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July 17, 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
Submissions of Atlantic Power Corporation ("Atlantic Power")

Pursuant to Procedural Order No. 3, please find enclosed Atlantic Power's Submissions.

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

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, Sched. B, as amended;

AND IN THE MATTER OF an Application by Hydro One Networks Inc., pursuant to Section 92 of the *Ontario Energy Board Act, 1998* for an order or orders granting leave to upgrade existing transmission line facilities in the Kapuskasing area;

AND IN THE MATTER OF an Application by Hydro One Networks Inc., pursuant to Section 97 of the *Ontario Energy Board Act, 1998*, for approval for the land agreements for temporary construction rights that may be required for the duration of the construction period of the KAR project.

SUBMISSIONS OF ATLANTIC POWER CORPORATION

July 17, 2018

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INTRODUCTION:

> "*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.*"[1]

1. Atlantic Power Corporation ("**Atlantic Power**") makes these written submissions on the Application filed by Hydro One Networks Inc. ("**HONI**") with the Ontario Energy Board (the "**Board**" or "**OEB**") on February 5, 2018, as subsequently amended March 8, 2018, seeking an order or orders granting leave to upgrade 32km of transmission line facilities in the Kapuskasing area and associated station facilities (the "**KAR Project**") pursuant to section 92 of the *Ontario Energy Board Act, 1998* (the "**OEB Act**") and seeking approval of the forms of agreement offered or to be offered to affected landowners pursuant to section 97 of the OEB Act (the "**Application**"). The Board assigned file numbers EB-2018-0098 to the Application.

2. On July 5, 2018 HONI filed its Argument-in-Chief in respect of the Application (the "**AIC**"). Atlantic Power will address matters raised in the AIC as part of these submissions as appropriate.

3. Atlantic Power has organized its submissions in respect of the Application in response to the following four questions:

[1] IESO Report titled NUG ("Non-Utility Generator" Framework assessment Report, published September 1, 2015 and available online at: http://www.ieso.ca/-/media/files/ieso/document-library/reports/nug-framework-assessment-report.pdf?la=en

1. Has there been a demonstration of the need for the Project?

2. Have alternatives to the current Project been considered?

3. What will be the impact on the use and generation of electricity from renewable energy sources?

4. Is the project in the public interest?

4. Finally, Atlantic Power concludes with some brief comments on the IESO submissions.

1. Has there been a demonstration of the need for the Project?

5. HONI's evidence indicates that the KAR Project is needed to address:

> "*capacity and voltage performance needs that emerge due to the expiry of local generation facilities' contracts. Once the contracts expire, these generation facilities can no longer be relied on to meet local needs*."[2]

6. The need for the KAR Project only exists if the existing generation facilities cannot be relied upon in the future. The assumption that HONI, and the Independent Electricity System Operator (the "IESO"), has made is that once the existing contracts expire the existing generation facilities can no longer be relied upon to meet local needs.

7. In a letter dated April 13, 2016 from the IESO to HONI, the IESO clearly expressed their uncertainty with regards to whether or not local generation facilities can be relied upon to meet local needs:

> "*Should it not be possible to rely on the firm capacity of Kapuskasing CGS and Calstock CGS in the future, [...]*"[3]

8. However, any acknowledgement of this uncertainty vanishes in the evidence. Rather, the IESO states definitively its assumption that:

> "*Once the contracts expire, these generation facilities can no longer be relied on to*

[2] Exhibit B, Tab 3, Schedule 1, Attachment 1 at Section 3 (page 2).
[3] Exhibit I, Tab 1, Schedule 2, Attachment 1 at page 2.

meet local needs."[4]

9. Neither HONI nor the IESO have provided any supporting evidence for this assumption.

10. That is because the assumption has proven to be untrue.

11. The evidence filed by Atlantic Power at Exhibit J and the interrogatory responses at Exhibit K demonstrate a willingness and desire on behalf of the owner of two existing local generation facilities, the Calstock GS and the Kapuskasing GS, to continue to meet local needs at the minimum reasonable cost to the ratepayers.

12. Based upon this incorrect assumption, the IESO and HONI chose to run a separate bulk system study, in parallel with the formalized Regional Planning Process, to investigate the adequacy and operability of the system supplying the Kapuskasing area, as it currently exists, and following the contract expiry of local area generators.[5]

13. HONI and the IESO did not at any time meet with or discuss with Atlantic Power the possibility of utilizing either the Calstock GS or the Kapuskasing GS, or both, to continue to meet local system needs. This is not disputed by any party:

> "*The IESO did not contact the owners/operators of the Kapuskasing GS and Calstock GS to discuss the possibility of those NUGs providing short-term capacity relief to address the system need […]*"[6]

and

> "*The bulk study was conducted between IESO and Hydro One. Local generators were not directly involved in the bulk study. To understand the generation options to meet the reliability need, the IESO leveraged third party cost estimates for new generation facilities and costs for similar IESO-contracted facilities in Ontario. Due to the cost difference between the transmission and generation options, described on page 6 of Exhibit B, Tab 3, Schedule 1, Attachment 1, the IESO concluded that it was not necessary to reach out to the local generators.*"[7]

and

[4] Exhibit B, Tab 3, Schedule 1, Attachment 1 at page 4.
[5] Exhibit B, Tab 3, Schedule 1 at Page 1, lines 8-15 and Exhibit B, Tab 3, Schedule 1, Attachment 1
[6] Exhibit I, Tab 2, Schedule 1.
[7] Exhibit I, Tab 2, Schedule 2 at page 3.

