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May 8, 2018

Delivered by Email, RESS & Courier

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street
Suite 2701
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: Hydro One Networks Inc.
Application for Leave to Construct – EB-2018-0098
Interrogatories from Atlantic Power Corporation

We are counsel to Atlantic Power Corporation in respect of the above noted matter.

Please find attached the interrogatories of Atlantic Power Corporation.

Yours very truly,

BORDEN LADNER GERVAIS LLP

Per:

Original signed by John A.D. Vellone

John A.D. Vellone

cc: Applicant and Intervenors of record in EB-2018-0098
Joseph Cleary, Atlantic Power Corporation
Jarvis Coffin, Atlantic Power Corporation

EB-2018-0098

Interrogatories
from
Atlantic Power Corporation

May 8, 2018

Atlantic Power-1

Reference: Exhibit B, Tab 3, Schedule 1

"On September 1, 2015, the IESO published the NUG ("Non-Utility Generator") Framework assessment report ("NUG Report") to the Minister of Energy. This report identified that following the contract expiry of local area generation, reliability standards may not be met without further system reinforcement."

The NUG Report at pgs. 15-16

"While NUGs were initially contracted as system-wide resources without consideration for regional supply needs; they may provide, in some cases, valuable support in maintaining reliability to the local system where they are connected. This potential for local value was included in the assessment conducted by the IESO for each NUG listed in Table 1. The result of this assessment indicates that none of the NUGs, with the potential exception of the Kapuskasing and Calstock NUGs, are required for the purpose of meeting local reliability needs.

The Kapuskasing and Calstock NUGs provide some value in supporting supply reliability in the Hearst/Kapuskasing area. The transmission system in the identified area supplies a large industrial customer with some critical load. While the system can adequately supply the area's loads without these two NUGs when all transmission facilities are available, the Kapuskasing and Calstock NUGs would reduce the risk of load interruptions when transmission facilities are forced out of service."

Questions:

(a) Has Hydro One (or the IESO) contacted the owners / operators of the Kapuskasing and Calstock NUGs to discuss the possibility of those NUGs providing short-term capacity relief to address the system need in advance of the launch of a formal capacity auction process for Ontario? Produce all available evidence that this alternative has been fully explored by Hydro One (and the IESO).
(b) Produce a detailed assessment of the impact on project need if one or both of the above mentioned NUGs are successful in Ontario's planned capacity auction process.
(c) If these NUGs were able to provide short-term capacity relief to address system need, would this give Hydro One (and the IESO) more time to conduct a more comprehensive and fulsome needs analysis prior to seeking leave to construct transmission infrastructure that may not ever be required?

Atlantic Power-2

Reference: Exhibit B, Tab 3, Schedule 1

> "The North-East of Sudbury Regional Planning process commenced on September 24, 2015, and based on the fact that there were existing challenges in operating the bulk transmission system in the area, the IESO and Hydro One agreed that a bulk system study should be run in parallel with the formalized Regional Planning Process. This enabled the bulk system study to be expedited to ensure timely solutions would be in place given the potential lead time for transmission-based solutions. The scope of the bulk system study for the Kapuskasing area investigated the adequacy and operability of the system supplying the Kapuskasing area, as it currently exists, and following the contract expiry of local area generators."

Questions

(a) Produce a copy of the Regional Infrastructure Plan ("RIP") arising from the North-East of Sudbury process. Identify where in this plan the proposed Kapuskasing Reinforcement Project is clearly identified. If the Kapuskasing Reinforcement Project is not clearly identified in the RIP, explain why.
(b) Were local generators invited to participate in the Regional Planning process to identify opportunities where their assets might help meet system needs at a lower total cost for ratepayers? If no, why not? If yes, produce all evidence of their involvement.
(c) Why did Hydro One (and the IESO) determine that the Kapuskasing Reinforcement Project study should be conducted outside of the Regional Planning process? What external stakeholders were involved in this study? Were local generators directly involved in the study, to identify opportunities where their assets might meet system needs at lower costs for ratepayers? If no, why not?
(d) Explain to what extent the Kapuskasing Reinforcement Project study addresses each of the following (which are the core components of Ontario's Regional Planning process[1]):

- **Coordination:** How did the study address local and regional planning concerns, including without limitation Community Energy Plans and the needs and preferences of local industry and load consumers?
- **Engagement:** How did the study facilitate a strong commitment to public participation, including incorporating the voices of Indigenous communities and municipalities, individuals and business groups?
- **Integration:** How did the study address the best mix of available options, including conservation and demand management, new or increased generation, investment in transmission or distribution facilities, or innovative solutions?

