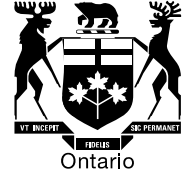


**Ontario Energy  
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**BY E-MAIL**

August 4, 2009

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

Attention: Ms. Kirsten Walli, Board Secretary

Dear Ms. Walli:

**Re: Hydro One Networks Inc. – Woodstock East Transmission Upgrade  
Board File Number EB-2009-0079**

Please see attached interrogatories of Board staff in respect of the above named proceeding. Please forward the following to Hydro One Networks Inc. and all intervenors in this proceeding.

Yours truly,

*Original Signed By*

David Richmond  
Case Manager

**Woodstock East Transmission Line Upgrade  
EB-2009-0079  
Board Staff Interrogatories**

**1.     *Load Forecast for Transformer Stations in the Woodstock Area***

***Reference***

Exhibit B, Tab 1, Schedule 4, page 1, lines 10-14

***Preamble***

Hydro One states in its pre-filed evidence that the existing Woodstock TS load has exceeded its summer peak demand rating of 82.9 MW for the past few years. Woodstock Hydro and Hydro One Distribution (on a combined basis) are forecasting load growth of 40 MW by 2012 and 60 MW by 2016 in excess of the peak demand rating of Woodstock TS.

***Questions/Requests***

- a)     Please provide the latest available forecast that is being relied upon for this project, broken down by Transformer Station and by 115 kV directly connected customers (LaFarge and Toyota) and also indicate any assumed load transfers.
- b)     Does the forecast that is used for the planning of the project in question reflect current economic conditions and can it still be relied upon to establish need for this project?
- c)     If load transfers from the Woodstock area have been contemplated (or have been carried out) to Ingersoll TS, what is the current loading at that station and when is it projected to be overloaded?
- d)     So as to properly “calibrate” this forecast, please provide the projected and actual summer peak demand for all Woodstock area stations and 115 kV directly connected customers for 2007, 2008 and 2009.

**2. Load Forecast for the B8W 115kV Transmission Line (and Proposed Replacement Circuits)**

**Reference**

Exhibit B, Tab 1, Schedule 4, page 2, lines 1-5

**Preamble**

Hydro One states in its pre-filed evidence that B8W is a single-circuit 115 kV line running between Woodstock TS in the west and Brant TS in the east and running east-west along Parkinson Road in the City of Woodstock and Towerline Road in Norwich Township. It is operated with an open point at the Brant TS end. Hydro One contends that the thermal capability of B8W (105 MW) is not adequate to supply the forecast load.

**Questions/Requests**

- a) Since the section of B8W proposed for rebuild (section between Woodstock TS and the planned Commerce West TS) will only supply Commerce Way TS and Woodstock Toyota TS and this circuit has a thermal capacity of 105 MW and the load on these two facilities is only 59.4 MW in 2011, rising to 92.5 MW in 2020, please provide an explanation of why the line “is not adequate to supply the forecast load”?
- b) Provide a year to year forecast of the load projected for the B8W transmission line so as to indicate when the line loading is estimated to reach 105 MW, 145 MW and 150 MW.

**3. Asset Condition of the Existing B8W Transmission Line**

**Reference**

Exhibit B, Tab 1, Schedule 4, page 3, lines 11-18

**Preamble**

Hydro One states in its pre-filed evidence that the existing single-circuit B8W line is close to its end of life and the existing line towers lack the structural strength to be suitable for the replacement of the existing conductors with higher-rated conductors or the accommodation of a second circuit.

**Questions/Requests**

- a) What evidence does Hydro One have to support its assertion that the B8W transmission line is close to its end of life? Please provide that evidence.
- b) What specific tests have been carried out on the B8W transmission line and what analysis has been performed on these test results?

**4. Upgrading B8W to a Double Circuit 230 kV Transmission Line**

**Reference**

Exhibit B, Tab 1, Schedule 4, page 5, lines 4-10

**Preamble**

Hydro One states in its pre-filed evidence that the development and sustainment aspects of the project consist of replacing the existing single circuit 115 kV line, which is at end of life, and upgrading it to a double circuit 230 kV line to meet system reliability and future load growth needs. While a single circuit 115 kV line with upsized conductors could supply the customers' expected future load, the line is proposed to be upgraded at this time to a double circuit 230 kV configuration in order to meet reliability guidelines and address anticipated future system enhancements in the area.

