tab 1, Schedule 7. 2023 costs have not been projected as Hydro  
19 One intends to have the Project in-service before that date.  
20

21 i) Please refer to Exhibit JT2.20 and Exhibit I, Tab 1, Schedule 7.  
22

23 j) Please refer to Exhibit I, Tab 1, Schedule 11 and Exhibit I, Tab 2, Schedule 56 for further  
24 information. As Hydro One applies an overhead capitalization rate to all project cost, a list  
25 of employees who worked on the project is not required. All project costs have been charged  
26 through project accounting to the LSL Project.

**NextBridge Interrogatory # 48**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 5 Table 3 (Construction Costs); EXHIBIT C, TAB 2, SCHEDULE 1.

**Interrogatory:**

- a) Provide a copy of the most up-to-date tables showing all proposed transmission structures for the Lake Superior Link project, including structure numbers, span lengths, structure types, and the associated structure drawings per structure type.
- b) Provide one table for routing through Pukaskwa National Park; and
- c) One table for routing around Pukaskwa National Park.
- d) If one or both of tables have not been developed, explain why not and when they will be developed.
- e) Explain in detail whether HONI's wind span is less than the average span.
- f) Provide the ratio of self-supporting to guy structures at the time of filing the Application and in the tables.
- g) Provide the load trees for each of the tower designs set forth in the tables.
- h) Confirm that the information provided in response to this interrogatory does not change the construction cost estimate in Table 3 of the Application. If not confirmed, please reproduce Table 3 for routing through Pukaskwa National Park and around Pukaskwa National Park with the new cost estimate. If confirmed, explain in detail why the information does not change the cost estimate.

**Response:**

- a) Please refer to Exhibit I, Tab 2, Schedule 24, Attachment 1.
- b) Please refer to part a) above.

- c) Not done to this level of detail as the solution to proceed through the PNP is viable, has a much lower environmental footprint and more cost effective. Please refer to part a) above.
- d) Please refer to part) a and c) above.
- e) The average span of the line is 380 m and the design wind span is as follows:

<b>Tower Type</b>	<b>Tower Description</b>	<b>RS (m)</b>	<b>Wind Span (m)</b>	<b>Max Weight Span (m)</b>	<b>Min Weight Span (m)</b>
A	Double circuit Guyed Suspension 0°-3° Tower	380	420	525	0
B	Double circuit Self-Supported Suspension 0°-3° Tower	380	650	810	0
C	Double circuit Self-Supported Strain 0°-5° Tower	380	420	525	-350
D	Double circuit Self-Supported Dead End 0°-20° Tower	380	420	525	-350
E	Double circuit Self-Supported Dead End 20°-90° Tower	380	420	525	-400
F	Four circuit Guyed Suspension 0°-3° Tower	436.5	523	602	93

In conclusion, the wind span is always more than the average span.

- f) In the Application the ratio is: Guyed Tower = 64.73%, Rigid Guyed Tower = 7.82 and Self-supporting = 27.45%.

In the tables the ratio is: Guyed Tower = 88.96% and Self-supporting = 11.04%.

- g) Please refer to Exhibit I, Tab 2, Schedule 24, Attachment 1.
- h) Confirmed; please refer to Exhibit I, Tab 1, Schedule 11.

**NextBridge Interrogatory # 49**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 5 Table 3 (Construction Costs); EXHIBIT C, TAB 2, SCHEDULE 1.

**Interrogatory:**

- a) Confirm that HONI's galloping analysis considered single loop galloping, regardless of span length, with a primary axis limited to a maximum of 12m. If not confirmed, explain your answer in detail and explain its potential impact to the construction cost estimate.
- b) Explain in detail whether HONI or its contractor has performed any geotechnical work on the project, including how the conducting or lack of conducting of geotechnical impacts its construction cost estimate.
- c) Confirm that the information provided in to this interrogatory does not change the construction cost estimate in Table 3 of the Application. If not confirmed, please reproduce Table 3 for routing through Pukaskwa National Park and around Pukaskwa National Park with the new cost estimate. If confirmed, explain in detail why the information in the tables does not change the cost estimate.

**Response:**

- a) Hydro One considered single loop galloping until 700 feet as per article 6.5.1 of Bulletin 1724 E-200, please see extract of the mentioned bulletin in the Annexes. Hydor One does not foresee any impact because single loops are very rare on longer spans.
- b) The geotechnical risk has been included in SNC-Lavalin's fixed price estimate to Hydro One and changes to it will not impact the construction cost estimate. SNC-Lavalin has based its estimate on an extensive geomorphological study for the area of the Lake Superior Link Project. Based on the this study various foundation designs were developed and formed the basis of the EPC estimate. Further geotechnical work is planned in the first quarter of 2019 to confirm the study results which will update the EPC execution plan but will not impact the fixed price costs.
- c) Information provided does not change the construction cost estimate of the preferred route. The same geomorphological study has not been done for the route around the Pukaskwa

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Exhibit I

Tab 2

Schedule 49

Page 2 of 2

- 1 National Park therefore variances following this study could impact the estimated costs
- 2 however no additional work has been done for this alternative route.

**NextBridge Interrogatory # 50**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 5 Table 3 (Construction Costs).

**Interrogatory:**

- a) To the extent possible, provide the same information NextBridge provided in response to CCC Interrogatory #8. Specifically:
- i. Identify the total spend to date on the Lake Superior Link project broken down by category up and until the filing of the Application, and from the filing of the Application to present.
  - ii. Breakdown the spend rate by scope of work and associated expenses and capital expenditures.
- b) Identify the portion of the construction costs related to routing through Pukaskwa National Park.
- i. Provide a breakdown of the expenses and capital expenditures related to routing through Pukaskwa National Park by scope of work, and include identifying the expenses and capital expenditures incurred prior to the filing of the Application, and between the filing of the Application and present.
- c) Provide the projected spend rate for the Lake Superior Link project from present to in-service date, broken down by scope of work, and expenses and capital expenditures.

**Response:**

- a) No construction costs have been incurred as the construction phase starts only after Hydro One receives LTC Approval. This is currently anticipated for January 2019.
- b) Please refer to part a) above.
- c) How costs will be spent during the construction period will not materially impact the overall project cost illustrated in Exhibit I, Tab 1, Schedule 11, and has therefore not been provided.

**NextBridge Interrogatory # 51**

**Reference:**

EB-2017-0364 - February 15, 2018 - HONI February 15, 2018 Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 5 Table 3 (Construction Costs).

**Interrogatory:**

- a) To the extent possible, also provide the same information NextBridge provided in response to CCC Interrogatory #8 for HONI's alternative route around Pukaskwa National Park. In doing so, also:
- i. Identify the total spend to date on the Lake Superior Link project broken down by spend up and until the filing of the Application, and from the filing of the Application to present.
  - ii. Breakdown the spend rate by scope of work and associated expenses and capital expenditures.
- b) Provide the projected spend rate for the Lake Superior Link project from present to in-service date, broken down by scope of work, and expenses and capital expenditures.

**Response:**

- a) No construction cost have been incurred as the construction phase starts only after Hydro One receives LTC approval, currently anticipated in January of 2019.
- b) Please refer to Exhibit I, Tab 1, Schedule 50.



**NextBridge Interrogatory # 52**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Pages 6-9.

**Interrogatory:**

Provide an update, as needed, to each identified assumption, risk and contingency, including any implications on the estimated cost of the project and the in-service date.

**Response:**

Please refer to Exhibit I, Tab 1, Schedule 13.

**NextBridge Interrogatory # 53**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 8.

**Interrogatory:**

Preamble: "Scheduled 15-days continuous double-circuit outage to replace towers in Pukaskwa National Park delayed".

- a) Provide as detailed a plan and schedule as possible for the estimated 15 day outage through the Pukaskwa National Park showing sequence and durations of the following activities: mobilization; foundation upgrades; moving or removing the existing conductor; removing the existing structures; installing the guy anchors; installing the new structures; stringing the new conductor; re-attaching or re-stringing the existing conductor; and reclamation.
  - i. If not included in the plan, explain in detail the number of days of contingencies are estimated for the outage due to delays for weather or unexpected complications. Explain whether extended delay would increase the costs of the construction in Pukaskwa National Park and by how much per day. If there is an increase in costs, identify the costs and whether the cost is already included in the costs estimates in Table 3 of the Application. If confirmed, identify where in Table 3 these costs are included. If not included, confirm that inclusion of these costs would increase the total construction cost estimate in Table 3.
- b) Explain in detail how sky cranes will be used during the 15 day outage to construct the section through Pukaskwa National Park, including the proposed number of sky cranes?
- c) Explain in detail how helicopters, other than sky cranes, will be used to construct the section through Pukaskwa National Park during the 15 day outage?
- d) Confirm that HONI has not included any replacement costs for energy or capacity during the 15-day outage in the construction costs set forth in Table 3 of the Application. If not confirmed, identify where in Table 3 these costs are included.

**Response:**

a) As per the response provided in Exhibit I, Tab 2, Schedule 24, a new single mast guyed structure will be used within the park. This structure will allow for foundation and anchor installation, as well as complete tower assembly to be completed in advance of the outage. Mobilization of the work crews will also take part prior to the outage. The activities during the 15 day outage will be limited to removal of conductor from existing towers, erection of new guyed structure, removal of existing structure and re-attaching of existing conductor on the new structure. Reclamation activities can be completed once line has been energized.

During the two week outage, two heavy lift helicopters with a capacity of 24000 lbs will be engaged for the installation of the new structures and decommissioning of the existing structures. For every new structure two helicopter lifts are required while for every existing structure one lift is required. Each helicopter crew is capable of achieving on average 20 lifts per day, this average takes into account contingency for weather delays. At this rate 7 days are required for erection and decommissioning of existing structures.

i. Please refer to Exhibit I, Tab 1, Schedule 2.

b) Refer to part a) above.

c) Smaller helicopters would be utilized to assist with removal and re-installation of conductors along with some movement of personnel associated with the works.

d) Replacement costs for energy or capacity during the 15-day outage is not included in the LSL project cost in Table 3. Hydro One and the IESO have agreed on a schedule for the 15-day outage with the objective of minimizing system impact during this period. Hydro One notes, that any capacity system costs incurred are a one-time OM&A costs versus the long-term effects of a higher project cost on rate base.

**NextBridge Interrogatory # 54**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, Page 10, lines 1-13.

**Interrogatory:**

Provide any update on “risk elements not included in the HONI price”, including whether the update impacts the estimated cost of the project set forth in Table 3 and/or the December 2021 in-service date.

**Response:**

There is no change required to this evidence.

**NextBridge Interrogatory # 55**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 6, lines 15-19; EB-2017-0364 – Technical Conference – HONI responses to Undertaking JT2.19 and JT2.20.

**Interrogatory:**

Preamble: “Hydro One is confident in its ability to deliver the Project for \$120 million less than NextBridge’s submitted price primarily due to a more efficient route which is 10% shorter, traversing through the Pukaskwa National Park parallel to existing Hydro One infrastructure as well as an optimized tower design to reduce material and construction costs.”

Explain in detail any differences in the detailed cost estimate provided and answers provided in Exhibit JT2.19 (November 2, 2017 memo) and Exhibit JT2.20.

**Response:**

Exhibit JT2.19 Attachment 2, the November 2017 memo, states the following:

“Hydro One is confident that we can deliver a robust and more cost-competitive solution to Ontario customers, and is aiming to file an LTC application to the OEB in December 2017 with an approximate value of \$600M.”.... “Hydro One & SNCL team is proposing a technically compliant solution that will produce capital costs approximately \$140M lower than Nextbridge’s submission of \$737M.” (emphasis added)

To get to a \$140M variance Hydro One compared NextBridge’s development and construction costs of \$777M<sup>1</sup> against Hydro One’s development and construction costs of \$636M<sup>2</sup>.

To get to a \$120M variance, Hydro One’s assumption was that approximately \$20M<sup>3</sup> was considered sunk costs. These costs are associated with the monies NextBridge has already been approved to spend as the designated development transmitter. Therefore, the comparison is NextBridge’s development and construction costs of \$777 minus the already approved

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<sup>1</sup> EB-2017-0182 – Exhibit B, Tab 9, Schedule 1, Table 4 – July 31, 2017

<sup>2</sup> EB-2017-0364 – Exhibit B, Tab 7, Schedule 1, Table 1 – February 15, 2018

<sup>3</sup> Defined as \$22.398M in EB-2017-0182 – Exhibit B, Tab 9, Schedule 1, Table 4 – July 31, 2017

1 development costs of approximately 20M, for a grand total of \$757M against Hydro One's total  
2 project costs of \$636M.

3  
4 This analysis was all completed at that point in time. Hydro One's total project cost estimate has  
5 not significantly changed from the filing. This comparison, however, does not reflect any  
6 potential changes to NextBridge's costs or Hydro One's marginally revised estimate provided in  
7 Exhibit I, Tab 1, Schedule 11 of \$642M.

**NextBridge Interrogatory # 56**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 4, line 11; February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 2 Page 4, lines 7-9.

**Interrogatory:**

Preamble: "Hydro One forecasts that its capital and OM&A costs will be, respectively, \$120 million and \$3.2 million per year lower than NextBridge's costs."

- a) Confirm that HONI's incremental OM&A cost estimates does not include costs related to regulatory, compliance, and administrative costs. If not confirmed, explain your answer in detail including what costs are assigned to regulatory, compliance, Indigenous land payments for Federal reserve crossings, and administrative costs.
- b) Confirm that incremental OM&A cost estimates do not include any costs associated with restoration of the Lake Superior Link transmission line. If not confirmed, explain your answer in detail.
- c) Please confirm that EWT LP's 2013 designation application O&M costs were estimated at \$7.1M.

**Response:**

- a) Not confirmed. As explained in Exhibit I, Tab 1, Schedule 11, Hydro One applies an overhead capitalization rate to its capital projects to account for non-direct staff's time – which would include regulatory, compliance and administrative costs. This cost is captured under overhead capitalization in the above-referenced exhibit. Costs are not directly assigned to the components requested in the question.
- b) Hydro One is not restoring the Lake Superior Link transmission line, therefore no costs are included.
- c) Confirmed.

**NextBridge Interrogatory # 57**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application EXHIBIT B, TAB 11, SCHEDULE 1, Page 1 (Project Schedule) and EB-2017-0364 – Hearing of Motion – Technical Conference HONI Undertaking response to JT2.9.

**Interrogatory:**

- a) Provide an up-to-date and as detailed as possible project schedule for HONI's construction through Pukaskwa National Park, including (1) identifying all required approvals and permits, Indigenous Communities consultations and project milestones; (2) explaining in detail the status of each required approval and permit, Indigenous Communities consultations and project milestones; (3) identifying all risks (including possible delays) associated with each approval, permit, Indigenous communities consultation and milestone; (4) providing for each required approval and permit, Indigenous Communities consultations and project milestone, the impact to the in-service date if the approval, permit and/or milestone is missed by six months and one year.
- b) Please provide a map and schedule of the environment constraints and associated timing windows and a detailed project plan and schedule of how HONI will sequence construction around the constraints and timing windows.
- c) Explain in detail whether it is still HONI's position that its "project float of approximately four months (two months of regulatory float and two calendar months of construction float)" remains valid. If not confirmed, explain in detail what is the new "project float."
- d) Provide the same information requested in this interrogatory for HONI's alternative to route around Pukaskwa National Park.

**Response:**

- a) Please refer to Exhibit I, Tab 1, Schedule 5, Attachment 1 for the schedule of construction through Pukaskwa National Park. For more detail regarding the schedule of Environmental Approvals refer to Exhibit I, Tab 1, Schedule 14, Attachment 1. Please refer to Exhibit I, Tab 1, Schedule 15 for information regarding Indigenous Consultation. For information regarding specific permitting refer to Exhibit I, Tab 1, Schedule 5 response b). Please refer to the EA Approval Date Scenario Analysis in Exhibit I, Tab 1, Schedule 7 for cost and schedule implications of various delays.



- 1 b) Hydro One is currently conducting studies necessary to address gaps between information  
2 available in the currently submitted NextBridge Individual EA for the East West Tie and  
3 Hydro One's preferred route. The gaps are in the Pukaskwa National Park and Dorion/Loon  
4 Lake areas. As stated, Hydro One will utilize the publicly available information in the  
5 NextBridge EA and studies that have already been produced as part of the development  
6 phase of the East West Tie. As a result, please refer to the following appendices of the EA  
7 prepared as part of the development phase of the East West Tie: Appendix 5-I:  
8 Environmental Alignment Sheets and Appendix 5-II: Access and Construction  
9 Environmental Maps. These appendices outline the constraints, timing windows and detailed  
10 project plan. Maps and schedules of environmental constraints and associated timing  
11 windows for the entire LSL project will be developed through the Hydro One EA process  
12 and included in the submission document to the MECP. The construction schedule will be  
13 updated throughout the environmental assessment process and the detailed construction  
14 schedule will be finalized following approval of the LSL EA.  
15
- 16 c) Based on the updated LSL schedule provided at Exhibit I, Tab 1, Schedule 5 for the schedule  
17 of construction through Pukaskwa National Park and Exhibit I, Tab 1, Schedule 14,  
18 Attachment 1 for the Environmental Approvals schedule, approximately 1 month of the 2  
19 months of regulatory float has been consumed. This is based on an original anticipated  
20 Declaration order approval date of July 2019 (as outlined in JT2.9) and a current date of  
21 August 15, 2019. The 2 months of construction float is still available assuming the  
22 Declaration order approval date in the updated schedule (August 15, 2019).  
23
- 24 d) Please refer to Exhibit I, Tab 1, Schedule 5 for the schedule of construction around Pukaskwa  
25 National Park. For more detail regarding the schedule of Environmental Approvals refer to  
26 Exhibit I, Tab 1, Schedule 14, Attachment 1. Please refer to Exhibit I, Tab 1, Schedule 15  
27 for information regarding Indigenous Consultation. For information regarding specific  
28 permitting refer to Exhibit I, Tab 1, Schedule 5 response b). Please refer to the EA Approval  
29 Date Scenario Analysis in Exhibit I, Tab 1, Schedule 7 for cost and schedule implications of  
30 various delays.

**NextBridge Interrogatory # 58**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application EXHIBIT C, TAB 2, SCHEDULE 1, Pages 1-5.

**Interrogatory:**

- a) Confirm that HONI is meeting the OEB's "Minimum Technical Requirements for the Reference Option of the E-W Tie Line" dated November 9, 2011. If not confirmed, explain your answer in detail.
- b) Provide a detailed plan on how HONI will meet the OEB's lightning outage requirements listed in the "Minimum Technical Requirements for the Reference Option of the E-W Tie Line" dated November 9, 2011.
- c) Confirm whether the existing HONI EWT has been de-rated for lightning storms due to difficult grounding in the Canadian Shield. If confirmed, explain your answer in detail and provide a copy of any applicable criteria.
- d) Provide HONI's lightning outage data for the existing EWT from 2012 to 2018.
- e) Explain in detail whether HONI met the OEB's minimum technical requirements for lightning outages from the years 2002 to 2011 for the existing EWT.
- f) Explain in detail how HONI plans to meet the OEB's minimum technical requirements for lightning outages on the Lake Superior Link project, including for its four circuit transmission towers. Identify the costs for compliance and whether the costs are captured in its cost estimates. If yes, identify wherein the cost estimates it is captured. If no, explain why these costs have not been included and whether HONI now plans to include them.
- g) Explain in detail how HONI will meet the OEB's galloping requirements listed in the "Minimum Technical Requirements for the Reference Option of the E-W Tie Line" dated November 9, 2011.
- h) Explain in detail whether HONI will meet the 20 ohm maximum tower ground resistance listed in the "Minimum Technical Requirements for the Reference Option of the E-W Tie Line" dated November 9, 2011. If yes, provide all grounding designs, drawings, calculations

and assumptions used to meet the 20 ohm maximum tower ground resistance. If no, describe in detail how HONI is ensuring that the Lake Superior Link line is properly grounded and provide all grounding designs, drawings, calculations and assumptions used.

- i) Confirm that HONI considered a buffer around waterbodies. If confirmed, provide the buffer used and also explain what is the HONI criteria for spotting structures, including guy wires and anchors, within the waterbody buffer. If not confirmed, explain your answer in detail.
- j) Provide design criteria, load trees, and finite element models of the “optimized towers” for all the towers being proposed on the Lake Superior Link project.
- k) Will HONI use low loss fiber on the Lake Superior Link project? If yes, identify the cost and whether the cost is included in the Table 3 of the Application construction cost estimate. If no, confirm that inclusion of the cost will increase the Table 3 construction cost estimate.

**Response:**

a) Confirmed.

b) All the structures have been designed to meet the OEB requirement of 15° shielding angle, please see structure layout drawings provided at Exhibit I, Tab 2, Schedule 24, Attachment 1.

c) The design criteria for lightning performance of the exiting EWT transmission circuits (W21M, W22M, M23L and M24L) are the same as the OEB’s specified minimum design criteria for the new EWT circuits, namely:

Long term average number of circuit outages per 100 circuit miles per year < 3.0

Long term average number of multi circuit outages per 100 circuit miles per year < 1.0

The average annual frequency of lightning outages per 100 circuit miles of the existing EWT transmission circuits, are:

Mid-2002 to Mid-2012:

W21M and/or W22M (single and double outages):	0.86
W21M and W22M (double outages):	0.10
M23L and/or M24L (single and double outages):	1.72
M23L and M24L (double outages):	0.84

Mid-2012 to Mid-2018:

W21M and/or W22M (single and double outages):	1.04
W21M and W22M (double outages):	0.80
M23L and/or M24L (single and double outages):	0.53
M23L and M24L (double outages):	0.23

The average annual frequency of lightning outages of the existing EWT in the past 16 years has been better than its design criteria

d) Please refer to c) above.

e) Please refer to c) above.

f) All the structures have been designed to meet the OEB requirement of 15° shielding angle and the tower ground resistance will be kept at 20 ohm or below as per OEB requirements.

g) All the structures have been designed to meet the OEB requirements galloping requirements:

Load Conditions	Conductor/Overhead Ground Wire	Clearance (m)
Galloping U (12.7 mm ice, 130 Pa, 0 oC)	Phase to phase	1.02
	Phase to ground	0.60

This clearances have been checked using PLS-CADD models and Autocad 3D.

h) Soil resistivity study will be performed to optimize the grounding design after contract award as it required a permit. At the moment, Hydro One are taking into consideration the use of ground rods, ground rods coupled and/or in parallel or Counterpoise wires.

i) A buffer of 30 meters has been kept around water bodies for tower spotting and guy anchors. The Tower B has been designed for long spans to accommodate this requirement.

j) Please refer to Exhibit I, Tab 2, Schedule 24, Attachment 1.

k) Yes, low loss fiber will be installed on the LSL. The estimated cost of the fiber, \$1,658/km, is included in Table 3 of the Application construction cost estimate provided at Exhibit B, Tab 7, Schedule 1. The cost remains included in Hydro One's updated cost estimate provided at Exhibit I, Tab 1, Schedule 11.

**NextBridge Interrogatory # 59**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application EXHIBIT C, TAB 1, SCHEDULE 1, Page 7, lines 4-6 and EXHIBIT E, TAB 1, SCHEDULE 1, page 1, lines 9-12

**Interrogatory:**

Preamble: “The widening required for the existing Hydro One ROW to accommodate the new transmission line is at least 40% in total, narrower than that required by NextBridge, yielding a substantially smaller footprint and ultimately less maintenance.”

“The proposed Line corridor (the “Corridor”) will have a right-of-way (ROW) width of approximately 37 metres where Hydro One parallels and overlaps is existing...transmission corridors...”

- a) Please confirm that HONI intends to parallel and overlap the existing EWT line ROW for the majority of the route;
- b) Please confirm that when NextBridge raised the concept of overlapping ROW with HONI in the designation phase, HONI stated that there was no “extra” right-of-way, and that NextBridge would be required to have a full ROW width.
- c) Confirm that if NextBridge’s Leave to Construct Application is approved, HONI will provide NextBridge the ability to overlap the existing EWT Line ROW. If not confirmed, explain your answer in detail.

**Response:**

- a) The LSL ROW will parallel and marginally overlap by 10 feet the existing EWT ROW, with the exception of the Loon Lake/Dorion bypass and Pukaskwa National Park.
- b) The whole width of the existing EWT ROW (about 150’) is needed for the existing line if NextBridge or another proponent builds a new transmission line adjacent to the EWT ROW. The 10 foot overlap of the EWT ROW by the LSL ROW is acceptable as Hydro One would have control of both transmission lines and their combined ROW (about 270’). This allows Hydro One to continue its maintenance and restoration practices in the long-term without restriction and maintain flexibility to respond to emergent needs. As an example, in the unlikely event of a tower failure (either an existing EWT tower or a new LSL tower), Hydro

- 1        One will be able to install temporary bypass circuits at the two edges of the combined ROW
- 2        to allow safe and timely replacement of the failed tower.
- 3
- 4        c) Hydro One will not provide NextBridge the ability to overlap the existing EWT Line ROW.
- 5        The rationale is set out in part b) above.

**NextBridge Interrogatory # 60**

**Reference:**

EB-2017-0364 - February 15, 2018 HONI Lake Superior Link Application EXHIBIT E, TAB 1, SCHEDULE 1, pages 6-7 and Attachment 1:

**Interrogatory:**

Preamble: "Hydro One is in the process of contracting an external appraisal service provider to complete independent appraisal reports which will be completed through the spring and summer of 2018."

- a) Will the appraisal reports and any injurious affection determinations consider the existing EWT corridor?
- b) In the absence of these reports, how has HONI accurately estimated the cost of acquiring new land rights required for the line?
- c) HONI declares that its Land Acquisition Compensation Principles will not be applied to MNRF and/or interest holders, but rather that HONI will follow MNRF's policy and process in these matters. Please explain in more detail what this means.
- d) How has HONI considered compensation requirements for affected Crown interest holders in its estimation of real estate costs to acquire the required land rights for the line?
- e) Are benefits (for example, such as the potential for a severance) used to offset any part of the compensation payment made to property owners?
- f) In relation to property buyout, please describe
  - i. what the 15% disturbance allowance covers, and
  - ii. in assessing relocation costs, does HONI assume that the relocation of buildings will occur on the property or on another purchased property? Has HONI identified any such properties and if so, has this cost been included in Tables 2 and 3? Please indicate where and in what amounts

**Response:**

- a) No the appraisal report and injurious affection determinations will not consider the existing EWT corridor, the properties have been considered greenfield;
- b) Hydro One estimated the cost of acquiring new land rights with the use of a completed land valuation study of the entire corridor, and preliminary results of the ongoing injurious affection study;
- c) Hydro One has a Memorandum of Understanding with the MNRF that defines the working arrangement of its occupation of Crown Lands, including a master Land Use Permit which prescribes the fees payable. Hydro One acknowledges previous interest holders, which in consultation with the MNRF will be considered in its planning and execution of the LSL project. Such considerations may include but are not limited to adjustments to the routing, improvements and/or compensations as necessary.
- d) Hydro One had limited understanding of these interest holders and did not specifically budget for these interests. In preparing the estimate Hydro One was aware of interests such as trapping and recreational camps and did not envisage significant costs. However, Hydro One anticipated such interest to materialize and carried a modest budget item for these situations, which in part recognize these interest holders held in some cases non-exclusive rights. These interest holders were identified in Hydro One's risk registry has a moderate consequence in determining its project contingency.
- e) No, the value of a severance is not considered in the compensation payment. Under Hydro One's LACP, IPP are given the choice of easement or fee simple taking, and in exercising a fee simple choice, create for their sole benefit, the resulting value of a severance.
- f)
  - i. Under Hydro One's LACP, the 15% disturbance buy out payment is a simplified method of compensating IPP owners for the expected inconvenience, effort and hardship to relocate from its existing to an alternate occupation.
  - ii. Hydro One has confirmed a minimum of one property that will be subject to a buyout and has budgeted \$500K to account for this and other potential buyouts and/or relocations. In accordance with Hydro One's LACP, the option of relocating the impacted building(s) will be considered. These costs have been included in Table 3, Real Estate.



**NextBridge Interrogatory # 61**

**Reference:**

EB-2017-0364 – Hearing of Motion – Technical Conference HONI Undertaking Response to JT2.3 (Environmental Assessment).

**Interrogatory:**

- a) Please update the individual environmental assessment schedule set forth in Undertaking JT2.3. Explain in detail whether the update impacts in any way the ability to bring the Lake Superior Link into service by December 2021.

**Response:**

- a) Please refer to Exhibit I, Tab 1, Schedule 14, Attachment 1.

**NextBridge Interrogatory # 62**

**Reference:**

EB-2017-0364 – Hearing of Motion – Technical Conference HONI Undertaking Response to JT2.5 (Parks Canada).

**Interrogatory:**

Please update the schedule set forth in Undertaking JT2.5. Explain in detail whether the update impacts in any way the ability to bring the Lake Superior Link into service by December 2021.

**Response:**

Please refer to Exhibit I, Tab 1, Schedule 14, Attachment 1. The updated schedule in Exhibit I, Tab 1, Schedule 14, Attachment 1 maintains the ability to bring the LSL into service by December 2021.

**NextBridge Interrogatory # 63**

**Reference:**

EB-2017-0364 – Hearing of Motion – Technical Conference HONI Undertaking Response JT2.8  
(Parks Canada).

**Interrogatory:**

Please update the response set forth in Undertaking JT2.8.

**Response:**

Please refer to Exhibit I, Tab 1, Schedule 14, Attachment 4.

**NextBridge Interrogatory # 64**

**Reference:**

EB-2017-0364 – Hearing of Motion – Technical Conference HONI Undertaking Response JT2.30.

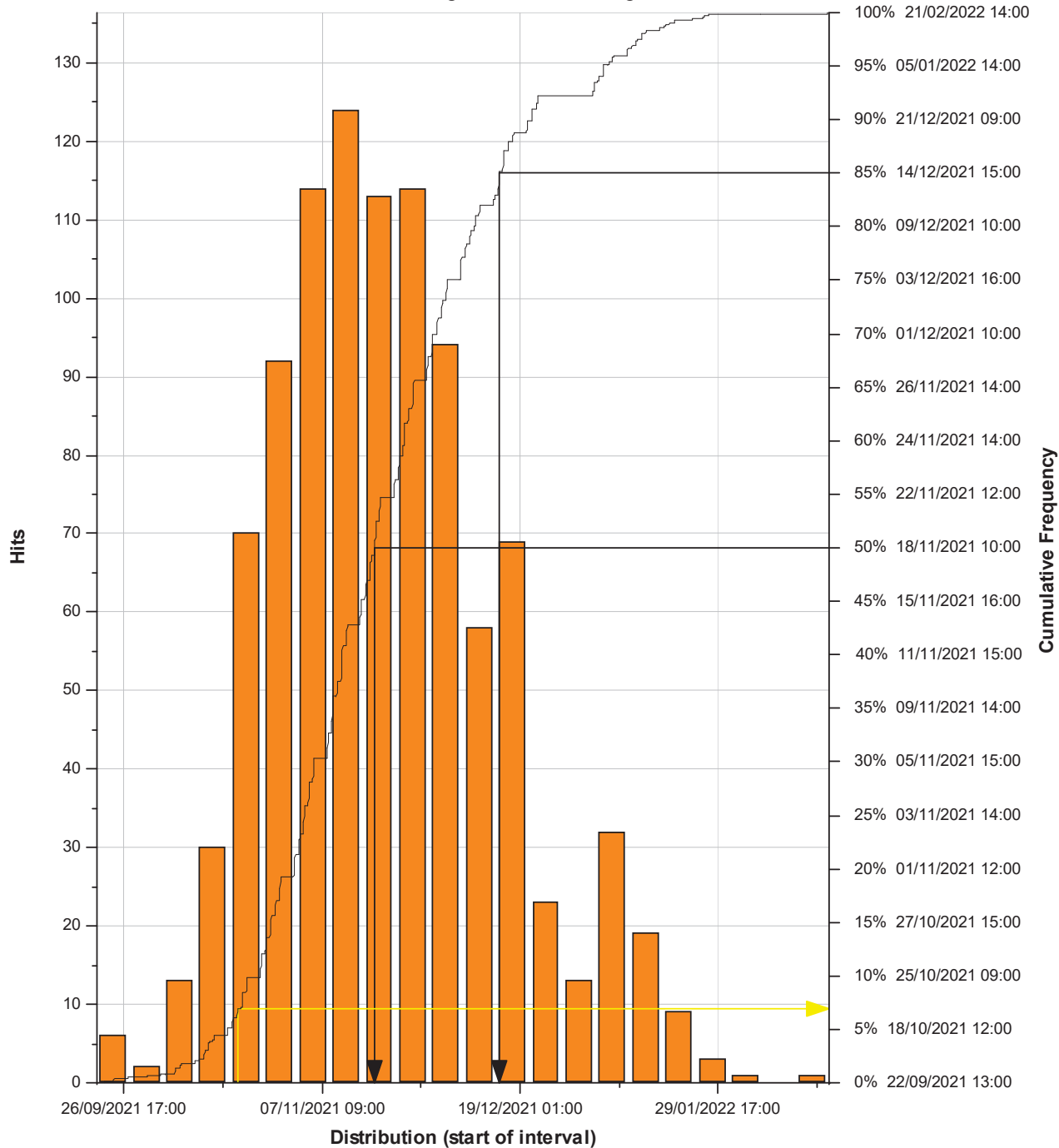
**Interrogatory:**

Please update and resubmit the probabilistic Monte Carlo analysis used to confirm the LSL schedule for both the preferred route through Pukaskwa National Park and alternative route around Pukaskwa National Park.

**Response:**

Please refer to Attachment 1. A schedule risk analysis has not been performed for the alternative route around Pukaskwa National Park.

A1470 - Testing & Commissioning : Finish Date

[illegible]

**NextBridge Interrogatory # 65**

**Reference:**

EB-2017-0365 - HONI Lake Superior Link Application - March 29, 2018 Additional Evidence, System Impact Assessment, Page 2; EB-2017-0364 Hearing of Motion – Technical Conference – HONI Undertaking Response to JT 2.13. Provide the required outage plan.

**Interrogatory:**

- a) If an outage plan has not yet been developed, provide a detailed explanation of what will be included in the outage plan, including how HONI will respond and in what time frame to a tower collapse and tower damage on the Lake Superior Link project. Include in this response:
- i. HONI's estimated days it would take to fully restore one tower collapse in Pukaskwa National Park, including how the new tower would be transported, assembled, and erected, as well as how the collapsed tower would be removed and
  - ii. an explanation of response time in which the tower collapse is a first priority to be restored versus a lower priority to be restored due to other transmission forced outage issues.
  - iii. HONI's estimated days it would take to fully restore one tower collapse on the towers outside Pukaskwa National Park, including how the new tower would be transported, assembled, and erected, as well as how the collapsed tower would be removed;
  - iv. response time in which the tower collapse is a first priority to be restored versus a lower priority to be restored due to other transmission forced outage issues
  - v. an explanation on the number of spare transmission towers, including four circuit towers, and where they will be housed? Identify the cost of the spare transmission towers.
- b) Explain in detail HONI's prioritization methodology or process for determining whether and how it will respond to a tower collapse and tower damage on the Lake Superior Link project versus other transmission forced outage issues that occur at the same time. Reference: EB-2017-0364 – Hearing of Motion – Technical Conference – Undertaking Response of HONI, found at Exhibit JT 2.13. “. . . associated planned and unplanned work is prioritized accordingly. Had the system conditions at the time been different, Hydro One could have responded accordingly and reduced the restoration time.”
- c) Confirm that the costs of the spare towers are included in the construction cost estimate set forth in Table 3 of the Application. If confirmed, identify where in the Table cost estimates

the spare towers are included. If not confirmed, explain whether HONI will seek recovery of these spare tower costs and how it will seek recovery of them cost.

d) Explain in detail how the anti-cascading criteria of installing an anti-cascade tower every 10km has been considered in the restoration plans?

e) Explain in detail whether HONI has performed a residual static load analysis or an acceptable damage limit analysis to confirm that the 10km spacing is appropriate for the Lake Superior Link. If yes, provide the analysis. If no, explain in detail how HONI will determine that in the event of a failure that 10km of line would not also collapse.

f) Provide a map showing the placement of anti-cascading structures in as much detail as possible.

**Response:**

a) The question is unrelated to the “outage plan” during the construction. Instead, bullets i to v seem to be related to the restoration plan in the case of tower failures. Hydro One is developing the restoration plan and,

i. Depending on the conditions and logistics at the time, it is expected that one failed tower inside the Pukaskwa National Park would be fully restored within 8 days, by replacing it with a spare tower from Thunder Bay and using similar installation method and tools as those used in the construction in 2020. If the conditions are not favourable to allow timely replacement of the failed tower, at first two temporary bypass circuits are expected to be installed within 6 days to allow more time for the restoration of the tower and connection of all four circuits.

ii. Hydro One will assess the system conditions and its capacity to meet the customer demand. The restoration becomes high priority if there is capacity shortfall. It should be noted that except during the draught season, there will be sufficient hydroelectric generation in the Northwest, as well as potential for import from Manitoba and Minnesota, to avoid customer interruptions during most of the restoration time. Additionally, the risk of customer interruptions and restoration time are similar if a storm inside the park causes failure of a quad-circuit tower or a similar storm outside the park causes failure of both towers of the new and existing East-West Tie lines.

Hydro One will follow its “Erecting an Emergency Restoration Structure” document in response to the event. The decision on whether to construct a temporary bypass line

- 1 using emergency repair structures or to make permanent repairs immediately will be  
2 made by Hydro One's Transmission Lines in consultation with the Grid Operations.  
3
- 4 iii. Restoration time of a failed tower outside the park will be similar to the restoration of  
5 a tower inside the park. If only one double-circuit tower fails (the second double-  
6 circuit transmission line remains in-service), depending on the system conditions at  
7 expected time for the replacement of the failed tower, it may not be necessary to  
8 install temporary bypass circuits. Otherwise, temporary bypass is expected to be  
9 installed within 6 days to allow more time for the restoration of the tower.
- 10 iv. See response to ii above.
- 11 v. Hydro One is currently considering keeping two four-circuit spare towers in Thunder  
12 Bay. Since the four-circuit section of the LSL inside the park is mostly sheltered and  
13 the spans are long, it is unlikely that more than two towers would collapse in one  
14 incident (except for a storm more severe than what is expected once in hundred  
15 years). The cost of two spare towers is estimated at about \$150,000.  
16
- 17 b) Hydro One, in consultation with the IESO, will assess the system conditions and its capacity  
18 to meet the customer demand. The restoration of the LSL becomes high priority if its failure  
19 causes capacity shortfall in the northwest and the situation cannot be managed by available  
20 operational measures.  
21
- 22 c) The cost of spare equipment for the LSL was not included in Table 3 of the Application. In  
23 addition to the four-circuit spare towers, Hydro One will be carrying the poles for the  
24 temporary bypass circuits, spare conductors, insulators, skywires and fibers, and other  
25 hardware, which are applicable to restoration of any section of the LSL as well as the  
26 existing 230 kV transmission circuits. The cost of these and other spares will be included in  
27 the overall Hydro One plans for the spares.  
28
- 29 d) Hydro One designs its transmission lines to limit cascading by providing suspension towers  
30 with longitudinal resistance. The 1998 ice storm shows that the Hydro One design criteria  
31 prevented cascading failures.
- 32 • In any event, as a result of these and other events the Canadian Standards have  
33 been updated which are reflected in the most recent standards which are being  
34 adhered to in the Hydro One designs. The tower design prevents the cascading  
35 effects using the following loading conditions:
  - 36 • Broken Wires at 75% unloaded tension (two ground wires or two conductors, one  
37 on each side of structure in opposite directions).



- 1                   • Non-uniform ice loading conditions as per CSA 60826 – Wawa and Thunder Bay
- 2                    using 100% of ice on one side and 70% of ice on the other.
- 3                   • For the above, the 10km anti-cascading criteria is an extra contingency that
- 4                    improves the installation time and ensures the line reliability.
- 5
- 6 e) Structure analysis have been performed and in the event of one tower collapses, the results
- 7       shown that only a couple of structures ahead and back will be affected.
- 8
- 9 f) Please refer to the overview map in Attachment 1 of Exhibit I, Tab 2, Schedule 24.

**NextBridge Interrogatory # 66**

**Reference:**

EB-2017- HONI Lake Superior Link Application - March 29, 2018 Additional Evidence, System Impact Assessment Page 2:

**Interrogatory:**

Preamble: "Extreme contingencies that result in the loss of the four 230 kV circuits of the East-West Tie such as failure of a quadruple circuit tower can result in separation between the Northwest transmission zone and the rest of the IESO-controlled grid. Following such events, timely system restoration is critical to avoid the risk of supply shortages to the customers in the zone".

For each HONI transmission tower failure or collapse over the past 10 years provide the following data and information:

- a) The voltage, number of towers involved, number of circuits on the towers and location indicated by urban or rural;
- b) The days of the outage of the transmission circuit (from substation to substation);
- c) Whether there was a loss of load; if yes, the duration of the loss of load;
- d) Was a root cause analysis conducted? If no, why not. If yes, provide a copy of the root cause analysis.
- e) Were any remedial measures or procedures implemented? If not, why not. If yes, provide a copy.

**Response:**

In the past 10 years, tower failures impacting the connection between the Northwest transmission zone and the rest of the IESO-controlled grid, include:

1. M23L-M24L, March 25, 2009, Ice Storm
  - a) 230 kV, ten towers failed, two circuits (M23L-M24L), close to Terrace Bay
  - b) 16 days

- c) No loss of load for the initial fault. However, on the reclosure attempt following the initial fault, a circuit breaker failed, resulting in the loss of radial circuit M2W and its 38.5 MW load by configuration. This radial load was restored within 3.5 hours according to the Operation logs. It must be noted that this load loss is not directly attributed to the EWT tower failure; it was a result of a circuit breaker malfunction.
- d) There was no formal root cause investigation as the ice accretion was significantly higher than the design loading. It was estimated that the failed section of the transmission line was subjected to a combination of 1.5 inches of ice and 60 mph winds as compared to the design loading of 1 inch of ice with no wind and 0.5 inch of ice with 50 mph wind.
- e) Based on the above observation, failed towers were replaced with stronger towers to withstand a higher level of ice and wind load for the area than what was required by the standard for Northern Ontario.

2. W21M-W22M, September 12, 2011

- a) 230 kV, one (1) tower failed, 2 circuits (W21M-W22M), about 16 km west of Wawa (about 36 km west of Wawa TS)
- b) 9 days
- c) No loss of load.
- d) There was no formal root cause investigation since the indications were that the tower collapse was caused by a microburst.
- e) No remedial action was recommended as the towers meet the design security criteria.

**NextBridge Interrogatory # 67**

**Reference:**

EB-2017-0364 – March 29, 2018 - HONI LSL Motion Additional Evidence Attachment 5, page 10 states that there will be “minimal ground breaking activities to accommodate the route.”

**Interrogatory:**

Provide a detailed plan on how ground breaking will be minimized, including equipment showing how the foundation upgrades and guy anchors will be installed including the mixing and delivery of concrete, rebar, and grout and how the forming will take place.

**Response:**

Guy anchor and mechanical rock anchor installation equipment will be able to move along the existing right of way with no additional preparation. This equipment will be composed of a tracked drill rig and a specialised off-road trailer carrying the grout mixing plant. Each one of the four guy anchors will be installed inside a 100 mm drill shaft. Once the anchor is installed and centered inside the hole, grout will be pumped from the bottom of the hole until it reaches the top. All materials required for the mixing of grout will be brought in with the specialised off road equipment or flown in by helicopter.

Based on the preliminary assessment it has been determined that the majority of foundations within the park will be surface rock foundations. The mechanical anchors for those foundations can be drilled and installed using the same equipment required for the guy anchor installation. The tower foundation for rock is composed out of steel and installed over the mechanical rock anchors. The foundation will be bearing on a thin concrete levelling pad installed over the rock. For this activity minimal formwork is required, and in the majority of cases minimal or no excavation is required since the rock is located at or near the surface.

The use of a single mast guyed tower permits the installation of a single foundation that can be installed at or near the surface for the majority of the locations, additionally the guy anchors will be installed using a drill rig and do not require any excavation. This construction methodology together with the proposed engineering design allow for minimal ground breaking activities throughout the PNP.

**NextBridge Interrogatory # 68**

**Reference:**

EB-2017-0364 – March 29, 2018 - HONI LSL Motion Additional Evidence Attachment 5, page 5 states that “the existing towers are approaching 60 years of age and components are starting to need extensive maintenance and potential replacement.”

**Interrogatory:**

- a) Confirm that this statement applies to the foundations. If not confirmed, explain your answer in detail. If confirmed, explain why HONI is not proposing to replace all or some of the foundations.
- b) Explain in detail HONI’s plans to conduct extensive maintenance and potential replacement on the existing East West Tie Line in and outside the Pukaskwa National Park.

**Response:**

- a) Please refer to Exhibit I, Tab 1, Schedule 2.
- b) The existing conductor through the Park will be reused. While component replacements, specifically insulators, are planned by Hydro One in the next 10 years, Hydro One does not expect to replace the conductors. In addition, condition assessments are also planned at the same time and based on the current age, the conductors should remain in use for another 30-40 years. As a result, the existing conductor will not be replaced as the outage scope is focused on adding the new required infrastructure for the Lake Superior Link Project. The alternate quad circuit towers are such that they can be erected before the removal of the existing dual circuit towers. In doing so the existing EWT conductors can be installed in temporary wood structures or protected on the ground as deemed necessary in order to provide enough working space for the structure installation. The conductors will be transferred to the quad circuit towers without them touching any obstacle or stressing the conductors. The cost of transferring and protecting the conductor during the transfer is included in the construction costs of Table 3.

**NextBridge Interrogatory # 69**

**Reference:**

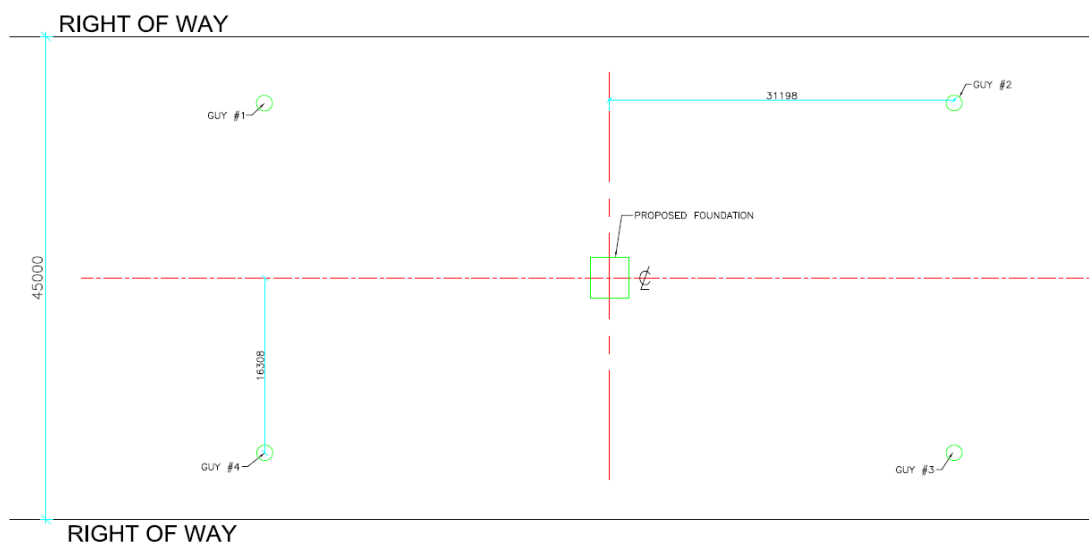
EB-2017-0364 - March 29, 2018 - HONI LSL Motion Additional Evidence Attachment 5, page 8.

**Interrogatory:**

Confirm that the sketch of the tower shows the width of the guy anchors as being 40m and the width of the right of way being 150' or ~45m. Further confirm that such widths only leave a horizontal 2.5m to fit a guy anchor in the project right of way on each side of the tower. If confirmed, explain in detail and provide any supporting documentation how the guy angles and foundation design corresponds with these width limitations. If not confirmed, explain your answer in detail.

**Response:**

As per new four circuit tower defined in Exhibit I, Tab 2, Schedule 24, the width of the guy anchors for the highest mast guyed tower is 32.6 m while the width of the ROW is 45 m. The width of the guy wires will decrease for lower tower heights. Under this scenario a horizontal distance of minimum 6.2 m is left to fit a guy anchor in the project right of way on each side of the mast guyed tower. This distance is sufficient to account for construction tolerances and terrain limitations. For further clarification please refer to the sketch provided below.



**NextBridge Interrogatory # 70**

**Reference:**

EB-2017-0364 – March 29, 2018 - HONI LSL Motion Additional Evidence Attachment 5, page 10 states “no formal impact studies have been completed for the proposed use of the existing towers within the Park.”

**Interrogatory:**

Have any impact studies been completed since March 2018? If yes, provide a copy. If no, when are the impact studies expected to be completed?

**Response:**

The Detail Impact Assessment for Parks Canada is currently in progress. Please refer to Exhibit I, Tab 1, Schedule 14, Attachment 1.

**NextBridge Interrogatory # 71**

**Reference:**

EB-2017-0364 – Hearing of Motion – Technical Conference HONI Undertaking JT2.22.

**Interrogatory:**

Provide a copy of the referred to Real Estate Plan in the EPC contract. If the plan has not yet been detailed, explain why and when it will be developed.

**Response:**

The full Real Estate Plan for the purposes of the EPC contract has not been detailed. A draft plan has been developed and included in the maps of the S92 application. Based on the proposed locations of the towers, yards, camps and temporary access roads, field verifications, surveys and access agreements are being developed and verified. Once these are complete the final plan will be detailed incorporating specific stakeholder requirements.



**NextBridge Interrogatory # 72**

**Reference:**

EB-2017-0364 – Hearing of Motion – Technical Conference HONI Undertaking response to JT2.22.

**Interrogatory:**

Provide a copy of the referred to Contractor Execution Plan in the EPC contract. If the plan has not yet been detailed, explain why and when it will be developed.

**Response:**

This plan will be provided post award of the contract execution.

**NextBridge Interrogatory # 73**

**Reference:**

EB-2017-0364 – February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 7, SCHEDULE 1, page 8, Table 5.

**Interrogatory:**

Please confirm if an alternatives assessment was completed on routes and route refinements by HONI as part of the Niagara Reinforcement Project environmental assessment process.

**Response:**

Out of scope.

**NextBridge Interrogatory # 74**

**Reference:**

EB-2017-0364 - March 29, 2018 - HONI LSL Motion Additional Evidence page 2.

**Interrogatory:**

Please confirm that HONI is not currently applying for approval to construct a route around Pukaskwa National Park.

**Response:**

Please refer to Exhibit I, Tab 5, Schedule 18.

**NextBridge Interrogatory # 75**

**Reference:**

EB-2017-0364 – Hearing of Motion – Technical Conference HONI Undertaking response to JT2.21, page 2.

**Interrogatory:**

Preamble: HONI explains that its budget for First Nation and Métis Consultation (FNM) is “Lower due to the substantial amount of consultation completed to date on the existing route”.

- a) Please quantify the savings that HONI is realizing by relying on NextBridge EWT Line Project FNM Consultation work in relation to LSL project FNM consultation.
- b) Please identify all other LSL Project cost categories that are lower due to HONI’s use of work completed by NextBridge in relation to the EWT Line Project, and calculate the corresponding savings in relation to each category (other consultation, environmental etc.).
- c) Please identify the impact to the Lake Superior Link’s projected in-service date if HONI is not able to use or leverage the identified activity or work product.

**Response:**

- a) The scope of the LSL project was prepared knowing that significant consultation had already been conducted regarding the NextBridge EWT project. Indigenous Communities, and other interested parties, are already familiar with the project. Initial costing included consultation regarding the route through the Park and the approaches. Current costing has been prepared on the basis that full consultation is required. Hydro One is consulting with each of the 18 Indigenous Communities and the Métis Nations of Ontario as identified by the Provincial Crown via the Ministry of Energy regardless of previous work completed.
- b) EA costs will be lower due to Hydro One’s use of publicly available information from the NextBridge Individual EA. However, order of magnitude estimates are included in Exhibit I, Tab 1, Schedule 14.
- c) Please refer to Exhibit I, Tab 1, Schedule 14.

**NextBridge Interrogatory # 76**

**Reference:**

EB-2017-0364 – February 15, 2018 HONI Lake Superior Link Application, EXHIBIT B, TAB 1, SCHEDULE 1, page 12, lines 5-8, EXHIBIT B, TAB 7, SCHEDULE 1, page 3-5, Tables 2 and 3 and EXHIBIT H, TAB 1, SCHEDULE 2, page 1, lines 9-12.

**Interrogatory:**

- a) Please summarize public consultation activity completed to date in relation to the LSL project, including a breakdown of the \$240,000 in development costs and any other “other consultation” costs incurred to date.
- b) Please describe how stakeholders were identified for consultation purposes.
- c) Please describe in detail HONI’s proposed process and public consultation plans through to in-service, including the “full slate” of communication and consultation methods to be used and in relation to what project areas. As part of this description, please include specifics related to open house activity, including the number of locations, staff participants, logistics etc.
- d) Please provide a copy of HONI’s detailed consultation plan.
- e) Please explain how HONI considers that the work identified can be completed within the budgeted amount of \$160,000.

**Response:**

- a) Hydro One has undertaken a variety of consultation opportunities for the Lake Superior Link Project to date. Since filing the Section 92 Leave to Construct Application, Hydro One has hosted 19 Community Information Centres, hosted a municipal webinar, attended the Rural Ontario Municipal Association AGM, and presented to the Thunder Bay District Municipal League. Hydro One has also given deputations to Thunder Bay Council, Wawa Municipal Council, and Dorion Municipal Council. Meetings have also been held with the Economic Development Offices for Thunder Bay, Wawa, Schreiber, and Nipigon.

A life to date summary of incurred development costs is provided at Exhibit I, Tab 1, Schedule 11. For completeness, Hydro One has provided the requested breakdown in Table 1 below.

**Table 1 – Life to Date Incurred Consultation Costs**

Travel & Logistics	8,072
Advertising and Communication	55,411
Consultant Fees	159,335

- b) Stakeholders were identified by conducting a jurisdictional scan of the project area. The groups that were identified were the following:
- Private and public property owners adjacent to the proposed corridor
  - Local elected officials including the mayors and councillors representing the project area, local MPPs, MPs, and municipal associations
  - Economic development staff
  - Parks Canada
  - Provincial government ministries
  - Local Chambers of Commerce, business associations, environmental and recreational interest groups, campers associations
  - Local media
  - Any individuals who requested to be part of the LSL project contact list
- c) Please refer to part a) for the variety of consultation opportunities for the Lake Superior Link Project (LSL) that will be sustained and ongoing through to the in-servicing of the project. Methods used to broadcast information about the Hydro One LSL Project will continue to include tactics such as newspaper print ads and radio. Any interested individuals can continue to use Hydro One's dedicated website for the Project, as well as an email and a toll free number that any interested individuals can use to contact for further information.
- [www.HydroOne.com/LakeSuperiorLink](http://www.HydroOne.com/LakeSuperiorLink)
  - [Community.Relations@HydroOne.com](mailto:Community.Relations@HydroOne.com)
  - 1-877-345-6799

**March 2018 CIC Roadshow Staff Participants**

Denise Jamal	Steph Hodsoll
Neil Anderson	Aaron Fair
Dan Levitan	Kevin Bros
Vlad Curguz	Hamid Hamadani
Tony Seravalle	Elise Croll
Jamie Waller	Marylena Stea
Patty Staite	Alain Delisle, SNC
Bruce Hopper	Tiziana Baccega-Rosa
Andrew Spencer	Tausha Esquega

**June 2018 CIC Roadshow Staffing**

Denise Jamal	Stephanie Hodsoll
Steven Mantifel	Melissa Fast
Adam Haulena	Patty Staite
Kevin Bros	Aaron Fair
SNC - Alain Delisle	Vlad Curguz
SNC - Luka Medved	Vicky Woodbeck
	SNC – James Parker
	SNC - Craig Wallace

**August 2018 Dorion Roadshow Staffing**

Aaron Fair
Steven Mantifel
Bruce Hopper
Patty Staite
SNC - Alain Delisle
SNC – Craig Wallace
Devi Shantilal

d) Please refer to Exhibit I, Tab 1, Schedule 16, Attachments.

e) Hydro One has revised the consultation estimate. Please refer to Exhibit I, Tab 1, Schedule 11.