> "*The IESO and Hydro One have not, to-date, entered into discussions with Atlantic Power about the options available to utilize the Calstock and/or Kapuskasing generating stations to maintain regional reliability and defer the need of costly transmission system upgrades.*"[8]

14. HONI's evidence of project need relies entirely upon a document prepared by the IESO dated January 30, 2018 titled and hereinafter referred to as the "***H9K Upgrade Evidence***".[9]

15. At Section 5.0 of the H9K Upgrade Evidence, in a single paragraph the IESO discusses "Option 3" to not advance work on the KAR Project and instead execute a new supply contract with an existing generation facility. With regards to this option, the IESO concluded that "[t]his option has an estimated NPV in 2017 dollars of more than $38 million."[10]

16. One problem with the H9K Upgrade Evidence is the assumptions the IESO used to arrive at its estimates. As Atlantic Power repeatedly will demonstrate, the assumptions used are not based in fact. This issue marks a common theme in Atlantic Power's submissions. Since HONI hold the burden of proof, it is incumbent upon them to demonstrate that their assumptions are reasonable.

17. The IESO confirmed some of its assumptions during the interrogatory process:

> "*The assumptions in calculating the total costs of Option 3 are provided below:*
>
> *i. the assumed term of any new generation contract: 10 to 15 year contract terms were assumed based on the expected end-of-life range for the 32 km section of H9K in question.*
>
> *ii. the assumed pricing for such new contract: IESO leveraged third party cost estimates for new generation facilities and costs for similar contracted facilities in Ontario.*
>
> *iii. the assumed capacity and operating characteristics of such generation: It was assumed that a 30MW gas turbine was re-contracted and re-configured to match required operating characteristics: a high degree of operability (quick starts, rapid ramping) and a low capacity factor (< 5%).*
>
> *iv. the assumptions about which portion of the contracted price was directly attributable to meeting local reliability needs vs. which portion of the contracted*

[8] Exhibit J at page 5, paragraph 12.
[9] Exhibit B, Tab 3, Schedule 1 at Attachment 1.
[10] Ibid at Section 5.0, Page 6.

> *price was intended to meet broader system needs: The entire contracted cost for a facility, as described in i) to iii) above, was attributed to meeting the local need.*
>
> *v. any assumptions about other costs included: The installation of the capacitor at the end of the new contract term was also included in the cost."*[11]

18. This response raised more questions about the analysis conducted by the IESO than they answered, as detailed by Atlantic Power at paragraphs 15-21 of Exhibit J.

19. The evidence does not consider the utilization of either the Calstock GS or the Kapuskasing GS, or both, as potential lower cost options. Since Calstock GS consists of a renewable biomass boiler and a steam turbine, and IESO considered only a gas turbine, it is apparent that Calstock GS was not evaluated at all. For Kapuskasing GS, the IESO assumes some level of "reconfiguration" to achieve some undefined "operating characteristics", all determined with no discussion with the facility owner.

20. Had either HONI or the IESO contacted Atlantic Power, they would have learned that the cost estimates they were utilizing greatly overstate the costs associated with using the Calstock and/or Kapuskasing facilities to continue to meet local needs.[12]

21. In Exhibit K, Atlantic Power identified that HONI and IESO have not provided evidence that supports any particular level of operability that is required to meet local system needs. In particular, it does not demonstrate what specific technical requirements of quick starts and rapid ramping are essential and required operational characteristics. Despite this lack of clarity and specificity, Atlantic Power identified a range of generation options to be evaluated.

22. A key attribute underpinning the economics of generation options is the useful life of the equipment at both the Calstock and Kapuskasing facilities, which will extend at least another 10 years (i.e., to 2030) and potentially longer with proper maintenance. [13]

23. The near perfect alignment between the remaining useful life of the equipment at both the Calstock GS and the Kapuskasing GS and the 10-15 year interim period identified by the

[11] Exhibit I, Tab 2, Schedule 5 part (c).
[12] Exhibit J at para. 10.
[13] Exhibit J, Appendix "A", Section 1.5 at Page 13 and Appendix "B", Section 1.5 at Page 16.

IESO in the H9K Upgrade Evidence appears to have been ignored, despite the obvious cost savings that may result for ratepayers from this approach.

24. The Calstock GS and Kapuskasing GS both offer a degree of operational flexibility, which could be augmented by targeted incremental changes, and which can meet system needs at a significantly lower cost that has not been accounted for by the IESO or HONI in their analysis. These alternatives are more fully detailed in Atlantic Power's response to Board Staff interrogatory #1.[14]

25. Finally, Atlantic Power's evidence demonstrates that it is willing to entertain a mutually agreeable short-term contract, if one is required, to ensure the provision of continued services from either the Calstock GS, the Kapuskasing GS, or both (as needed) past June 2020 to ensure that system needs continue to be met.[15] The sole purpose of such a short-term arrangement would alleviate the schedule pressure that is currently driving Hydro One to seek an expedited response from the OEB, and to allow for a more fulsome consideration of project need, alternatives and costs. In Atlantic Power's submissions doing this is in the public interest. The objective is to more carefully consider local generation's ability to achieve the local technical requirements at a minimum reasonable cost to the ratepayers.

