

July 17, 2018

**VIA Email, Courier and RESS**



**Independent Electricity System Operator**

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Ms. Kirsten Walli  
Board Secretary  
Ontario Energy Board  
27<sup>th</sup> Floor 2300 Yonge Street  
Toronto, ON  
M4P 1E4

Dear Ms. Walli:

**Re: Hydro One Networks Inc.  
Section 92 – Kapuskasing Area Reinforcement Project  
Ontario Energy Board File No.: EB-2018-0098**

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On February 6, 2018, Hydro One Networks Inc. (“Hydro One”) filed with the Ontario Energy Board (“OEB”) an application for an Order or Orders granting leave to upgrade existing transmission line facilities in the Kapuskasing Area. In accordance with Procedural Order (“P.O.”) 2, Atlantic Power Corporation (“APC”) filed its evidence on June 7, 2018, to which the IESO and OEB staff filed interrogatories on June 14, 2018. The OEB amended the procedural dates originally set in P.O. 2, issuing P.O. 3 on June 26, 2018 to re-establish the dates for filing Hydro One’s written argument-in-chief and parties’ written final submissions. Accordingly, the IESO’s final submission is provided below.

The IESO continues to recommend upgrading the 32-km section of circuit H9K and installing a 10 Mvar capacitor bank to meet the reliability needs of the Kapuskasing Area that emerge in June 2020. This option is, in the IESO’s opinion, the least-cost option for providing the required levels of reliability to satisfy the applicable requirements of the Ontario Resource and Transmission Adequacy Criteria (“ORTAC”).<sup>1</sup> To support this position, the IESO submission will focus on:

- Options for Meeting the Reliability Needs
- Project Cost and End-of-Life Considerations
- Assessment of Alternatives
- Provincial System Value and Local Area Congestion

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<sup>1</sup> Ontario Resource and Transmission Adequacy Criteria, section 4.7

### **Options for Meeting the Reliability Needs**

As described in the IESO's evidence at Exhibit B-03-01, Attachment 1, reliability needs emerge in the Kapuskasing Area in the summer of 2020, as a result of the expiry of local generation contracts.

To meet the local area reliability needs, a number of options were considered in addition to the proposed transmission option, including new generation and re-contracting existing generation. It is important to note that for any generation option, the generation must have rapid start-up capabilities or run as baseload generation<sup>2</sup> at minimum loading point in order to be available to address the specific reliability needs.

To achieve the required rapid start-up capabilities, modifications to existing facilities, including APC's facilities, are required. The IESO included estimated costs for these modifications in its assessment of alternatives.<sup>3</sup> APC confirmed in its evidence and interrogatory responses that modifications are required. However, APC did not provide a cost estimate or further clarifications on the associated costs for these modifications to dispute IESO's evidence.<sup>4</sup>

Of the scenarios the IESO considered in its analyses that involve using existing generating facilities, options where the facilities run at baseload operation at minimum loading point were more expensive than rapid-start options for terms five years or longer, due to the amortization of capital costs.

### **Project Cost and End-of-Life Considerations**

The capital cost of the upgrade to circuit H9K and the new capacitor bank is estimated at \$17.06 million (in 2017 dollars). As noted, this 32-km section of H9K is expected to reach end-of-life between June 2029 and 2034.<sup>5</sup> As a result, for the purposes of cost comparisons with other alternatives, it is appropriate to use the costs of *advancing* the replacement of this section of H9K, rather than the capital cost. On this basis, the IESO estimates the cost of the proposed project, including the end-of-life advancement, is \$8.4 million, assuming a 10-year advancement, or \$10.5 million, assuming a 15-year advancement.<sup>6</sup>

### **Assessment of Alternatives**

The IESO conducted an analysis of a number of options in addition to the proposed transmission option, including new generation and re-contracting existing generation, to meet the emerging reliability needs in the Kapuskasing Area. This is described in Exhibit B-03-01, Attachment 1. The IESO further completed additional analysis in response to OEB staff

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<sup>2</sup> Exhibit I-01-03, page 1

<sup>3</sup> Exhibit B-03-01, Attachment 1, page 7

<sup>4</sup> Exhibit K, pages 8-9

<sup>5</sup> Exhibit B-07-01, Attachment 1, page 6

<sup>6</sup> Ibid

interrogatory 3.<sup>7</sup> The IESO continues to conclude that, based on all of these analyses, the least cost option for meeting the capacity and voltage performance needs in the Kapuskasing Area is the proposed upgrade to H9K and associated transmission facilities.

In its evidence, APC states that “the estimated NPV of more than \$36 million substantially overstates the costs of utilizing Atlantic Power’s existing facilities to meet the local system needs”.<sup>8</sup> The IESO disagrees with this statement. While APC indicated that the IESO’s analysis overstates the costs of utilizing APC’s facilities, APC’s materials and interrogatory responses do not provide any evidence to substantiate APC’s assertions that the operation of either of its plants can be cost competitive with the end-of-life advancement of H9K.

In conducting its analysis, the IESO used costs for similar IESO-contracted facilities in Ontario as well as third party cost estimates. These sources provide a reasonable and reliable basis to determine the cost range for the generation options. Based on these sources, the IESO determined that the generation options, at a cost of more than \$38 million, were substantially more costly than the transmission option. Compared to the end-of-life advancement costs associated with the transmission option (\$8.4 to \$10.5 million),<sup>9</sup> the IESO reasonably determined that the generation options did not merit further consideration.

In discussing the need for any generation option to operate as a baseload generator or to be equipped to operate as a quick-start facility, APC states that “the IESO and Hydro One failed to consider reasonable alternatives that represent a sensible middle ground between these two extreme modes of operation”.<sup>10</sup> The IESO again disagrees with this statement. These are not extreme modes of operation; these are the modes of operation necessary to ensure the facilities are available to meet the reliability needs of the Kapuskasing Area.

All Power Plant Options presented by APC either would not be viable in meeting the reliability needs or would not be cost-competitive alternatives to the proposed project.

### **Provincial System Value and Local Area Congestion**

APC states that its generation facilities would also provide capacity, energy and ancillary services and, for an accurate comparison, the value attributable to these services should be deducted from the cost of the generation option.<sup>11</sup> The IESO agrees with this statement, but disagrees with APC’s supporting analysis.

In APC’s assessment, consideration was not given to constraints imposed by local area congestion in providing system value. Hydro One’s evidence states that there is congestion on

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<sup>7</sup> Exhibit I-01-03, page 1

<sup>8</sup> Exhibit J, page 5

<sup>9</sup> Exhibit B-03-01, Attachment 1, pages 7-8

<sup>10</sup> Exhibit J, page 7

<sup>11</sup> Exhibit J, pages 6-7

the transmission system during periods of high output from hydroelectric generation.<sup>12</sup> Local area congestion impacts a generator's ability to provide capacity, energy and ancillary services to the provincial grid. As a result, the services that APC's facilities could provide would offer less value to the Ontario electricity system than indicated in APC's evidence at Exhibit J.

APC stated that energy has an intrinsic value separate from meeting local reliability needs, as determined by Hourly Ontario Electricity Price ("HOEP").<sup>13</sup> APC, however, then directly contradicts this statement by using an amount of \$125/MWh drawn from the LRP I RFP in its Example Breakeven Analysis.<sup>14</sup> This figure is nearly an order of magnitude greater than HOEP over the last three years. APC further overestimates the annual capacity value by using \$370/MW-day (the 2016 Demand Response value in the Northeast) in an interrogatory response to OEB staff<sup>15</sup> while their evidence references \$200/MW-day (based on the May 10, 2018 IESO demand response auction results for the Northeast).<sup>16</sup>

### Conclusion

The IESO continues to recommend upgrading the 32-km section of circuit H9K and installing a 10 Mvar capacitor bank to meet the reliability needs of the Kapuskasing Area that emerge in June 2020. This option is the least-cost option for providing the required levels of reliability following the contract expiry of local generation facilities. Other options, including generator options, were considered; however, given the significant cost difference between the transmission and generation options, the generation options were deemed not cost-effective and were not explored further.

All of which is respectfully submitted.

Yours truly,



Tam Wagner  
Senior Manager, Regulatory Affairs

cc: Eryn MacKinnon, Senior Regulatory Coordinator, Hydro One  
Michael Engelberg, Assistant General Counsel, Hydro One  
Maia Chase, Senior Regulatory Advisor, IESO  
Michael Lesychyn, Case Manager, OEB  
Richard Lanni, OEB Counsel

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<sup>12</sup> Exhibit B-09-01, page 2

<sup>13</sup> Exhibit J, page 6

<sup>14</sup> Exhibit K, page 7

<sup>15</sup> Ibid

<sup>16</sup> Exhibit J, page 6