

Interrogatory # 1

Ref: EB-2017-0194: Exhibit B, Tab 1, Schedule 1, page 3 of 5 and Exhibit B, Tab 2, Schedule 1, Attachment 1, page 4 of 18: “Updated Transmission Cost Estimates”

Preamble:

The IESO in its “Assessment of the Rationale for the East-West Tie Expansion – Third Update Report”, dated December 15, 2015 (IESO’s 3rd update) noted that Hydro One provided a revised estimate of approximately \$150 million for the station work for the 650 MW East-West Tie expansion, up from the previous planning estimate of \$100 million, reflecting more detailed design work than was previously available. This estimate accounts only for costs directly attributable to the East-West Tie project.

In addition, the IESO’s 3rd update noted that costs associated with a portion of the station upgrade work that would be required to enable the existing system to meet the new NERC standards, while maintaining system capability and operational requirements, regardless of whether the East-West Tie expansion goes ahead, was deducted from the station cost estimates.

Hydro One in EB-2017-0194 provided that the proposed East-West Tie station project work includes:

- Installing new facilities at each of the three terminal stations, i.e. Wawa TS, Marathon TS and Lakehead TS for connecting the new 230 kV circuits of the East-West Tie Line project;
- Reconfiguring the existing facilities at Wawa TS and Marathon TS and installing new facilities at all three terminal stations to enable 450 MW power transfer capability, while respecting the NERC and ORTAC criteria and bringing the station layouts in compliance with the ORTAC guidelines; and
- Installing additional reactive compensation at Lakehead TS to mitigate the existing high voltage issue.

Questions:

- a) Please provide the cost for the detailed design work referred to in the IESO update.
- b) Please describe in detail the changes in planned station work prompted by the more detailed design work, and please provide the incremental cost attributable to each such change.
- c) Were there any other factors that led to the increased cost estimate? Please describe and quantify any such factors.
- d) Please provide the cost associated with a portion of the station upgrade work needed in all three terminal stations that would be required (to meet NERC and ORTAC criteria) regardless of whether the East-West Tie expansion goes ahead.
- e) Please provide the cost associated with mitigating the existing high voltage issue, i.e. installing additional reactive compensation at Lakehead TS.

- f) Please confirm Hydro One has not already accounted for the costs in (d) and (e), referred to above in its latest electricity transmission rate proceeding (EB-2016-0160).

- g) Who would the beneficiaries be for the cost associated with the portion of the station upgrade work that would be required, regardless of whether the East-West Tie expansion goes ahead? Would this cost be paid for by the network pool, through Uniform Transmission Rates (UTR)?

Interrogatory # 2

Ref: EB-2017-0194: Exhibit B, Tab 3, Schedule 2, page 6-12

Preamble:

The IESO recommends staging the East-West Tie Station work due to its lower overall cost. The IESO states that the first stage will provide 450 MW east to west transfer capability and cost \$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.

Questions:

- a) Please describe why the full 650 MW of capability is not required at this time. What circumstances are expected to materialize in 2024 to warrant needing this additional capability?
- b) Please advise how the second stage will be triggered.
- c) Will additional approvals be required to undertake the second stage?
- d) Will Hydro One be undertaking the second stage of work?
- e) Please illustrate how the \$10 million of cost savings for deferring stage 2 was calculated.

Interrogatory # 3

Ref: EB-2017-0194: Exhibit B, Tab 2, Schedule 1, Attachment 1, page 4 of 18: “Staging of Station Facilities” and Exhibit B, Tab 5, Schedule 1: “Cost-Benefit Analysis and Options”

Preamble:

The IESO in its 3rd update, dated December 15, 2015 noted that the IESO has identified a potential opportunity to defer costs by staging the installation of station facilities and that this approach would allow for approximately \$100 million of station facility costs to be deferred.

Hydro One’s evidence noted that Hydro One and the IESO have investigated the options for staging the station facilities and two alternatives were compared:

1. The twinned alternative, and
2. The multi-circuit alternative

Hydro One noted that comparison of the two alternatives showed that the multi-circuit alternative is the lowest cost option and that it avoids technical challenges and implementation risks of the twinned alternative.

Questions:

- a) Please provide the studies that the IESO relied upon, which concluded that the multi-circuit alternative maximizes savings and cost deferrals (\$100 millions) for the station facility work.
- b) Please provide the studies that Hydro One relied upon, which demonstrated the technical challenges and implementation risks of the twinned alternative, and demonstrated the lower cost, reduced technical challenges and reduced implementation risks of the multi-circuit alternative.
- c) Please provide at least two examples of any similar electricity transmission projects in Ontario, where the twinned alternative (i.e. formation of a super-circuit) was selected as the preferred option.

Interrogatory # 4

Ref: EB-2017-0194: Exhibit B, Tab 7, Schedule 1, page 1-2 of 4: “Apportioning Project Costs & Risks”

Preamble:

Hydro One, in Exhibit B, Tab 7, Schedule 1, Table 1 set out the costs of East-West Tie station work.

Hydro One noted that based on past experience, the estimate for the station work includes allowances in the contingencies to cover a number of potential risks, including outage availability risk and mismatch between NextBridge’s dead-end structure design and Hydro One’s clearance standards.

Questions:

- a) Please confirm the costs of station work, set out in Exhibit B, Tab 7, Schedule 1, Table 1 are still accurate and whether the total amount (i.e. \$157,315,000) includes all costs, such as land acquisition, that is needed for Wawa TS and Marathon TS.
 - Please identify any anticipated costs that are not currently accounted for in the current estimate.
- b) What cost management and control measures is Hydro One using to mitigate/contain any further increases in estimates?
- c) What are Hydro One’s actual costs to date broken down by category listed in Table 1?
- d) Does Hydro One have monthly or quarterly cost estimates including major components? Please provide those current estimates and, if different, the estimates as of the July 2017 application.
- e) Please provide any previous Hydro One estimates for the station work including a breakdown into the various categories listed in Table 1.
- f) Hydro One states that \$19,227,000 has been allocated to contingencies. Please show how this amount was calculated and any previous projects that were considered at arriving at this number? Have there been any changes to the contingency estimate since July 31, 2017, when Hydro One filed its application?
- g) Hydro One estimates an overhead cost of \$13,367,000. Please show how this amount was calculated and the major components that make up this amount.
- h) Please provide in detail any direct or indirect impacts of Hydro One’s station work on Ontario Power Generation (OPG) operations and outages.
- i) What have Hydro One and NextBridge done to date to ensure NextBridge’s dead-end structure is designed to Hydro One’s clearance standards? In NextBridge and Hydro One’s view, how can this potential risk be mitigated?

Interrogatory # 5

Ref: EB-2017-0194: Exhibit B, Tab 7, Schedule 1, page 1-2 of 4: “Apportioning Project Costs & Risks”

Question:

- a) Please confirm that the costs for station work would be identical regardless of which company was granted leave to construct the East-West Tie line. If this is not the case, please quantify any cost differences that would arise and explain in detail how the costs would vary with the company granted leave to construct.

Interrogatory # 6

Ref: EB-2017-0194: Exhibit B, Tab 7, Schedule 1, page 3 of 4: “Cost of Comparable Projects”

Preamble:

Hydro One noted that the OEB Filing Requirements for Electricity Transmission Applications, Chapter 4 requires the applicant to provide the cost of similar projects constructed by the applicant or by other entities for baseline cost comparisons covering:

- in-service year of the comparator project; and,
- similarities and differences in terms of voltage level, type of towers, type of terrain, etc.

Hydro One provided the details of Orangeville TS.

Questions:

- a) Please provide details of other similar projects that were used by Hydro One in deriving the proposed costs of East-West Tie station work with the actual costs of those comparable station projects.

Interrogatory # 7

Ref: EB-2017-0194: Exhibit B, Tab 9, Schedule 1, page 1 of 6: “Transmission Rate Impact Assessment – 1.0 Economic Feasibility”

Preamble:

Hydro One noted that the initial cost of \$157.3 million includes \$155 million of up-front costs plus \$2.3 million cost of removal. \$113.4 million will be in-service in 2020 and additional \$41.5 million will be in-service in 2021.

Questions:

- a) Please provide the specifics of the \$41.5 million that will go in to service in 2021.
- b) Given the above arrangement (\$113.4 in 2020 and 41.5 million in 2021), please confirm that Hydro One will meet the in-service date of December 2020 for 450 MW of capacity.

Interrogatory # 8

Ref: EB-2017-0194: Exhibit E, Tab 1, Schedule 1: “Land Matters”

Preamble:

Section 97 of the *Ontario Energy Board Act, 1998* (OEB Act) stipulates the following:

“In an application under section 90, 91 or 92, leave to construct shall not be granted until the applicant satisfies the Board that it has offered or will offer to each owner of land affected by the approved route or location an agreement in a form approved by the Board.”

Hydro One filed the following forms of agreement it has to obtain to acquire land rights and/or permits to locate, construct, own, operate and maintain the East-West Tie station project:

- Agreement of Purchase and Sale
- Temporary Access and Temporary Access Road
- Temporary Construction Licence
- Damage Claim Agreement and Release Forms

Questions:

- a) Please confirm the agreements are in the form specified in the OEB’s Filing Requirements.
- b) Which of the forms Hydro One filed in its evidence has been previously approved by the OEB? If so, in which proceedings?
- c) Please update the status of negotiations between Hydro One and parties from which the land rights and/or permits need to be acquired.

Interrogatory # 9

Ref: Evidence EB-2017-0182 Exhibit C, Tab 1, Schedule 1, page 5 and Exhibit C, Tab 2, Schedule 1, Attachment 4

Preamble:

In its application (EB-2017-0182), NextBridge notes that it is working with Hydro One to address the feasibility of crossing Hydro One transmission infrastructure in certain locations, or, in the alternative, moving the Hydro One transmission structures.

Also included in the evidence is an email from Hydro One to NextBridge expressing its concern over the number of crossing and the impact on reliability of the transmission system and connected customers.

Questions:

- a) Please advise as to the current status of discussions with NextBridge on this issue.
- b) Are there any potential cost impacts on Hydro One's application (i.e. EB-2017-0194), if Hydro One's infrastructure has to be moved.
- c) Please describe the reliability impacts for customers and anything Hydro One/NextBridge intends to do to mitigate these impacts.