**Questions/Requests**

What are the cost differences between:

- a) a single circuit 115 kV line with upsized conductors that could supply the customers' expected future load and a double circuit 115 kV line with similar sized conductors; and
- b) a single circuit 115 kV line with upsized conductors that could supply the customers' expected future load and a double circuit 230kV line with conductors as proposed for the preferred alternative?

For each of the cost comparisons provided above, please provide the following detailed information:

***Estimated Cost (\$000's)***

- I. Project Management
- II. Engineering
- III. Procurement
- IV. Construction
- V. Contingencies
- VI. Costs before Overhead and AFUDC
- VII. Overhead
- VIII. AFUDC
- IX. Total Line Work

***5. Woodstock Area Requirement for Additional Reliability***

***Reference***

Exhibit B, Tab 1, Schedule 4, page 3, lines 22-26

***Preamble***

Hydro One states in its pre-filed evidence that the need to add a second circuit is based on the IESO's Load Restoration Criteria (contained in the IESO's Ontario Resource Transmission Assessment Criteria) which specify that loads greater than 150 MW should be restorable within an approximate 4-hour time limit following a contingency. Typically, this means the line should be restorable by switching to a [readily available] second circuit.

***Questions/Request***

- a) What has been the history of faults and restoration times on the B8W line over the last 15 years?
- b) Is the fault history for B8W significantly different than that for other similar 115 kV single circuit transmission lines?
- c) Has Hydro One ever previously rebuilt a single circuit transmission line into a double circuit arrangement significantly in advance of the circuit reaching the 150 MW threshold?
- d) If Hydro One has rebuilt a single circuit transmission line into a double circuit arrangement in advance of the circuit reaching the 150 MW threshold, when was this done, what were the circumstances and to what degree was the work advanced in respect of the 150 MW threshold?

**6. Project Need Characterization**

**Reference**

Exhibit B, Tab 1, Schedule 4, page 6, lines 10-20

**Preamble**

Hydro One states in its pre-filed evidence that the project is classified as primarily non-discretionary. The connection aspect (non-discretionary) of the project is to meet the needs of Woodstock Hydro and Hydro One Distribution and the Sustainment and Development (discretionary) aspects are required to ensure the reliability and quality of electrical supply to consumers in the area.

**Question/Request**

- a) Why does Hydro One state that there is a non-discretionary requirement to rebuild the B8W line to deliver additional Woodstock area load when the load on the line will only be 59.4 MW in 2011 (rising to 92.5 MW in 2020) and the line is currently rated at a capacity 105 MW?

**7. Use of Demand Side Resources and Distributed Generation to meet Additional Load Requirements**

**Reference**

Exhibit A, Tab 3, Schedule 1, page 4, lines 20-23

**Preamble**

Hydro One states in its pre-filed evidence that the LDCs have confirmed that the need cannot be met through new distributed generation resources or conservation and demand management initiatives in the Woodstock Area, given the overloading situation at the existing facilities.

**Questions/Request**

- a) What amount of conservation and demand management has been achieved for Woodstock TS and at Toyota and LaFarge to date and how much is projected in the planning timeframe for these facilities and for Commerce Way TS? Please provide answers in MW/year and MWh/year for each facility.

- b) What amount of distributed generation has been achieved for Woodstock TS and at Toyota and LaFarge to date and how much is projected in the planning timeframe for these facilities and for Commerce Way TS? Please provide answers in MW/year and MWh/year for each facility
- c) How do the levels of achievement for conservation and demand management) and distributed generation described in 7(a) and (b) compare with those at other similar facilities?

**8) Cost of New Facilities**

***Reference***

Exhibit B, Tab 4, Schedule 2, page 2, lines 2-14  
Exhibit B, Tab 4, Schedule 3, page 3, lines 11-14

***Preamble***

It is noted in the pre-filed evidence that the estimated cost for the proposed line work is \$14.89 million. In addition to the line construction costs, \$5.8 million of telecommunications work is needed to incorporate the proposed transmission facilities on to the grid.

***Questions/Requests***

- a) Is the \$5.8 million telecommunications upgrade typical for the installation or rebuild of 4 km of double circuit 230 kV line and if this is the case, please provide examples along with the associated telecommunications costs for similar upgrades that Hydro One has carried out.
- b) The cost estimate provided by Hydro One in the EB-2006-0013 proceeding (Line Connection to Hurontario Switching Station) for a similar double circuit transmission line was \$8.425 million for 4.2 km and the Hurontario line was slightly longer, had the added complexity of a 401 highway crossing as well as the requirement for specialized line structures near the airport. Why are the projected costs for the proposed Woodstock line approximately 75% more expensive than for the Hurontario line?

**9) Cost Sharing for Transmission Station Facilities**

***Reference***

Exhibit B, Tab 4, Schedule 3, page 2, lines 28-30

Exhibit B, Tab 4, Schedule 3, page 3, lines 1-5

Exhibit B, Tab 4, Schedule 3, page 4, lines 12-17

***Preamble***

It is stated in the pre-filed evidence that the costs assigned to customers for cost responsibility purposes in relation to the Transformation Connection pool are \$23.8 million for a new 115-27.6 kV 50/83 MVA DESN Transformer Station at Commerce Way TS. This amount includes \$0.6 million of telecommunications costs assigned to customers for the installation of protection and control (P&C) systems at Commerce Way TS and for P&C modifications at nearby stations. The remaining \$0.3M of telecommunications costs is assigned to the pool as this is to accommodate future design for 230 kV facilities.

The pre-filed evidence further states that a 25-year discounted cash flow analysis for the Transformation Connection facilities is provided and the results indicate that the forecast incremental revenues are expected to be insufficient to pay for the incremental capital and operating costs and therefore a customer capital contribution will be required from Hydro One Distribution (\$8.5M) and Woodstock Hydro (\$4.1M).

***Questions/Requests***

- a) Please provide details of the cost sharing arrangement for the construction of the last five Hydro One transformer stations (LDC or high voltage customer connection) and show that these were consistent with the method suggested for this project.
- b) If there were differences in the cost sharing arrangement for the construction of the last five Hydro One transformer stations, please state the reason(s) for those differences.
- c) Is Woodstock Hydro in agreement with this cost sharing proposal?



## **10) Cost Sharing for Transmission Facilities**

### **Reference**

Exhibit B, Tab 4, Schedule 3, page 2, lines 1-24  
Exhibit B, Tab 4, Schedule 3, page 4, lines 3-8

### **Preamble**

It is stated in the pre-filed evidence that in determining the capital contribution regarding the line connection assets, the costs assigned to customers for cost responsibility purposes are \$0.7 million. This amount covers the cost of constructing a line tap from the B8W ROW to the new station. The remaining \$14.2 million of line connection costs covers the cost of rebuilding the existing end-of-life line to 230 kV standards and installing a second 230 kV circuit from Woodstock TS to the tap to Commerce Way TS. Hydro One states that this additional work (rebuilding and upgrading the line) has been identified and planned for and is being done to replace an existing line and to provide a second circuit for the reliability of the transmission system and to meet future load growth needs. Additionally, of the \$6.4 million in telecommunications work required for the project, which is primarily network pool-related, \$5.8 million has been identified by Hydro One to upgrade telecommunication for the transmission system reliability needs (e.g. the 230 kV upgrade).

It is further stated that the costs related to the replacement of the existing line and upgrade to 230 kV standards have been assigned to the pool for cost responsibility purposes and excluded from the project's economic analysis, in accordance with the exceptions provided in Sections 6.3.6 and 6.7.2 of the *Transmission System Code*.

### **Questions/Requests**

- a) Since the line section of B8W between Woodstock TS and Commerce Way TS and the tap section from the main B8W corridor into Commerce Way TS (0.1 km) are both connection assets why are they treated differently in the application with respect to customer capital contributions?
- b) Why has the applicant stated that the line section of B8W between Woodstock TS and Commerce Way TS will require no customer capital contribution when the Board stated in its decision in the Brampton West Transmission Facilities upgrade (EB-2007-0013) that:

*It is clear that, taken as a whole, section 6.3 of the Code (including the sections referenced above) provides that in almost all cases where the transmitter is enhancing its equipment to accommodate the needs of a line connection, a capital contribution will be required from the*

*customer or customers who benefit from the enhancement..... To be clear, where planning involves joint studies between Hydro One and one or more distributor(s) to meet different timing and supply needs such as load growth, the Board views such plans as customer-driven, where a capital contribution would be required.<sup>1</sup>*

- c) Applying the reasoning of the Transmission Connection Procedures decision to the facts of this Application, it would appear that a capital contribution should be paid by the two distributors creating the increased demand, and their capital contribution should be commensurate with their contribution to the increase in demand. