EB-2017-0182
EB-2017-0194
EB-2017-0364

Upper Canada Transmission Inc. (on behalf of NextBridge Infrastructure)
Application for leave to construct an electricity
transmission line between Thunder Bay and Wawa, Ontario
- and -
Hydro One Networks Inc.
Application to upgrade existing transmission station facilities
in the Districts of Thunder Bay and Algoma, Ontario
-and-
Hydro One Networks Inc.
Application for leave to construct an electricity transmission line
between Thunder Bay and Wawa, Ontario

VECC COMPENDIUM
PANEL 1 OCTOBER 9, 2018

TAB 1

But the issue is, this is our only opportunity to be able to respond to this evidence, and that's why we are taking a moment to do it.

MR. CASS: Madam Chair, the point is quite simply this could have been provided prior to today so that it would be taken into account in preparation for cross-examination. That's the simple point.

MS. LONG: Well, I think Mr. Warren can continue, because I would like to know what the position is on this. You will have time at the break to analyze what the witness panel has said, and if you feel you are disadvantaged then you can let me know. But you will have 20 minutes to consider this testimony, and I suspect you may want to cross-examine on it during your cross, so let me know if that is not sufficient.

MR. SPENCER: I will continue, thank you.

So stepping through the key items in the table that's displayed on the screen, number two, NextBridge development spend to the end of August is $35.2 million. While true, and NextBridge has spent more than $75 million on this project to date, $35 million beyond what they have labelled as development costs, this is in no way a function of Hydro One's application and in no way affects our minimum or maximum price.

Thirdly, the cost to the electricity system if not in-service by 2020 with a range of 21- to $145 million. The assertion that our project cannot be in-service until 2024 is entirely incorrect as presented in evidence to be heard

TAB 2

Both stages require installations and revisions of protection and control facilities. They also require revisions of the Northwest Remedial Action Scheme, which involves adding new contingencies and revising the existing contingencies detected by the scheme, according to the added and revised circuit connections.

Alternative 2 – Multi-Circuit Alternative: In this alternative, which also has two stages, the new EWT lines are connected individually to the stations from the beginning. In Stage 1 circuit breakers and other facilities are installed to connect the new EWT lines and revise the connection of some of the existing lines (i.e. reconfigure the stations). Only the installation of the SVC and upgrade of the 115 kV lines are deferred to Stage 2. These two stages are described in more detail in the following.

Stage 1, which would be in-service by November 2020 and provide 450 MW transfer capability, consists of:

- Connecting the new EWT lines to the three stations by installing the required 230 kV circuit breakers and other facilities,
- Reconnecting five of the existing lines at two stations by installing required 230 kV circuit breakers and other facilities,
- Installing 230 kV shunt reactors at Marathon TS and Lakehead TS,
- Installing a 230 kV capacitor bank at Lakehead TS, and
- Upgrading the bus work and terminal facilities at all three stations to support the eventual 650 MW transfer capability.

Stage 2, which provides 650 MW of transfer capability would be completed in the future when the additional capability is required, consists of:

- Installing the SVC and upgrading the 115 kV lines.

TAB 3

STAGE 1 PROJECT SCHEDULE

TASK	START	FINISH
Submit Section 92		May 2017
Projected Section 92 Approval	May 2017	March 2018
STATIONS		
Property Rights Acquisition (Wawa TS & Marathon TS)	February 2017	March 2018
Order Station Shunt Reactor for Marathon & Lakehead TS	August 2017	August 2018
Detailed Engineering	February 2017	May 2018
Tender and Award Other Major Station Equipment	May 2018	July 2018
Receive Major Station Equipment	August 2018	February 2019
Construction	May 2018	September 2020
Commissioning	May 2020	November 2020
In-Service		**November 2020**[1]

[1] The in-service date defined in this schedule relates to all undertakings in the EWT Station Project that are necessary for connecting the EWT Line Project. Some work will continue to be done on the three Hydro One stations into Q4 of 2021 to fully utilize the EWT lines and to achieve the 450 MW East-West transfer capability.

TAB 4

In a May 15, 2018 email (see below), MECP indicated that,

"Any Class Environmental Assessment work undertaken with respect to the NextBridge individual environmental assessment can be undertaken; however, any subsequent permits and approvals that are required for the project cannot be obtained until the undertaking has approval under the Environmental Assessment Act.

Because these two projects are connected, we cannot move forward with Class EA permits and approvals before the IEA decision is complete. We ask that Hydro One Inc. please refrain from submitting any permit and approval applications to MNRF and/or MOECC for the interim."

From: Majerovich, Mira (MOECC)
To: ONG Yu-San
Cc: AFONSO Rachel; Chauvin, Chantal (MNRF); McNaughton, Kimberly (MNRF)
Subject: RE: Proposed Marathon TS Expansion
Date: Tuesday, May 15, 2018 2:00:00 PM

*** Exercise caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Hi YuSan—

Thank you for your response to MOECCs comments from April 6, 2018 on the Marathon TS Expansion Class EA. We have no further questions.

In addition, Please note any Class Environmental Assessment work undertaken with respect to the NextBridge individual environmental assessment can be undertaken; however, any subsequent permits and approvals that are required for the project cannot be obtained until the undertaking has approval under the *Environmental Assessment Act*.

Because these two projects are connected, we cannot move forward with Class EA permits and approvals before the IEA decision is complete. We ask that Hydro One Inc. please refrain from submitting any permit and approval applications to MNRF and/or MOECC for the interim.

Please let me know if you have any questions.

Regards,

Mira

From: YuSan.Ong@HydroOne.com [mailto:YuSan.Ong@HydroOne.com]
Sent: May 10, 2018 11:15 AM
To: Majerovich, Mira (MOECC)
Cc: Rachel.Afonso@HydroOne.com; patricia.staite@HydroOne.com
Subject: RE: GRFN Reponse - Proposed Marathon TS Expansion

Hello Mira,

Please see our response to MOECC's comments. I apologize as I thought I had already sent this out to you earlier.

Let me know if you have any further questions or comments.

Thanks,
Yu San

Topics Discussed

During the July 26, 2018 meeting with MECP, MNRF and ENERGY, NextBridge and Hydro One presented the scopes and schedules of the East-West Tie Transmission Line and the Marathon Transformer Station Expansion, respectively (see presentation slides below).

Transformer Station Project Schedule

(updated May 31, 2018)

Deliverable	Timeline
Class EA Notice of Completion filed with MECP	July 04, 2018 - Delayed
Land purchased from MNRF (for new diameter)	July 13, 2018
Relocate Shack Lake trail	July 20, 2018 to September 27, 2018
Clear trees in new 'diameter'	August 06, 2018 to August 31, 2018
Site stripping of land (removal of 24" of dirt)	August 20, 2018 to October 19, 2018
Install concrete footings for structures	October 22, 2018 to August 2019
Install steel structures	May 06, 2019 to October 15, 2019
Install cables between structures and insulators	October 18, 2019 to January 17, 2020
Install 230 kV breakers and equipment	June 14, 2019 to May 22, 2020
Install new 230 kV control building	May 13, 2019 to December 15, 2019
Commission all equipment	June 15, 2020 to October 12, 2020
Connect new transmission lines to station diameter	October 12, 2020 to December 09, 2020
New diameter In-Service	December 11, 2020

After going through the presentation slides, the following topics were brought up:

1) Hydro One station expansion projects separated from NextBridge line project
   - The 2011 OEB designation process only pertained the transmission line, and since the stations are Hydro One assets, so Hydro One was responsible for obtaining the necessary permits and approvals of the station expansion projects
   - Before commencing the EA processes for the station expansion project, Hydro One and MOECC had a conference call on February 17, 2017 to discuss the EA approach for the two station expansions (see meeting notes below). MOECC had no issues or concerns with conducting two separate EA processes for the Marathon TS and the Wawa TS.
     - Lakehead TS: no EA trigger (expansion on Hydro One-owned land)
     - Marathon TS: Class EA Full Process, coordinated with MNRF (5 ha expansion on crown land)
     - Wawa TS: Class EA Screening Process (0.5 ha expansion on privately-owned land)

TAB 5

OEB Staff Interrogatory # 2

Reference:

EB-2017-0364 Evidence, Technical Conference on Nextbridge's Motion on Hydro One's Lake Superior Link Application, Transcript Pages 254-255.

MR. ZACHER: Fair enough. The second question I wanted to ask -- I'm not sure if this is for you, but I wanted to ask about the two week outage that Hydro One forecasts taking in August of 2020, and this is to replace the 87 towers in the park. And so the first is how did Hydro One forecast two weeks to get that work done?

MR. KARUNAKARAN: So it was done through consultation with us and SNC-Lavalin and their construction methodologies that we were going to use for the replacement of those towers.

MR. ZACHER: I'm going to betray my ignorance of construction, but 87 towers in two weeks, and you are also upgrading the foundations at the same time; is that right?

MR. KARUNAKARAN: So there is a lot of preparatory work that gets done prior to the actual outage being taken, right. The anchors and so forth for the guy wires and so on are all installed. The assembly works of the actual structures and so forth are done in off-site fly yards, and so hence I said there's a lot of preparatory work that gets done in advance, right.
Under the actual outage itself, the activities are really to drop the conductor, for lack of better terms, fill the old towers, remove them with the helicopter, install the new towers in location, prep up on the guys and wait them within the existing conductors.

MR. ZACHER: And I think Mr. Henderson had asked questions earlier, and indicated there is no road access. So this is all access by helicopter.

MR. KARUNAKARAN: That is correct.

MR. ZACHER: So is there any sort of reference points or historic examples that you can sort of point to doing this sort of work in the -- over the course of two weeks?

MR. KARUNAKARAN: We've engaged with a number of the actual field construction staff that we would be utilizing for this in determining the schedule, and they have direct experience of -- when we've done projects, say, in Alberta and the like where comparable construction rates have been utilized with respect to production rates.

Interrogatory:

a) Has Hydro One ever constructed 87 230 kV quad (or double circuit) towers of similar design within a span of two weeks in the province of Ontario? If yes, please provide the examples.

b) Will all the required construction work (removal of all existing towers and lines, reinforcement of existing foundations, replacement of existing foundations as required, and erection of new quad towers and stringing of the four transmission circuits and associated communication cables) be completed in the two-week window within the Pukaskwa National Park? Please provide Hydro One's construction and resourcing plans that outline the details of how this aggressive timeline will be met.

c) Has Hydro One taken into account potential weather-related delays for the two-week schedule considering it plans to use helicopters to install the new quad towers? What mitigation plans does Hydro One have to correct for weather-related delays to ensure the overall project remains on schedule?

d) Is the geographical location for the proposed quad towers within the Pukaskwa National Park a major risk factor in Hydro One's ability to meet the in-service timeline? Please explain.

e) If the outage window that Hydro One is proposing to take in August 2020 to install the quad towers within Pukaskwa is missed, when is the next two-week window? What impact would this type of delay have on Hydro One's ability to meet its proposed in-service date in 2021?

f) Have there been any communications between the IESO and Hydro One regarding the proposed two-week outage? If so, has the IESO agreed to Hydro One's proposed two-week outage, in principal? Please provide details of any discussions/communications and copies of all correspondence between Hydro One and the IESO with respect to this matter.

g) What happens if Hydro One's proposed work takes longer than two weeks?

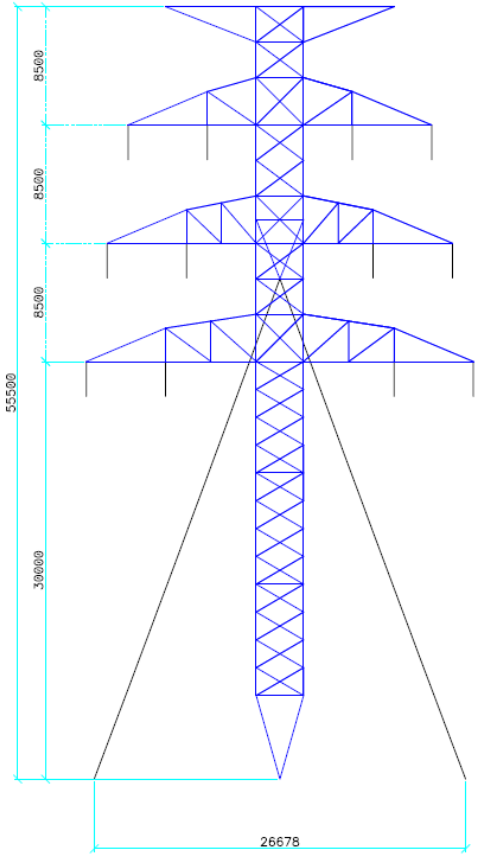
Response:

a) No, Hydro One has not had the need to construct 87, 230 kV quad circuit towers in a span of two weeks. The construction of the LSL Project will be undertaken by SNC-Lavalin through an EPC contract.

b) The self-imposed mandate for the construction within the Pukaskwa National Park ("the Park") is to:

(1) utilize the existing 150' ROW
(2) complete the necessary scope in a single two-week outage, and
(3) minimize the ground disturbances within the Park.

Hydro One has recently determined that the number of foundations requiring replacement is significant enough that it would be preferable to adopt a different design for the new quad structures. Hydro One and SNC's engineering and outage planning teams have now proposed and adopted an alternative design to the Quad Circuit structures which has been discussed with Park staff. The alternative design consists of a single mast structure offset linearly (front or back) from the existing location. These alternate structures require only a single foundation, installed prior to the outage, and will enable the decommissioning of the old foundations, as well as other advantages.



Prior to the outage, work will commence to install all foundations and the four guy anchors for the 87 guyed structures under the still-energized line. All 87 structures will be assembled in three flight yards located on either side of the Park. The guy wire, insulators and travelers will be attached to the assembled structures.

During the two-week outage, the heavy lift helicopters, with a capacity of 24,000 lbs, will be engaged for the installation of the new structures and the decommissioning of the existing structures. For every new structure, two helicopter lifts are required, while for every existing structure removal, one lift is required. Each helicopter crew is capable of achieving on average seven structures per day.

c) Yes, weather delays are accounted for in the production rate. The following contingency mitigations will be implemented:

- The new offset locations allow the existing structures to remain in place until the new structures are fully erected. This provides flexibility to manage the risks, if necessary, by allowing the 15-day outage to be extended, with the ability to recall the EWT line when required during the extension period.
- If an outage extension in 2020 becomes necessary due to unexpected interruptions and is not permitted, the existing transmission line will remain in-service and a second outage would be required in 2021 to complete the Project.

d) No.

e) Hydro One is not currently aware of the next available window. However, Hydro One will work with the IESO to arrange another suitable window to accommodate the required outage to maintain the schedule.

f) Hydro One has met with the IESO and discussed the Lake Superior Link's baseline outage requirements. The IESO has agreed in principle to this request. Additional conversations have occurred with Ontario Power Generation (OPG), Manitoba Hydro Electric Board (MHEB) and Minnesota Power (MP), as these entities' participation will also be instrumental in supporting the outage posture. Hydro One will continue the discussions with the IESO and additional stakeholders on a regular basis in preparation for the two-week outage, currently scheduled for the period of August 10 – 24, 2020.

- Hydro One has submitted the outage request to the IESO (Exhibit I, Tab 1, Schedule 2, Attachment 1).
- Exhibit I, Tab 1, Schedule 2, Attachment 2 reflects the discussions between Hydro One and the IESO regarding this outage.
- Exhibit I, Tab 1, Schedule 2, Attachment 3 is Hydro One's request from the IESO to acknowledge the discussions and the plan for this outage.
- Exhibit I, Tab 1, Schedule 2, Attachment 4 is the IESO's acknowledgement of the discussions and the plan for this outage.

g) Hydro One does not anticipate any need for an outage beyond two weeks. The outage plan has been developed to maximize all possible work (mobilization, yard preparation, foundations, tower assembly, etc.), before starting the outage. This will ensure that the outage time can be optimized to replace the towers. However, should the need arise due to an unexpected delay, please refer to contingency mitigations provided in response to sub-part c) of this interrogatory.

TAB 6

OEB Staff Interrogatory # 18

Reference:

EB-2011-0140, UCT's Application for Designation to Develop the East-West Tie Line, Section 5, Pages 72-74 (filed January 4, 2013)

According to section 96(2) of the Ontario Energy Board Act, in an application under section 92, the OEB shall consider the interests of consumers with respect to prices, and the reliability and quality of electricity service, and the promotion of the use of renewable energy sources in a manner consistent with the policies of the Government of Ontario.

Given the public interest mandate that is engaged in LTC applications, OEB staff is interested in exploring potential options with respect to prices and cost certainty.

Hydro One stated in its September 22, 2017 letter to the OEB that "Hydro One is prepared to submit a Leave to Construct application, which will include a not-to-exceed price…".

NextBridge indicated in its designation application that it would assume some risk for the construction cost forecast through performance-based ratemaking. At the time of the designation application, NextBridge planned to present this proposal as part of the LTC process.

Interrogatory:

a) Is Hydro One willing to provide the OEB with a not-to-exceed price for the project? If so, what is that price? If not, please explain.

b) Would Hydro One consider providing the OEB with varying capital costs for the project that reflect different risk sharing proposals between itself and ratepayers? For example, would Hydro One consider having certain specific risks shared between ratepayers and the utility, other risks absorbed by the utility, and other risks absorbed by the ratepayers, all of which would result in a specific project cost? If yes, please fill in Table 2 with the scenarios Hydro One is willing to provide. If not, please explain.

Table 2 (Please add or remove rows in the table below, as needed)					
Scenario #	Risks borne by the utility	Risks borne by the ratepayer	Risks shared between the utility and ratepayers	Project Cost ($)	Comments
1				$M	
2				$M	
3				$M	
4				$M	

c) Does Hydro One have any other proposals that the OEB might consider implementing in order to ensure the successful proponent brings its project into service in the timeline and cost established in this proceeding?

Response:

a) Hydro One would be open to consideration of a not-to-exceed price of $683 million to deliver the project in accordance with the February Application and updated evidence, subject to the conditions of receiving Leave to Construct in January 2019, as well as environmental approvals by August 2019. This amount represents the upper bound of the updated Lake Superior Link cost estimate as per Exhibit I, Tab 1, Schedule 11 and follows the same methodology as outlined in Exhibit JT2.25.

Binding this commitment would require approval of the new Hydro One Board of Directors effective as of August 14th, and could be sought should the OEB consider Hydro One's application to be the preferred alternative.

b) Should the OEB wish to further explore additional alternatives, Hydro One would be happy to further discuss in-camera, however at this point in time Hydro One believes the Application as filed and the not-to-exceed alternative presented in a) provide good optionality for consideration.

c) Hydro One strongly believes a number of innovative solutions have been proposed in the Application as-filed, and the consideration of granting leave with a not-to-exceed price would be new for both Hydro One and the OEB.

Another potential consideration could be to have a performance-based incentive provided to the successful proponent if they are able to bring the project in-service close to or below budget, with sliding benefits the further away from approved budget. For example, should the project be delivered on-time and for say 2% under budget (i.e. $629 million actual with 2% below updated forecast of $641.8 million), an appropriate incentive could be paid to the transmitter as a rider to future revenue requirements with reasonable consideration to sharing between the proponent and customers.

TAB 7

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

DECISION AND RATE ORDER

EB-2017-0359

2018 UNIFORM TRANSMISSION RATES

BEFORE: **Ken Quesnelle**
Presiding Member

Emad Elsayed
Member

February 1, 2018

1. INTRODUCTION AND SUMMARY

The Ontario Energy Board (OEB) established the EB-2017-0359 proceeding on its own motion to issue the 2018 Uniform Transmission Rates (UTR).

There are five licensed electricity transmitters in Ontario that recover their revenues through Ontario's UTR: Canadian Niagara Power Inc., Hydro One Networks Sault Ste. Marie (formerly Great Lakes Power Transmission Inc.), Five Nations Energy Inc., Hydro One Networks Inc. and B2M Limited Partnership. The OEB approves the revenue requirements and charge determinants of the individual transmitters in separate proceedings and uses them to calculate the UTR.

The revenue requirements of the five transmitters are allocated to three transmission rate pools, Network, Line Connection and Transformation Connection on the basis of a cost allocation study conducted annually by Hydro One Networks Inc. The costs are then divided by forecast consumption (charge determinants) to establish the UTR. The Independent Electricity System Operator (IESO) charges these rates to all wholesale market participants, including electricity distributors.

The total rates revenue requirement to be recovered through the UTR for 2018 is $1,603,249,975, up 5.3% from the total 2017 approved transmission rates revenue requirement.

The combined UTR for 2018, effective January 1, 2018, is $6.90/kW, a $0.37/kW or 5.7% increase relative to the 2017 UTR ($6.53/kW).

The impact of this increase may take some time to materialize, and will vary depending on the customer mix and load characteristics in the different service areas and the proportion of power withdrawn by individual distributors from the bulk transmission system.

Electricity distributors directly connected to the transmission system recover transmission costs from their customers through Retail Transmission Service Rates (RTSR), which are established for each rate class annually, some on January 1 and some on May 1. The new UTR will be taken into account when new RTSR are approved effective January 1, 2018 or May 1, 2018, depending on when a specific distributor makes its annual rate adjustments. For any distributor whose rates for 2018 have already been established, the use of variance accounts will track differences between a distributor's transmission costs and the associated revenues it receives from its