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

November 1, 2018

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1.0 Summary

1.1 Hydro One proposes to build the East-West-Tie for $625 million[1] or $684 million depending on route potential cost variances in non-construction cost. NextBridge says it can build the line for $737 million, although it is not sufficiently confident in that estimate to commit to a figure without a $74 million (10%) buffer. On the face of it the Board's decision should be an easy one – grant Hydro One leave-to-construct (LTC) to build the East-West Tie line (EWT). Their estimate is significantly lower. Except Hydro One's non-construction cost estimates are not as robust as those of NextBridge and they may not be able to meet even a December 2022 in-service-date. This proceeding has also shown that Hydro One's current relations with some the First nation and Metis communities are best described as acrimonious, but whose cooperation is essential for completing the line in a timely fashion. Add to all of this a potential $80 million liability to ratepayers if NextBridge fails to be granted LTC. Then the Board's decision becomes much more complex.

1.2 We have concluded the Board should grant NextBridge the LTC but with conditions limiting ratepayers financial exposure. In coming to our conclusion we examined four issues in each proposal: (1) the reasonableness of the respective project schedules; (2) the robustness of their cost estimate, (3) the potential liabilities to ratepayers for sunk costs; and (4) the impact on First Nation and Metis communities.

1.3 Issue (3) brings to bear what we have labelled NextBridge's position as a "first mover", or the development designee. This is important because some of the sunk costs incurred by NextBridge are uniquely attributable to its role as first mover including developing positive relations with First Nation and Metis communities and maintaining its ability to construct the project when delay outside of its control was encountered.

1.4 In our view the Board should also consider how the process was from the beginning fatally flawed – allowing participants in the designation process to put forward unrealistic project costs in hopes of landing rights to do the "development work"[2]. A term so pliable that it came to mean whatever work was done prior to the granting of a leave-to-construct. The OEB did however impose monthly, and then quarterly reporting. However it appears that this reporting requirement had no practical objective of keeping the process on track. In fact, in the absence of any intervention by the regulator, periodic reporting ultimately served to give comfort to NextBridge that they were on track to becoming the successful project constructor. Hydro One has made the argument that there was onus on NextBridge to convey to the Board at the earliest time it knew the increasing construction cost of this project[3]. And we agree that there may be some merit to this argument.

[1] For simplicity we have rounded figures as the differences are not material.

[2] See VECC Submission EB-2017-0364 Motion to Dismiss, June 4, 2018, pages 11 onward for a discussion with respect to the designation project cost estimates.

[3] Hydro One AIC, pg. 6

1.5 Even though the Board was at pains to add that it was not providing leave-to-construct in the designation process it failed to institute any process or requirements that would anticipate the need for this "development work" to be transferred to any other party. Because the Board did not intervene to review the status of the project after it was delayed by the IESO, it provided a basis for NextBridge continue on the path of spending to the point of around $80 million today. In our view it is not unreasonable to believe that customers will be held liable for these costs and must compensate NextBridge not just its development costs ($40.2 million) but also for all other "wind-up" costs should it be unsuccessful in getting LTC approval. That is, not granting LTC to NextBridge adds to the risk of protracted regulatory and other legal action to the costs ultimately borne by ratepayers.

1.6 VECC has previously argued against hearing Hydro One's proposal. That argument was based on, among other things, the fact that Hydro One could not have the project in-service by the target date of December 31, 2020. In this proceeding it has become evident that this target date is unlikely since Hydro One station construction appears to be delayed. This does not make scheduling moot. In our submission NextBridge remains the party most likely to be able to complete the project in a timely manner - or at least in the least time.

1.7 In supporting NextBridge`s motion VECC also made a number of other submissions in support of dismissal including: reliability differences in the project proposal; whether there were actual material costs differences in the proposals; the impact on First Nation and Metis communities; and whether the regulator has obligations to NextBridge because of its role as a `first mover` in the process.

1.8 With respect to reliability and based on the evidence and testimony of the IESO and the evidence of Hydro One we have now concluded that there is no material differentiation as between the proposals with respect to reliability. We say that even though it would appear obvious that there is inherently less reliability in the `bottlenecked` route through Pukaskwa National Park (`Pukaskwa Park`) as proposed by Hydro One. However, as we discuss in detail later in our submission no advantage can be attributed to either proposal based on reliability matters.

1.9 With respect to the impact of the Board's decision on First Nation and Metis communities we remain very concerned. VECC's constituents are low income consumers. We are keenly aware of the impact of this project on First Nation and Metis communities of Ontario. These communities often have limited economic opportunities and this project provides both ownership and employment benefits. If this issue alone were the basis of the Board's decision than NextBridge would be the successful candidate. It is clear that they are well advanced in both the economic participation and with on-the ground employment opportunities for the communities. However, with respect to the latter, specifically Supercom, these operations appear to be transferable to a different builder. It is less clear whether participation opportunities would be as beneficial as that already negotiated with NextBridge. It is clear that a change in proponents will cause additional

delay in resolving issues for these communities and likely delays in constructing the project. Previous experience in Ontario has shown that should matters become acrimonious enough delays measured in terms of years might occur.

1.10 Having considered all these factors VECC believes the Board should offer a conditional leave to construct to NextBridge. Given the high level of confidence NextBridge has in its current estimate of $737 million we believe the Board should condition LTC on a "not-to-exceed" cost of $750 million which is its estimate with a 2% inflation adjustment. Should NextBridge choose not to accept this condition within a given period (15-30 days) then the Board should grant LTC to Hydro One without any financial pre-conditions.

1.11 Should the Board grant NextBridge LTC, it should order a working group composed of representation from the OEB, IESO, NextBridge and Hydro One to ensure that station work, line crossing and other needed coordination work is undertaken in a timely and cost effective manner. This working group should report to the Board on what efforts are being taken and at what cost to advance station in-service dates.

1.12 We also submit that Hydro One should be granted leave-to-construct (LTC) for the Lakehead, Marathon and Wawa stations. However, that approval should be conditional upon monthly reporting as to the cost and scheduling of the station work. It should notify the Board of any additional material costs above the current $157 million forecast that might be incurred to advance the current in-service schedule. It should also reference a coordination committee discussed above.

1.13 In the remainder of this argument we address the above issues in detail.

2.0 Project Timing – Stations and Routing

2.1 The issue of timing and station work are discussed in tandem since it has become clear that, at least in the case of NextBridge, the constraining time factor is the in-service dates of the stations.

2.2 Hydro One proposes to upgrade three stations for the East-West Tie. These are Lakehead TS, Marathon TS and the Wawa TS. While the nature of the work is different at each station all include bus, breaker and protection work to accommodate the new transmission line. The IESO recommended staging the East-West Tie Station work due to its lower overall cost. The first stage will provide 450 MW east to west transfer capability at a cost of $157 million. The second stage will enable the full 650 MW of east to west transfer capability and is expected to be required in 2024 at an additional cost of $60 million.

2.3 Hydro One is applying for LTC on only stage one of the project – these station costs are shown below[4].

[4] EB-2017-0194, Exhibit B, Tab 7, Schedule 1

Table 1: Cost of Station Work

	Estimated Cost ($000s)
Materials	51,337
Labour	56,895
Equipment Rental & Contractor Costs	8,920
Sundry	1,305
Contingencies	19,227
Overhead [1]	13,367
Allowance for Funds Used During Construction [2]	6,264
Total Station Work	**$157,315**

2.4 Hydro One estimates that the EWT Station Project will result in a maximum $.09/kW/month increase in the line network pool rate and a slight increase (0.05%) on the overall average Ontario consumer's electricity bill.[5]

2.5 We note this evidence does not seem entirely consistent with Hydro One's EWT cost variance analysis which showed that a difference of $141 million in capital spending would lead to a $0.06 kW/month UTR variance (especially given the EWT cost variance analysis factors in Hydro One's OM&A advantage). However we take the numbers as approximate and note the evidence of Hydro One that a $157.3 million capital addition to the UTR has an impact of 0.05% on the average consumer's bill.

2.6 As of January 2018 Hydro One had incurred $7.2 million in station costs[6]. It does not appear that the station cost estimate has been updated at any time during this proceeding and notwithstanding the significant delays that the Utility is now expecting.

2.7 Hydro One did a risk assessment of the station project environmental threats, while having a significant time delay of up to 6 months did not have a high cost impact. In our review of the risks assessment we could find a combined cost of environmental related risks of about $600,000. The more significant costs risks to the station are shown below[7]:

[5] EB-2017-0194 Exhibit B, Tab 1, Schedule 1, pg. 4
[6] EB-2017-0194 Exhibit I, Tab 1, Schedule 4
[7] Exhibit I-01-04, Attachment 2

Top Project Risks

Risk Title	Probability Impact	Cost Impact
The risk - if we get a full release and there are delays due to design changes & regulatory	EVEN ODDS 50% - 74%	$ 2,000,000
The risk is that HONI's may not be able to acquire an outage for the 1 year window	EVEN ODDS 50% - 74%	$ 3,050,000
Protection and Controls Drawing issues/Staging of cutover from the old to the new - Currently Wawa has shown issues applied to all three SS	LIKELY 75% - 94%	$ 2,400,000

2.8 Hydro One has also stated that "[T]*he costs for station work, with the same scope and schedule described in the Hydro One application (EB-2017-0194), would be identical regardless of which company was granted leave to construct the East-West Tie line*."[8]

2.9 With respect to timing of the stations Hydro One is now projecting that the stations will be in service no earlier than the latter part of 2021. As noted by Hydro One the Marathon Station is critical path for this project in that it requires the largest amount of work to connect two ends of the East West Tie. The amended schedule is set out below:[9]

	Deliverable	Timeline	Additional Details
1	[1]NextBridge Individual EA approval and final Class EA Notice of Completion	March 01, 2019	
2	Permitting applications (including drainage ECA typically 12 months and MNRF Forest Resource License	March 01, 2019 to March 01, 2020	These permits are expected to be issued after the Individual EA
3	[2]Land Purchase from MNRF (for new diameter)	March 01,2019 to April 1, 2019	This step is dependent on item # 1
4	Install new 230kV control building – Critical Path	March 05, 2019 to May 07, 2020	This step is dependent on item # 3 See note # 6
5	[3]Early tree cutting opportunity (see 8,9,10)	April 01, 2019 to April 23, 2019	This item is dependent on item # 3 See notes # 1 & 2
6	Install concrete footings for structures	May 28, 2019 to September 21, 2020	This step is dependent on item # 3 and 5. See notes # 3 and 4

[8] Ibid, Exhibit I, Tab 1, Schedule 5, pg.1
[9] J4.1, October 15, 2018

7	Install steel structures	September 03, 2019 to March 08, 2021	This step is dependent on item # 6 See note # 5
8	[3]Relocate Shack Lake trail	September 16, 2019 to October 21, 2019	This step is dependent on item # 3
9	[3]Clear trees in new 'diameter'	October 22, 2019 to November 06, 2019	This step is dependent on item # 8
10	[3]Site stripping of land (removal of 24" of soil)	November 07, 2019 to January 29, 2020	This step is dependent on item # 9
11	Install 230kV breakers and equipment	October 15, 2019 to December 15, 2020	This step is dependent on item # 7 See note # 7
12	Install cables between structures and insulators	March 25, 2020 to June 22, 2021	This step is dependent on item # 7 and partially 11. See note # 7
12	Commission all equipment – Critical path	May 07, 2020 to August 17, 2021	This step is dependent on item # 4 and partially 11 and 12. See notes # 8 , 9
13	Connect new transmission lines to station diameter	June 15, 2021 to August 25, 2021	This step is dependent on items above activities and completion of the line
14	Final Staging Outages - New diameter In-Service	September 23, 2021[4]	

2.10 Hydro One's station LTC was based on a start date of May 2018 and an in-service date in November of 2020.[10] However the Ministry of Environment, Conservation and Parks (MECP) has indicated that the required environmental assessment for the Marathon station is tied to the EWT line approval. By way of letter on October 29 after the close of these proceedings, Hydro One informed the Board that it had been told by MECP that notwithstanding earlier indications to the contrary that the Wawa Station would now require a full class EA. It went on to say[11]:

> *At this time, MECP's October 26th position means that the Wawa Transformer Station expansion must be subjected to a full Class EA, including completion of studies and public consultation, a process that normally takes 12-18 months for completion. MECP has said that certain existing information can be utilized in order to expedite this process; however, the final completion date for the Class EA is uncertain and would still be subject to Part II Order requests upon completion.*

[10] Ibid, pg.2
[11] Hydro One Letter to Ontario Energy Board, October 29, 208

VECC notes that this evidence is untested and therefore should be given little if any weight. In our view it overstates or puts a "worst case scenario" on the issue of what environmental work needs to be done at the Wawa station and how long that would take. We note that the entire expansion of the Wawa station is 0.5 hectares on the existing site[12].