26. At paragraph 9 of its AIC, HONI cites the directive issued by the Minister of Energy to the IESO to argue that the Government of Ontario has directed the IESO to discontinue negotiations for new contracts for NUGs. The implication of HONI's argument appears to be that a new contract with Atlantic Power has been precluded by the Directive.

27. Atlantic Power disagrees HONI. Notably, the IESO has made no similar assertion at any point in this process. That is because the relevant direction dated December 16, 2016 also explicitly requires the IESO to:

> "1.3 *Continue to consider NUGs as options to maintain regional reliability*."

28. It is clear from the direction that the Minister intended to carve-out situations where NUGs could be used as options to maintain regional reliability from the more general prohibition

[14] Exhibit K, Staff-1 at pages 2-5.
[15] Exhibit J at para. 6.

on new contracts. Under the direction, if the IESO determined that a NUG was a viable option to maintain regional reliability, a new contract was still a possibility.

29. HONI acknowledged this in their interrogatory responses, explaining that it was only after the KAR Project had been completed that the IESO would then be precluded from entering into a new contract with either of these generators.[16]

30. It is clear from the evidence filed in this Application that the IESO has, to date, failed to consider the Calstock GS and/or Kapuskasing GS as options to maintain regional reliability. The requirement in the directive simply has not been met.

31. HONI and the IESO should be expected to ensure that all alternatives be properly considered before undertaking an otherwise costly transmission system upgrade. The goal should be to ensure that the technical requirements are met at a minimum reasonable costs for the ratepayer.

32. Indeed, forward thinking and progressive electricity distributors routinely consider alternatives as cost effective solutions to deferring costly distribution system upgrades.[17] This utility behavior is driven by the Board's clear expectation that all alternatives be considered and utilized when appropriate. This expectation was recently articulated in the Decision and Order in EB-2017-0024 dated April 6, 2018:

> "*Providing an assessment of options to meet an identified need is an important element of an application for funding of capital, whether it be in a rebasing application or for an ICM. The OEB accepts that costing and detailed analysis of an option is not required if an option does not meet the required capabilities or applicable technical standards. The OEB does not accept Alectra Utilities' assertion that CDM is not an alternative for system renewal investments options. Like-for-like asset replacements for aging infrastructure should not be the only option considered. Circumstances may have materially changed since an asset was first put into service. As a result, new options,* ***including those that do not involve distribution infrastructure****, should be considered when Alectra Utilities prepares its consolidated DSP.*"

33. It is clear from this decision that the Board expects that electricity distributors must consider

[16] Exhibit I, Tab 1, Schedule 6, at page 1.
[17] See Project E7.10 (demand response) and E7.11 (storage) in Toronto Hydro-Electric System Limited's Distribution System Plan 2015-2019, EB-2014-0116.

and, if economic, pursue lower cost options that may not involve costly distribution infrastructure upgrades when appropriate. It is not clear why HONI, as a transmitter, would not also be required to consider, and if economic, pursue lower cost options that do not involve costly transmission infrastructure when appropriate.

2. Have alternatives to the current Project been considered?

34. Atlantic Power submits that there is insufficient evidence on the record for the Board to conclude that alternatives to the current KAR Project have been adequately considered.

35. The only evidence of the alternatives considered this Board panel has available in this case is the H9K Upgrade Evidence, totaling approximately one (1) page out of an eight (8) page document.

36. By comparison, when assessing generation versus transmission alternatives in respect of the York Energy Centre (EB-2005-0315),[18] that Board panel had the benefit of:

a. Northern York Region Electricity Supply Study dated September 30, 2005 (59 pages) (the "**NYR Electricity Supply Study**")[19]
b. Exhibit A – Consultation Report (129 pages)[20]
c. Exhibit B – Load Forecast and CDM Options (144 pages)[21]
d. Exhibit C – Capability of Existing System and Gap Analysis (18 pages)[22]
e. Exhibit D – Transmission Options (19 pages)[23]
f. Exhibit E – Generation Options (22 pages) (the "**Generation Options Analysis**")[24]
g. Exhibit F – Transformation & Distribution Options (26 pages)[25]
h. Exhibit G – Preliminary Conclusions Regarding the Role of Peaking Capacity

[18] Exhibit K, Staff-4(b) at pages 12-13.
[19] https://www.oeb.ca/documents/cases/EB-2005-0315/report_300905.pdf
[20] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_a_300905.pdf
[21] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_b_300905.pdf
[22] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_c_300905.pdf
[23] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_d_300905.pdf
[24] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_e_300905.pdf
[25] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_f_300905.pdf

in Ontario (24 pages)[26]

i. Exhibit H – Cost Comparison of Generation and Transmission Alternatives in Northern York Region (25 pages) (the "**Cost Comparisons**")[27]

37. There was an abundance of credible evidence that was available to the Board panel in EB-2005-0315 that is completely missing in HONI's EB-2018-0098 filing. In the following two subsections, Atlantic Power addresses two key deficiencies in the Application by making simple comparisons to the evidence that was available in the NYR Electricity Supply Study.

a. The assessment of generation alternatives

38. With regards to the Northern York Region, the OPA sought information directly from proponents of new electricity generation facilities in the Northeastern York to provide assurance that there was interest in building generation in the affected area.[28]

39. In this case, the evidence is the opposite. HONI confirmed that no other stakeholders, including existing local generators, were directly involved in the development of the bulk system study.[29]

40. The first time Atlantic Power learned of the KAR Project was when it received the Board's notice for this Application, which led directly to Atlantic Power's intervention request.

41. With regards to the Northern York Region, the OPA detailed in evidence the various technical aspects of generation options (simple cycle vs. combined cycle) before concluding that from a technical standpoint that either a simple cycle gas or combined cycle gas plant would be suitable to meet needs.[30] The OPA evidence detailed a clear, considered and impartial technical analysis of all the alternatives that could be used to meet local needs and the relevant trade-offs for each.

[26] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_g_300905.pdf
[27] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_h_300905.pdf
[28] Generation Options Analysis at Section 1.2 (pages E-2 to E-4).
[29] Exhibit I, Tab 2, Schedule 2, part (c).
[30] Generation Options Analysis at Section 1.3, 1.4 and 1.5 (pages E-5 to E-18).

42. In this case, the evidence is the opposite. The H9K Upgrade Evidence includes no detailed or impartial technical analysis of the suitability of various technical (simple cycle vs. combined cycle) generation alternatives. Rather, all we know is that (emphasis added) "*[i]t was **assumed** that a 30MW gas turbine was re-contracted and re-configured to match required operating characteristics: a high degree of operability (quick starts, rapid ramping) and a low capacity factor (< 5%).*"[31] There is no underlying technical analysis provided to support these assumptions, or the trade-offs available with regards to each, available on the evidentiary record.

43. It is not Atlantic Power's contention that the same level of detailed technical analysis done for the NYR Electricity Supply Study is required for this KAR Project. But certainly, no detailed evidence of technical alternatives is simply not enough.

44. These specific technical requirements, and the underlying trade-offs, have a direct impact on the operating characteristics and costs associated with utilizing local generation facility to meet system needs.[32] Atlantic Power identified a volume of missing information in its response to Board staff interrogatory number 1.[33] As just one example, the Application suggests that there is congestion on the transmission system during periods of high output from hydroelectric generation. However, there is no specific technical information on the record about this issue.

45. Atlantic Power also explained:

"*APC is at a severe informational disadvantage in this regard.*

> *To prepare the requested estimates APC would require evidence on whether H9K is operating at its normal rating, Long Term Emergency rating, or Short Term Emergency rating (and what those ratings are), as well as whether the power plants are assumed to be off-line, on-line based on the day ahead or real time market conditions, or proactively dispatched to respond to a system condition. APC would also require evidence of the level of operability that is required to meet local system needs. In particular, it does not demonstrate what (if any) specific requirements of*

[31] Exhibit I, Tab 2, Schedule 5, part (c)(iii) at page 3 of 5.
[32] Exhibit K at Staff-1 at pages 3-4.
[33] Ibid.

> *quick starts and rapid ramping are essential and required operational characteristics."*[34]

46. HONI deliberately ignores these information limitations at para. 29 of its AIC. Instead, HONI mischaracterizes Atlantic Power's responses as being focused on "confidentiality concerns". This is simply not true, as the response above clearly demonstrates. Confidentiality issues can be addressed with appropriate precautions. The real issue is that HONI and the IESO have failed to provide evidence of the detailed technical requirements, and the underlying trade-offs, which are necessary for Atlantic Power to provide meaningful input.

47. Confronted with Atlantic Power's evidence of a variety of practical technical options to meet the purported need, the IESO, <u>for the very first time,</u> started to explore these options in its interrogatory questions by asking about start-up times, availability, operational flexibility, and possible targeted incremental changes at each facility. Atlantic Power responded to these questions clearly and directly,[35] consistent with Atlantic Power's willingness to engage in an open exchange of information and ideas.

48. However, this is too little and too late.

49. For this Application, it is clear on the evidentiary record that the alternatives proposed by Atlantic Power simply have not been considered by the IESO or HONI in any meaningful way. The Application should be rejected on this basis, until a more meaningful and fulsome assessment is completed.

50. With regards to the Northern York Region, the OPA's assessment of generation alternatives recognized the additional value of generation over a transmission alternatives, inclusive of energy, capacity and ancillary services (voltage support) for the power system.[36] Specifically:

> *"The Province of Ontario is in the process of acquiring new generation resources. While the scope of the problem here has been limited to Northern York Region it must take into consideration the provincial context. Because generation is required*

[34] Exhibit K at Staff 3(b) at page 9.
[35] Exhibit K at IESO 1-3 at pages 16-19.
[36] Generation Options Analysis at Section 1.1 (pages E-1 and E-2).

> *to meet the provincial demand and is already being developed elsewhere in the province, the real cost of providing local generation to address Northern York Region's supply problem is the incremental cost of locating generators in the region instead of somewhere else. It is possible that generation elsewhere may be less expensive to build or operate, but that generation will place demands on the provincial transmission grid, increase losses on the transmission system and require transmission lines to be built or reinforced within York region. All of those factors must be considered in evaluating the two available supply options.*
>
> *To understand the contribution generation can offer it is important to understand the characteristics of generators as a potential solution to area supply problems. Generation provides energy, capacity and voltage support for the power system."*[37]

51. For the Northern York Region, the OPA filed a detailed cost comparison of generation and transmission alternatives that included a specific description of the methodology, comparison scenarios (and the rationale for each) and all assumptions used, together with copies of the underlying models.[38] The incremental value of generation (energy, capacity and voltage support) was accounted for directly in this analysis by comparing the costs of new local generation and no transmission system upgrade with the costs of new generation located at the Dawn hub and the associated transmission system upgrade.

52. In this case, the evidence is the opposite.

53. The H9K Upgrade Evidence compares the costs of a generation option utilizing various assumptions that are not based in fact. This is shown in response to Board Staff interrogatory #3:

> *" To respond to this interrogatory, the IESO completed additional analysis, and the estimated the cost on a NPV basis for a 5-year contract is more than $36 million. This is because the fixed costs associated with re-configuring the existing facilities to become quick start, including existing asset overhaul and/or replacement, would still have to be recovered, just over a shorter period of time.*
>
> *To meet the local area reliability need, it is also possible to continue to operate the existing generators as they are operated today (i.e. not reconfiguring the existing facilities to become quick start). However, if the units are not reconfigured to have a faster start up time, the units will have to run as baseload generators to ensure they are available when needed, which would result in high energy costs. The IESO estimates that extending the contract with the existing facilities without*

[37] Ibid at Section 1.1 (page E-1).
[38] https://www.oeb.ca/documents/cases/EB-2005-0315/exhibit_h_300905.pdf

> *reconfiguring the facility to become quick start, and assuming baseload generation of 10MW for a 5 year term, would still cost more than $35 million."*[39]

54. In the H9K Upgrade Evidence, and the subsequent interrogatory responses, the IESO only considered two scenarios. First, in the H9K Upgrade Evidence, the IESO assumed the existing generation facility must be completely re-configured to become "quick start", including overhaul and/or replacement of existing assets – which resulted in the $35 million NPV. As part of the interrogatory responses, the IESO completed an "additional analysis" which assumed the exact same costs, just recovered over a shorter term, to conclude unsurprisingly it would still cost "more than $36 million."

55. The assumptions made by the IESO in the H9K Upgrade Evidence are not based in fact. They assume a gas turbine in both scenarios, while the Calstock GS is a biomass facility. The IESO assumed that the equipment would need an overhaul/replacement or otherwise operate as baseload generation at greater than 10MW **without** knowing the operational flexibility available or the remaining useful life of the equipment or the actual start-up times for either the Kapuskasing GS or the Calstock GS. We know this because the IESO did not actually ask Atlantic Power what the start-up times until the interrogatory process on the Atlantic Power evidence (which occurred long after the IESO conducted either analysis).[40]

56. The evidence demonstrates that the start-up time for the Kapuskasing GS is a mere 20 minutes in simple cycle mode – with no modifications.[41] The evidence also demonstrates that there are a wide range of options available at both the Calstock GS and the Kapuskasing GS that fall well short of a complete asset overhaul/replacement or baseload generation that can be used to meet local system needs. [42]

57. Notably, neither the H9K Upgrade Evidence nor the HONI IRRs include detailed cost comparison of generation and transmission alternatives that included a specific description of the methodology, comparison scenarios (and the rationale for each) and all assumptions used, together with copies of the underlying models. What we do know is that none of the

[39] Exhibt I, Tab 1, Schedule 3 pages 1-2.
[40] Exhibit K at page 16.
[41] Ibid.
[42] Exhibit K, Staff-1 at pages 3-5.

reasonable scenarios recommended by Atlantic Power have been contemplated, assessed or costed in the H9K Upgrade Evidence or the HONI IRRs.

58. In addition, the H9K Upgrade Evidence compares the costs of generation directly with a transmission upgrade option, without properly accounting for the additional value-added services (energy, capacity and ancillary services) to meet broader system needs that a generation facility would provide that a transmission upgrade option would not.

59. Specifically, in response to Atlantic Power's question about the assumptions made in the H9K Upgrade Evidence 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 these broader system needs (e.g. energy, capacity and ancillary services), HONI (or the IESO) responded:

> "*The entire contracted cost for a facility, as described in i) to iii) above, was attributed to meeting the local need.*"[43]

60. Atlantic Power explained in detail in its evidence why this analytic approach is neither just nor reasonable.[44] Atlantic Power also provided, **for illustrative purposes only**, an example to demonstrate a more reasonable comparison methodology that properly accounts for the value of energy, capacity and ancillary services when comparing the transmission and generation alternatives.[45] Atlantic Power is open to discussing this comparison with the IESO and HONI more specifically, should they have any questions about the different assumptions made or the methodology proposed.

61. The purpose of the example was not to engage in a debate the different assumptions in this proceeding. Rather it was to illustrate an alternative to the H9K Upgrade Evidence comparison methodology – which is simply incorrect.

62. HONI appears to have completely misunderstood the purpose of this example in its AIC at para. 25. The point of the example is to note that even with the costly transmission system upgrade, ratepayers still must pay for energy, capacity and ancillary services to meet their

[43] Exhibit I, Tab 2, Schedule 5 page 3 of 5.
[44] Exhibit J, paragraph 28 and Exhibit K, Staff-4 at pages 10-13.
[45] Exhibit K, Staff-2, at pages 6-7.

needs. The KAR Project on its own is not sufficient in the absence of these underlying resources and a valid comparison can only be done if the cost of the KAR Project plus the cost of a comparable level of capacity, energy and ancillary services is compared to either of the generation alternatives. Put another way - a transmission line, without power to transmit, is neither used nor useful.

63. At para. 27 of its AIC, HONI argues that any costs associated with the generation options would be "in addition to" the costs to complete the KAR Project. This statement relies on an assumption made in the Application that the transmission upgrade project will still be required in 10 years. The IESO relied upon this assumption provided by HONI in the H9K Upgrade Evidence by only considering "advancement costs" associated with the KAR Project when assessing Option 1. To assess the merits of this assumption, it would be beneficial to see actual evidence – rather than a mere assertion. This includes evidence of the assumed useful lives of the relevant equipment together with the probability of equipment outlasting that assumed useful life. Atlantic Power also believes that evidence of alternatives to a complete replacement in 10 years should also be considered and assessed. Finally, evidence about the impact of changes in local demand, technological changes, introduction of the capacity market, and other changes to the IESO administered market on the potential replacement would be needed. Absent this evidence, Atlantic Power (and the Board) has no means of validating whether or not the project will still be required in 10 years. We are instead relying on an untested assertion, which if unchallenged, will have a dramatic effect on the economic comparison of alternatives in favor of the transmission solution.

64. Atlantic Power's recommended approach for the comparison methodology is consistent with the OPA's comparison of transmission and generation options in the Northern York Region supply study.

65. Atlantic Power's recommended approach is also consistent with Section 1(1) of the *Ontario Energy Board Act, 1998,* which provides that an objective of the Board is to:

> "*to promote economic efficiency and cost effectiveness in the generation, transmission, distribution, sale and demand management of electricity and to*

facilitate the maintenance of a financially viable electricity industry."

66. To fulfill this broader public interest objective, the Board would need to have credible evidence on the economic efficiency and cost effectiveness of not just a transmission solution, but a solution that considers in a comprehensive and more holistic basis the generation, transmission, and distribution of electricity.

67. HONI argues in its AIC at para. 15 that "Hydro One's view is that the efficient and optimized development of the transmission system is of a higher value than the interests of any single operator within the system." Atlantic Power does not agree with HONI's contention. Atlantic Power is arguing that the evidence fails to demonstrate that the ratepayers interests have been sufficiently considered, not Atlantic Power's. It is simply not sufficient to consider the optimized development of the transmission system on its own. Rather, the optimization process must consider economic efficiency and cost effectiveness in the generation, transmission, and distribution of electricity as a whole. Optimization of one component, without consideration of the other interconnected components of the system, will not result in efficient or cost effective outcomes for ratepayers.

68. Atlantic Power submits that the cost comparisons of generation versus transmission alternatives shown in the H9K Upgrade Evidence and HONI IRRs fails to properly account for the value-added services provided by local generation that would not be provided by a mere transmission upgrade, and consequently the analysis should be rejected.

69. Atlantic Power submits that the Application should be rejected based on HONI's failure to provide any meaningful evidence of having completed a detailed cost comparison of generation and transmission alternatives (on apples-to-apples basis) that includes a specific description of the methodology, comparison scenarios (and the rationale for each) and all assumptions used (including properly accounting for value added services provided by local generation), together with copies of the underlying models.

b. Evidence of consultations with affected communities, residents and local businesses

70. With regards to the Northern York Region, the OPA (as it then was) "engaged the affected communities and local utilities directly in the process by receiving advice, feedback, and

comment with respect to the identification, definition and evaluation of electricity supply and demand response options."[46] These consultations were documented in great detail in evidence at Exhibit A to the NYR Electricity Supply Study.

71. In this case, the evidence is the opposite. While a typical regional planning process would involve various local stakeholder groups, HONI confirmed that no other stakeholders, including local generators, were directly involved in the bulk system study that led to the KAR Project.[47]

72. It is not Atlantic Power's contention that consultations to the extent of the NYR Electricity Supply Study are required for this KAR Project. But certainly, no evidence of consultations is simply not enough.

73. After the Application was filed, the Board has since received letters of comment from local municipal leaders, including the mayor of the Municipality of Matice-Val Cote and the mayor of the Town of Hearst, local business groups including Thunderhouse Forest Services Inc., Lecours Lumber Co. Limited and Hearst Forest Management Inc., as well as the Power Workers' Union (which represents employees at both HONI and Atlantic Power). In each case the message is clear: the benefits of utilizing local and existing generation resources (in particular the Calstock GS) should be considered and weighed.

74. Atlantic Power submits that the Application should be denied because it lacks evidence demonstrating a strong commitment to public participation, including incorporating the voices of municipalities, individuals, business groups and, most directly relevant, local generation resources. While HONI emphasizes that the need of the KAR Project is dependent on an inability to rely on the Calstock GS and Kapuskasing GS, yet the owner of both of these facilities has not been invited to participate in a discussion of alternatives in any meaningful way.

c. Conclusion

75. Based on the foregoing, Atlantic Power submits that there is not sufficient evidence on the

[46] The NYR Electricity Supply Study at page 3.
[47] Exhibit I, Tab 2, Schedule 2, part (c).

record that alternatives have been appropriately considered.

3. What will be the impact on the use and generation of electricity from renewable energy sources?

76. Pursuant to Section 96(2) of the *Ontario Energy Board Act, 1998*, the Board must consider, in addition to price, reliability and quality of electricity supply, whether the KAR Project is in the public interest "where applicable and in a manner consistent with the policies of the Government of Ontario, the promotion of the use of renewable energy sources."

77. In addition, HONI is required under Section 70(2.1) of the *Ontario Energy Board Act, 1998* to, as a deemed condition of their transmission license, *inter alia*, prepare plans for "the expansion or reinforcement of the licensee's transmission system or distribution system to accommodate the connection of renewable energy generation facilities" and based on approved plans "to expand or reinforce its transmission system or distribution system to accommodate the connection of renewable energy generation facilities."

78. Despite these clear statutory requirements, and HONI's transmission license obligation, there is no evidence that the promotion or the use of renewable energy sources have been considered in either the Application or in the HONI IRRs (even after being asked directly in Atlantic Power interrogatory #12).[48]

79. The evidence is clear. The Calstock GS is a renewable biomass facility.[49]

80. The evidence is also clear that:

> "*Once the project has been initiated and completed, the IESO would not be able to extend the contract with the non-utility generators (NUGs) due to the December 14, 2015 and December 16, 2016 directives to the IESO from the Minister of Energy […]*"[50]

81. The evidence is also clear that the Government of Ontario's policy in this context is to "Continue to consider NUGs as options to maintain regional reliability", as set out in the December 16, 2016 directive to the IESO.

82. As previously discussed above, the IESO has not, to-date, meet its obligation under this directive to consider the Calstock GS or Kapuskasing GS despite the ability of one or both facilities to continue to meet local needs.

[48] Exhibit I, Tab 2, Schedule 12.
[49] Exhibit J at Appendix "A".
[50] Exhibit I, Tab 1, Schedule 6.

83. In this context, HONI's argument at paragraph 13 of its AIC is strangely circular. HONI argues that, on the one hand, the KAR Project is needed because the local generation facilities can no longer be relied upon once their contracts expire while, on the other hand, arguing that there is "no requirement" that the facilities close once the contracts expire.

84. If you accept the logic of this second assertion, and the local generation facilities remain open once the contracts expire, then Atlantic Power submits that HONI and the IESO have not produced any evidence about why these facilities could not otherwise be relied upon to meet local needs. As noted above, neither HONI nor the IESO have met with Atlantic Power to discuss this scenario. Rather, HONI and the IESO appear to assume that generation must be contracted in-order to be relied upon.

85. However, this is not how Ontario's electricity market (as set out in the IESO Market Rules) has been designed. Ontario's electricity market was designed to have mainly merchant facilities (i.e. not contracted) on the grid. These facilities are expected to provide a variety of benefits to the system through operation of the markets for energy and various ancillary services. They are "counted on" to do this. The market has not yet evolved sufficiently that generators are purely merchant, and contracts with the IESO are still required. However, many of the contracts managed by the IESO do not include firm capacity obligations that require a facility to deliver upon demand. Rather, generation resources are incented by market price signals to generate electricity when the system needs that energy – and the IESO generally "counts on" those resources.

86. If the Board were to accept HONI's argument, it would mean that costs would unnecessarily substantially increase as IESO and HONI and possibly other distributors add incremental transmission and distribution facilities to support the system's reliability and quality on the assumption that the Ontario electricity market mechanism could not be counted on. This would result in a hodgepodge of service duplications across the system (belts and suspenders).

87. Atlantic Power certainly hopes that HONI and the IESO are not recommending costly system upgrades in every instance where the system is otherwise relying on market price signals to dispatch local generation rather than firm contractual capacity commitments.

88. Atlantic Power submits that there is simply no evidence as to the performance of the existing facilities after contracts expire. The argument that these facilities could not be counted on

after the contracts expire is inconsistent with the way the Ontario markets are structured.

89. In this context, Atlantic Power submits that the only logical conclusion is HONI and the IESO are assuming that, in the absence of a capacity auction process, the KAR Project will lead directly to the closure of the Calstock GS, an existing renewable biomass facility that has served the Ontario System reliability for 18 years. There is no other way to support their assumption about project need.

4. Is the project in the public interest?

90. For the reasons noted above, Atlantic Power submits that evidence fails to demonstrate that the KAR Project is in the public interest.

91. The Board should reject the Application pending a more fulsome analysis of project need and alternatives. The purpose of this more fulsome analysis would be to ensure the local area technical requirements are met at a minimum reasonable cost to the ratepayer.

92. The analysis should be done in a manner consistent with the requirements of the December 16, 2016 directive to the IESO to:

> "*Continue to consider NUGs as options to maintain regional reliability.*"

93. Put more specifically, the analysis should explicitly consider the ability of the Calstock GS, the Kapuskasing GS, or both to maintain regional reliability and thereby defer a costly transmission system upgrade. Any such analysis should be done in an open and transparent manner in cooperation with Atlantic Power, as the owner of two local generation resources, to properly compare the various generation options as against the proposed H9K Upgrade Evidence. The analysis should also consider local stakeholder input.

94. The analysis should be done in a manner consistent with the principles established in Section 1(1) of the *Ontario Energy Board Act, 1998*:

> "*to promote economic efficiency and cost effectiveness in the generation, transmission, distribution, sale and demand management of electricity and to facilitate the maintenance of a financially viable electricity industry*."

95. Put more specifically, the analysis should properly account for the additional value-added

services offered by a generation alternative that are not offered by a transmission alternative.

96. The analysis should explicitly address the impact of the different alternatives on renewable energy sources in a manner consistent with Section 96(2) of the *Ontario Energy Board Act, 1998*.

97. Atlantic Power's proposed approach does not assume a particular outcome. Rather, the public interest will be best served by completing a fair comparison of the ability of the Calstock GS, the Kapuskasing GS, or both to meet this unique local need and thereby defer the KAR Project. Only by doing this will the Board know whether consumers are protected with regards to price, reliability, adequacy of supply, and the promotion of renewable energy sources. Atlantic Power's objective is to ensure that the Board has clear and credible evidence that the chosen alternative will resolve local technical needs at a minimum cost to ratepayers.

98. Finally, and in the alternative, should the Board grant the relief requested in this Application, the results will be catastrophic for the Calstock GS and the Kapuskasing GS. This was confirmed by HONI in evidence:

> "*Once the project has been initiated and completed, the IESO would not be able to extend the contract with the non-utility generators (NUGs) due to the December 14, 2015 and December 16, 2016 directives to the IESO from the Minister of Energy […]*"[51]

99. The Board should be reluctant to make such a determination without a more fulsome evidentiary record and analysis of project need and alternatives.

5. *Atlantic Power comments on the IESO Submissions*

100. Finally, Atlantic Power has had an opportunity to review the IESO's submissions dated July 17, 2018, which were filed earlier in the day today (the "**IESO Submissions**"). Atlantic Power concludes its submissions with some brief comments on the IESO Submissions.

101. On the issue of Atlantic Power providing costs for various modes of operation, Atlantic Power submits that this Application is not the right forum for negotiating or for designing

[51] Exhibit I, Tab 1, Schedule 6, part (b).

the appropriate equipment or mode of operation to meet the system's needs. The data presented by Atlantic Power is illustrative of reasonable alternatives that could have been considered but were not and are examples that the IESO has not yet performed sufficient analysis. It is not the intention of Atlantic Power to expect the OEB to oversee a planning process that should have preceded the request for leave-to-construct as set out in the Application. Once the OEB rejects the Application and the IESO re-starts its analysis, Atlantic Power will be quite willing to work on other reasonable proposals with the IESO & HONI.

102. On consideration of the two "extreme" options assessed by the IESO, Atlantic Power's view is that they both are potentially well beyond what is needed to meet the local area reliability requirements. They represent a simplistic and somewhat expedient method of analysis that misses other potential alternatives to reduce ratepayer costs while addressing reliability requirements. Certainly it would be unreasonable to expect a facility to run baseload, out of merit, simply to meet reliability standard requirements.

103. In the case of quick start capability - it is possible that upon examination of the situation that leads to the reliability issue being addressed here, quick starting may indeed be required. Atlantic Power simply raises the issue that there is insufficient technical information provided to assess this determination, and Atlantic Power notes the possibility that the analysis may show other less costly operating modes that can still meet the requirements.

104. Regarding the discussion about properly accounting for energy, capacity, and ancillary services of generation, the IESO appears to agree with Atlantic Power. However the IESO fails to demonstrate how their analysis of alternatives in the H9K Upgrade Evidence has properly accounted for any of these valued added components. Rather, the IESO focuses its criticisms on assumptions made in an example that was provided by Atlantic Power for illustrative purposes only. The IESO has provided no compelling reason why its H9K Upgrade Evidence has failed to account for these value added generation services. The IESO has failed to discharge its burden of proof in this regard.

105. Regarding the discussion around congestion, the IESO states that there would be a lower capacity value due to congestion. Even if Atlantic Power accepts this statement as true, a lower capacity value is not the same thing as a zero dollar capacity value and again a more fulsome analysis would work toward finding what that value is and add it to the other

benefits. Similarly, HOEP reflects the avoided cost which would be netted from the cost of running these facilities. Again a more fulsome analysis would work towards finding an appropriate energy value and add it to the other benefits.

106. In summary, the submissions from the IESO further supports the need to conduct a more fulsome analysis that can bring foreword sound and reasonable alternatives, fully costed and properly assessed to ensure that the best ratepayer value is achieved.

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS 17TH DAY OF JULY, 2018

BORDEN LADNER GERVAIS LLP

Per:

Original signed by John A. D. Vellone

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John A.D. Vellone

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