[1] http://www.ieso.ca/en/get-involved/regional-planning/about-regional-planning/overview

(e) Would Hydro One and the IESO be willing to undertake a new study, in consultation with local generators to identify opportunities where their assets might help meet system needs at a lower total cost for ratepayers? If no, why not?

Atlantic Power-3

Reference:

Application Summary:

> 8. The total cost of the transmission line facilities for which Hydro One is seeking approval is approximately $15.1 million. The details pertaining to these costs are provided at Exhibit B, Tab 7, Schedule 1, Table 1.
>
> 9. Coincident with the transmission line upgrade, work will also be carried out at Kapuskasing TS to install a 10 Mvar capacitor bank and reactor. The transmission-related cost of the station work is estimated to be approximately $6 million.

Questions:

(a) The evidence indicates that the "transmission-related cost of the station work" is approximately $6 million. Please identify any and all other costs associated with the station work, whether or not "transmission-related".

Atlantic Power-4

Reference: Exhibit B, Tab 2, Schedule 1, lines 4 – 9

Preamble: "The Independent Electricity System Operator ("IESO") has identified that increased power transfer limits across H9K will be required to supply Kapuskasing area loads during times of high hydroelectric generation and as a result of the inability to rely on local generation facilities as a firm generation source. This increased power demand causes sections of the H9K circuit to become overloaded. Consequently, the circuit needs to be upgraded as well as associated station facilities."

Questions:

(a) Given that the IESO materials filed on the public record do not identify high hydroelectric generation as a factor requiring increased power transfer limits across H9K, on what basis does Hydro One cite high hydroelectric generation as a factor?
(b) On what basis does Hydro One conclude that it cannot rely on local generation facilities as a firm generation source? Did Hydro One consult with local generators? If no, why not?
(c) But for recontracting, is there a reason (technical or otherwise) that existing generation sources cannot be relied upon beyond June 2020?

Atlantic Power-5

Reference: Exhibit B, Tab 3, Schedule 1, Attachment 1

Questions:

(a) Hydro One relies on the IESO H9K Upgrade Evidence for the conclusion that the transmission line upgrades must be in-service no later than June 2020. Without recontracting of existing generation in the area, how does Hydro One plan to deal with possible delays to the in-service date of the transmission line upgrades?
(b) Did Hydro One (or the IESO) determine the date at which the transmission line upgrades would be required in the event that the local generation facilities contracts are extended beyond 2020? If yes, when would the upgrade be required if the contracts could be economically extended indefinitely? If not, why was this option not explored?
(c) Please provide all assumptions made by Hydro One (or the IESO) in calculating the total costs of Option 3, including:
    i. the assumed term of any new generation contract,
    ii. the assumed pricing for such new contract,
    iii. the assumed capacity and operating characteristics of such generation,
    iv. the assumptions about which portion of the contracted price was directly attributable to meeting local reliability needs vs. which portion of the contracted price was intended to meet broader system needs,
    v. any assumptions about other costs included in Option 3 that are not directly related to re-contracting a local generation resource.
(d) Did Hydro One (or the IESO) determine whether a different recontracting price / term / approach would be acceptable to the local generators that could narrow or eliminate the NPV gap between Options 3 and Option 1? Is yes, please provide details of the process and the results. If not, why was this option not explored?
(e) Did Hydro One (or the IESO) assess the potential benefit of extending the existing contracts with local generators or recontracting for a period that would extend beyond the completion of the IESO's Market Renewal Project in order to determine whether the transmission line upgrades would be required under the resulting market design that may include such features as a capacity market? If yes, please provide details of the analysis and conclusions. If no, please explain why the possibility that the changes resulting from the Market Renewal Project would eliminate the need for the proposed upgrades was not considered.
(f) Hydro One relies on the IESO H9K Upgrade Evidence for the conclusion that existing generation facilities in the area cannot be relied upon to meet local needs. Did Hydro One evaluate why existing generation facilities cannot be relied upon? What was its independent conclusion?
(g) If the existing generation facilities can be relied upon and the H9K project is deferred, what would be the scope of work for the transmission line in 10 to 15 years based on Hydro One typical practices?
(h) Hydro One relies on Section 5.0 of the IESO H9K Upgrade Evidence for the conclusion that Option 1 is the most cost effective way to meet supply capacity and voltage performance needs in the Area. Is the scope of work in Option 1 typical? Is it typical to upgrade the line with a heavier conductor and replace poles to carry the heavier conductor? If not, should the

NPV calculation be based on advancing the typical work 10 or 15 years and adding the present day cost of the atypical work?

(i) Did Hydro One request further information on Option 3 (of Section 5.0)? In particular, did Hydro One seek clarification on the assumptions embedded within Option 3? If so, what are they? If not, why not?

(j) Did Hydro One collect data relating to and/or perform its own analyses of annual cost values for Options 1, Option 2, and Option 3 (of Section 5.0)? If so, please provide copies with confidential info redacted. In not, please provide whatever analyses Hydro One relied on.

(k) Did Hydro One consider non-economic benefits (e.g., socioeconomic and First Nations benefits) in relying on IESO's conclusion that Option 1 (of Section 5.0) is the preferable option? If so, what value did it place on such benefits? If not, why not?

Atlantic Power-6

Reference: Exhibit B, Tab 4, Schedule 1, lines 14-17

Preamble: "Based upon the above criteria, the Project is considered non-discretionary. The Project is being undertaken at the request of the IESO and it will increase power transfer capability into the Kapuskasing area and it will support the transmission system during periods of high output from generation sources."

Question:

(a) If the local generation sources could be relied upon, would that change the categorization of the transmission line upgrade to discretionary at this time?

Atlantic Power-7

Reference: Exhibit B, Tab 6, Schedule 1, lines 18-19

Preamble: "It is reasonable to expect that [the H9K sections] will be replaced at some point in the future, even though their replacement is not currently in any existing Hydro One business plans."

Question:

(a) Do transmission line upgrades of similar size and scope to the H9K project normally require special budgeting in Hydro One's business plans? If so, why is the H9K project not accounted for in the business plans? If, instead, similar projects are part of Hydro One's ordinary budget for transmission line maintenance, on what basis does Hydro One conclude in Exhibit B, Tab 5, Schedule 1 (and throughout its application) that performing the H9K project now achieves "cost synergies" and avoids "double customer and community construction impacts"?
(b) How often and for how long do transmission lines go beyond their expected life? Is it reasonable to expect that H9K could outlast the 10-15 year estimate?

Atlantic Power-8

Reference: Exhibit B, Tab 7, Schedule 1, Pg. 2, lines 8-16

Preamble: "Resource shortage – there is a risk of resource shortages due to multiple projects that are set to be in execution at the same time in the general area of the KAR Project. This may lead to schedule delays and additional costs.

Outage constraints – there is a risk that securing an outage will not be supported by customers in the area and this may result in schedule delays and additional costs.

Aggressive timelines – there is a risk of not meeting the in-service date due to the aggressive timelines set on the Project (14 months following the leave to construct approval)."

Questions:

(a) With respect each of these three risks (resource shortage, outage constraints and aggressive timelines), would contracting of the existing generation facilities on a short-term basis avoid or help to mitigate the risk or allow for more thorough review? If so, how long is needed?

Atlantic Power-9

Reference: Exhibit B, Tab 7, Schedule 1, lines 16 and 17

Preamble: "Additionally, the H9K Project involves extra cost for multiple river crossings, access and terrain challenges such as swampy-like conditions."

Questions:

(a) What permits does Hydro One expect to require for work in these conditions?
(b) Have those permits been obtained? If not, what is the expected time to obtain them?
(c) Are there other permits needed for the transmission upgrade? What is their expected time?

Atlantic Power-10

Reference: Exhibit B, Tab 11, Schedule 1

Questions:

(a) If Hydro One begins procurement in July 2018, and the OEB does not rule until August 2018 or later, who bears the financial risk of potentially unnecessary materials?

Atlantic Power-11

Reference: Exhibit F, Tab 1, Schedule 1, Attachment 2, Table 1

Question:

(a) Are the existing Summer Long Term Emergency (LTE) Rating and Summer Short Term Emergency (STE) Rating of the H9K circuit section from Spruce Falls Power & Paper Co. Junction to Carmichael Falls Junction known, assumed or estimated?
(b) If known, explain how. If assumed, provided the basis for such assumptions. If estimated, detail the estimation methodology.
(c) Could further study and/or analysis potentially reveal that the listed ratings of 290 A are lower than the actual ratings?
(d) Would LTE and STE ratings higher than 290 A technically facilitate reliance on existing biomass generators in the area?

Atlantic Power-12

Reference: Ontario Energy Board Notice of Application and Hearing dated April, 4, 2018 (the "**Notice**")

Question:

(a) The Notice prescribes three issues for the OEB's consideration, including the promotion of the use of renewable energy sources in a manner consistent with the policies of the Government of Ontario. Is the Kapuskasing Reinforcement Project being constructed for the purpose of promoting the use of renewable energy sources in a manner consistent with the policies of the Government of Ontario?