2.11 VECC has vigorously tested Hydro One's station scheduling with an aim at understanding whether the Utility was exercising its monopoly position in light of its now competitive proposal with an aim at frustrating the plans of NextBridge to bring the EWT into service in a timely manner. In our view while there is no evidence that Hydro One has acted maliciously it is clear they are not particularly motivated to aggressively schedule the station work. We note that the current schedule includes almost a 1 ½ years to pour footings for these structures. Nor from the current schedule is it clear why some aspects of the project cannot be completed concurrently as opposed to sequentially.

2.12 A consideration of similar station projects shows that it is not unusual for the Utility to complete station work within 2 years to do large scale station work[13]. In our view the schedules are conservative and in the event all station construction is likely to be able to be completed within 18 months of construction start dates if sufficient resources were applied.

2.13 The most recent news (as evidence it remains untested) from Hydro One suggests that this start date, at least for the Wawa station could be a year away. If that were the case the in-service date of the project would be delayed until the end of 2021. However, it is not clear, nor do we believe likely that the Wawa EA and build will take 3 years. In our view the most likely scenario is that all station work will be completed no later than early 2021.

2.14 Given Hydro One's conflicted position in this case it is our submission that the Board needs to intervene to ensure a timely completion of these stations. One way to assist in this objective is for the Board to strike a coordination committee composed of Hydro One, NextBridge, Board Staff and the IESO. The Committee's responsibility would be to review the current schedule, make suggestions for advancement of that schedule, monitor the progress of the work, monitor the progress of permitting (including EA work) and the examine the potential trade-off between additional resources (costs) and advancement of the in-service dates. Such a committee should, in our submission be made part of the Order for granting station LTC.

Pukaskwa Outage

2.15 Aside from its later starting point the other significant timing risk difference of Hydro One as compared to NextBridge is its need for a 15 day outage in mid-August 2021. During this

[12] Exhibit B, Tab 2, Schedule 1, pg.2

[13] Exhibit I, Tab 2, Schedule 2 contains a list of Hydro One large scale project timelines - see for example Northeast Transmission (Station) Reinforcement.

two week period Hydro One would use two heavy lift helicopters to fly in and assemble from two sections 87 towers. The outage for this work must be scheduled years in advance[14]

2.16 While we don't doubt the technical feasibility of this exercise it is certainly a matter of significant (if not impressive) effort. These skycrane helicopters must make a total of 174 trips to complete the work. With two helicopters working an average 9 hour day this would translate into one flight every 1 ½ hours (9 x 15 divided by 87). Each flight must pick up a section, fly to the assembly site and then hover and connect the tower section and fly back to base camp. Should a helicopter fail, the weather become inclement (including high winds off the Lake Superior shore) then delays would occur. Add to this the need to disconnect and reconnect conductors (with smaller helicopters) and the 15 day window seems to be herculean in its effort.

2.17 The IESO has indicated it has some ability to extend or work around outage dates but there is an additional risk, not faced in the NextBridge proposal, of significant delay. It is even possible that there may a year's delay should all work scheduled for the outage be uncompleted.

Cost of Delay

2.18 As shown below the IESO estimates cumulative costs of a delay to the end of 2021 (in-service date of Jan 1 2022) is some $36 million.[15] The cost of delay would be recovered through the Global Adjustments or uplift.

Table 2 Summary of Potential Cost of Delay to In-Service Date (2020-2024)

Year	Potential Capacity Cost (2017$ millions)	Energy Cost (2017$ millions)	Foregone Loss Savings (2017$ millions)	Total Potential Cost of Delay (2017$ millions)
2020	$16	$0.5	$0.7	$17
2021	$18	$0.5	$0.7	$19
2022	$22	$0.5	$0.7	$23
2023	$38	$0.6	$0.7	$39
2024	$44	$0.6	$0.7	$45

2.19 We believe the Board should dismiss arguments that there are not repercussions and costs for delay in completing this project. The authority with respect to the impact of timing is the IESO. Its position is unassailable and uncontested in terms of evidence in this

[14] Exhibit I, Tab 1, Schedule 2
[15] See also IESO IR response OEB-Staff-2 and Staff-3 (Sept 24/18)

proceeding. Its evidence is that the best estimate is that each month's delay in this project costs an additional $1.5 million. The IESO was also firm in its assessment of delay beyond 2022:

> *The IESO continues to recommend an in-service date of 2020 for the E-W Tie Expansion. If a delay is to be incurred, relying on interim measures will result in additional risks to reliability and increased costs. In this case, the IESO does not support delaying the in-service date of the East-West Tie Expansion beyond the end of 2022 as the increased risks to system reliability and the associated cost uncertainties are unacceptable.*

2.20 "Unacceptable". That is the uncontested evidence of the provincial power authority of the consequence of a delay of the EWT beyond 2022. They are clear and concise. In our submission it is not the purview of the Applicants or even the Ontario Energy Board to substitute its assessment for that of the IESO. No party other than the IESO has the data, technical capability, or experience to challenge their assessment.

2.21 It is clear that if NextBridge is granted leave-to-construct its in-service date will only be constrained by the ability of Hydro One to have the stations work completed. It is less clear that Hydro One can meet its proposed in-service date. Its project will by necessity begin much later than NextBridge; it remains to complete its EA and First Nation and Metis consultation and engagement. And as noted above Hydro One's project has inherently more timing risk because of the need for an outage. In other words while there is no risk that NextBridge will be unable to complete its work by the end of 2022 the same cannot be said of Hydro One. This uncertainty/risk difference should be factored into the choice of who is initially offered LTC.

2.22 It is also important to factor into the cost comparison calculation the in-service date of stations. In our submission if station work is not completed until after 2020 it is Hydro One – not NextBridge - who should be held to account. For this reason we recommend a working committee of regulators and constructing parties to monitor and report on Hydro One's progression on these stations. And it is important to assign to the cost of delay appropriately to Hydro One and not NextBridge.

2.23 In the course of the station projects there will be opportunities for Hydro One to advance its schedule but likely with cost consequence. In our submission the station LTC should include reporting requirements with regard to scheduling and cost. Specifically Hydro One should be required to report if it is substantially on budget ($157 million) and what additional funds might be required in order to meet an in-service date in advance of 2022. These reports should be first vetted and approved by the standing committee composed of the successful EWT LTC proponent, the IESO and Board Staff.

3.0 Technical Requirements of the EWT

3.1 Both parties have raised issues around the technical capabilities of the respective proposals. Primarily this has taken the form of three issues.

i. Routing and specifically whether there is a reliability enhancement in a completely parallel EWT or if one that "bottlenecks" by going through Pukaskwa National Park is less reliable.

ii. Whether the tower design of either proponent is to be preferred, specifically quad circuits and the issue of "conductor galloping".

iii. Whether either of the business maintenance models is preferable (Hydro One's "local crew" as compared to NextBridge's "Thunder Bay office & contractors ")

3.2 In considering these – and any other – reliability or technical issues it is important to consider and put weight into the considerations of the IESO. The IESO has the responsibility of ensuring that the appropriate NERC standards are being met. It is also responsible for overall planning and dispatch of system power. Again VECC and others asked questions of the IESO testing the premise that there was to be a preferred option based on reliability. The IESO professed no preference for either proposal.

3.3 In the IESO view NextBridge has met NERC standards and Hydro One, based on its existing design proposal would equally meet these standards. With respect to the most contentious of the "reliability issues" the Hydro One's proposed quad circuit towers through Pukaskwa Park the IESO was clear[16]:

> MR. MURRAY: And if the four circuits in Pukaskwa National Park were to go down, is there any implications for electricity supply to the rest of the province? Not the northwest now, focusing on the rest of the province, would there be any implications there?
>
> MR. MARIA: So the implication could be -- I don't believe there would be an adequacy concern or a supply concern. But the implication could be that lower cost generation from the northwest is being replaced by more expensive generation in the south -- like, that would probably be the implication.
>
> MR. MURRAY: And that would last for the hours or days or however long it would take to restore the four circuits?
>
> MR. MARIA: That's right.

3.4 The impact if any, would be financial not system critical. As far as we can gather there is no evidence as to the incremental financial risk in choosing one proposal over the other.

[16] TC Vol 4. October 9, 2018, pgs. 116-117

4.0 Comparing Costs

OEB Staff Summary of the Evidence on Costs

Development Costs of NextBridge-EWT and Hydro One-LSL Proposals

	NextBridge	Hydro One
Development Costs	**$40,127,000**[1]	**$16,972,000**[2]

Construction Costs of NextBridge-EWT and Hydro One-LSL Proposals

	Category	NextBridge	HONI – Through the Park[3]	HONI- Around the Park[4]
	Route Length	443 km	403 km	443 km
1	Engineering, Design & Procurement	$19,342,245	$16,304,000	$18,289,939
2	Materials & Equipment	$89,408,231	$58,713,000	$64,584,000
3	Environmental Approval/Monitoring/Mitigation	$13,030,561	$2,423,000	$2,422,851
4	Land Rights	$23,830,512	$10,558,000	$10,558,054
5	Indigenous Participation	$7,000,000	Included in 8 – Site Clearing, Access	Included in 8 – Site Clearing, Access
6	Indigenous Consultation	$13,211,000	$3,615,000	$3,614,637
7	Other Stakeholder Engagement	$2,530,194	$30,000	$30,000
8	Site Clearing, Access	$107,463,339	104,339,000	$116,860,000
9	Construction	$356,547,573	$355,530,000	$373,232,000
10	Site Remediation	$13,898,699	Included in 8 - Site Clearing, Access	Included in 8 – Site Clearing
11	Interest During Construction	$31,003,000	$43,845,000	$46,388,481
12	Contingency	$49,339,445	$5,401,000	$5,401,254
13	Regulatory	$5,405,078	Included in 15 - Overhead	Included in 15 - Overhead
14	Project Management	$4,900,644	$6,085,000	$6,085,000
15	Overhead		$8,506,000	$8,887,658
16	Other Costs		$9,451,000	$9,481,000
	Total Cost – Construction	**$736,970,521**	**$624,800,000**	**$665,834,874**

Annual OM&A Cost of NextBridge-EWT and Hydro One-LSL Proposals

	Category	NextBridge	HONI – Through the Park	HONI- Around the Park
17	NextBridge: Maintenance	$1,218,147		
18	NextBridge: Operations	$54,000		
19	NextBridge: Regulatory	$205,000		
20	NextBridge: Compliance, including administration	$2,449,000[5]		
21	Hydro One: Vegetation Maintenance		$340,000	
22	Hydro One: Overhead Lines Maintenance		$277,000	
23	Hydro One: Operations		$647,000	
24	Hydro One: Administration		$235,000	
	Average Total Annual OM&A Costs	**$3,926,147**	**$1,499,000**	

Source Exhibit K.4

4.1 Board staff constructed a comparison table (above) which was vetted by the Applicants. We rely on this for our discussion below.

4.2 In comparing costs it is important to consider the veracity of the respective estimates. NextBridge says it is on "cusp of Class 1" giving it high confidence in its estimates.[17] By their own admission Hydro One's cost estimates are more preliminary. However they have high confidence in their "not to exceed price" which is roughly 10% greater than their current estimate of costs through the Park.

4.3 In their Argument-in-chief Hydro One has said that "has it effectively provided a not-to-exceed price of $642 million inclusive of development costs."[18] The basis of this argument lies in the fact that $547 million of the costs are related to a fixed-price contract with SNC-Lavalin. However if Hydro One's costs for Indigenous participation/consultation, other stakeholder consultation and land rights, and environmental assessment were similar to that of NextBridge then its costs would be $43 million higher. This would put the Hydro One costs in the same range as its (not) "not to exceed" price of $683 million.

4.4 In our submission NextBridge`s total projected costs are the more reliable. It has had 5 years to come to this point and its evidence is that it is "shovel ready". While its costs could be 10% higher than the current estimate of $737 million they thought that unlikely. However, from VECC's perspective a construction cost as high as $810 million is simply unacceptable. Adding to this a potential of $40.2 million in development costs would bring the project to $850 – or more a 100% higher than the designation estimate.
.

4.5 Hydro One`s costs are less certain (generally equivalent to AACE class 3). The routing of through or around Pukaskwa Park is yet to be determined and the costs related to Hydro One`s duty to consult and its obligations to provide economic participation for First Nations and Metis communities are at an elementary stage. Its engineering framework is incomplete with changes being proposed during this proceeding. For this reason we think the most reasonable estimate for the Board to use for comparison is the $684 million (not) "not to exceed price"[19]. This price includes the roughly $16 million in development costs Hydro One has or expects to incur.[20]

4.6 In making a comparison, it is our view that in the event Hydro One builds the EWT then Nextbridge's $40.2 million in development costs and approximately an equal amount of wind-up costs must also be factored into the overall cost. This would total some $75-80 million dollars in sunk costs that would be paid for by ratepayers in that event. Thus the proper comparison (in round numbers) is a NextBridge project potentially has high as $850

[17] TC Vol.6 pg. 192
[18] Hydro One AIC, pg. 7
[19] We say this notwithstanding the review of the at Vol. 4, pages 50-55
[20] TC, Vol.4 October 9, pg.41

million as compared to Hydro One project which includes sunk costs of $763 million, Or a difference around $85 million in Hydro One's favour.

4.7 What would be the impact of this $87 million on the Uniform Transmission Rate (UTR)? A rough estimate can be extrapolated from considering Hydro One's own comparison of its project with NextBridge and as shown below[21]:

Table 2: Comparison of Network Pool & Rate Impact

4.8

	Hydro One Lake Superior Link	NextBridge EWT Lines Project[7]
2018 Comparison		
Rate Increase	$0.20/kW/month	$0.26/kW/month
Maximum Revenue Shortfall	$51.7M	$66.1M
Maximum Rate Impact	5.57%	7.24%
2016 Comparison		
Rate Increase	$0.21/kW/month	$0.28/kW/month
Maximum Revenue Shortfall	$53.4M	$70.7M
Maximum Rate Impact	5.74%	7.7%

4.9 This analysis is based on a NextBridge cost of $777.2 million as compared to Lake Superior Link cost of $636.2 million – or a capital cost difference of $141 million. It also incorporates Hydro One's claimed OM&A advantage. Hydro One states that on this basis "*Utilizing the 2018 rates, over a 25-year time horizon, the network pool rate will rise by 20 cents/kW/month, from the current rate of $3.59/kW/month to $3.79/kW/month*."

4.10 One-half of $141 million is $70.5m not $87m but given the uncertainties in all of these estimates -including it is likely the asset life of these investments will exceed 25 years, the factoring in of OM&A – we think it reasonable to conclude that the actual impact of choosing Hydro One (at $683 million) over NextBridge (at $810 million), if sunk costs are included, would be about on-half of the amounts shown in Table 2. That is choosing Hydro One offers ratepayers an opportunity to save roughly $0.03/kW/month in comparison to the NextBridge proposal.

4.11 On the other hand should NextBridge be able to build the project at its estimated cost of $737 million (or approximately $740m) and Hydro One require $683 million to build its project then, assuming sunk costs are included in the comparison, the difference shrinks considerably. In this case NextBridge costs (including development costs) are $780 million as compared again $763 for Hydro One's and NextBridge's sunk costs. We are down to a

[21] H1 EB-2017-0364, Exhibit B, Tab 9, Schedule 1, pg. 4

$17 million difference. Of course if Hydro One is not able to build the project for $684 million the difference would be even less and conversely if it able to build for less it widens. The conclusion we draw is that the real difference in these projects amounts to a capital figure of somewhere between $17-87 millions in Hydro One's favour.

4.12 As noted above Hydro One led evidence that states that a $157.3 million capital addition to the UTR has an impact of 0.05% on the average consumer's bill. This means at best the difference in choosing Hydro One is a rate impact of 0.025%. More likely it would the impact would be less and potentially non-distinguishable in the calculation of the UTR rate.

4.13 A different way to analyze the problem is to use the figures put forward by Hydro One in its Argument-in-Chief. There it compares its forecast construction costs of $625 million with those of NextBridge's at $737 million or a difference of $112 million.[22] The difference of course is this does not include $17 million in Hydro One's development costs, the $40.2 million in sunk development cost of NextBridge or the potential $35-40 million dollar in wind-up cost should NextBridge be unsuccessful in being having its LTC approved. While such an analysis makes Hydro One's proposal seem inherently better from the ratepayers perspective it is misleading.

4.14 Neither example computes the cost of delay which we have noted above is to the account of Hydro One whether it be because it unable to have its stations completed on time or because it cannot build the EWT for a 2020 in-service date.

4.15 It might be argued that the sunk costs of NextBridge should not be considered the equivalent of capital dollar investments since they may be expensed in recovery. First this may not be true – since the Board has not yet rendered a decision on how development and sunk costs are to be recovered. Conceivable they will be amortized in the UTR and so recovered in a like manner to a capital investment. In any event expensing versus capitalizing the expense makes little overall cost difference to ratepayers. Both methods of recovery have the equivalent time value of money to ratepayers. One method (amortization) does have an affordability advantage, but in this case, the UTR change associated with recovery of development and/or sunk costs is unlikely to have a material impact on the overall customer bill. [23]

4.16 In our submission in the event NextBridge is able to construct the East West tie for $737 million (or substantially that amount) then there would likely be no substantive benefit over a proposal that cost $684 million. For this reason it is our position that the Board should award NextBridge the leave-to-construct on the condition that it accepts $737 as a reasonable cost for the project. To this we suggest the Board add a 2% inflation adjustment

[22] Hydro One AIC, pg. 9

[23] Leaving aside the budgeting affordability of either proposition the ratepayer is financially indifferent as to whether to pay all at once (expensed) or in installments (capitalized). If expensed the ratepayers loses the opportunity to invest the equivalent amount of money. If capitalized the ratepayer may invest the unremitted portions in the utility which provides capital related returns through dividends – or capital appreciation.

giving an allowance of $750 million. In this event the Board should make clear the limited extraordinary costs above this amount which might be entertained for recovery. The type of costs envisioned are in the nature of major legislative change or project delay due to a third party (including Hydro One).

4.17 If, after a period of consideration (30 days) NextBridge chooses not to proceed then Hydro One should be granted leave to construct on the expectation of its current cost estimates of $625 million (through the Park) and or $666 million should it be required to go around the Park. Since in this case the Board would be reliant upon Hydro One completing the project there could be no cost conditions around granting of the LTC. However the Board should in this case provide clear guidelines as to what type of cost variances would be entertained.

OM&A

4.18 The Board is not approving OM&A costs for this project. Therefore it is not determining the prudence of those costs. Moreover given the current proposal of Hydro One is to build the EWT but at some future point create a separate company it is clear that little weight should be put on any speculated differences in OM&A costs as between the proponents. In any event the difference in amounts are not material in relationship to the overall UTR.

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5.0 Obligations to First Nations

5.1 It the designation process the Board made clear the importance of First nation and Metis participation and consultation. These were two of only nine criteria used by the Board in determining the designee[24]. NextBridge has both in the development stage and in the EWT lead up work expended considerable effort and costs on fulfilling its commitment in this area.

5.2 It has been clear from the initial filing of its application that Hydro One faces an uphill struggle in both engagement and participation. Much, if not all of the impediments it faces are not of its own making, but rather the outcome of the designation process which inevitably let the successful party to fully engage with these groups. Again, this is a problem that arose because the designation process scored and advocated for First Nations and Metis participation but then failed to consider how such engagement might inextricably tie the parties together.

5.3 The result is that should the Board provide Hydro One EWT LTC a protracted engagement with First Nation and Metis communities can be expected. Arrangements with NextBridge

[24] EB-2011-0140 Phase 2 Decision and Order, August 7, 2013. Pg.8

would have to be unwound before substantive advancement can be made with these communities on the newer proposal of Hydro One.

5.4 Again, in our view this adds to the risk of delay and increase the likelihood that Hydro One would be unable to meet its self- imposed 2022 deadline.

5.5 In either event it is our submission that the Board has, if not a legal obligation, then an ethical duty to ensure that the affected First Nation and Metis communities are not unduly harmed by its decision. Having put weight on the impact on First Nations and Metis communities in the designation process it would be perverse to abandon those principles in the LTC. Having said that frankly we do not see what steps the Board could take to address any negative impact on these communities should it grant Hydro One LTC.

7.0 Costs Incurred

7.1 VECC respectfully submits that it has acted responsibly and efficiently during the course of this proceeding and requests that it be allowed to recover 100% of its reasonably incurred costs.

ALL OF WHICH IS RESPECTFULLY SUBMITTED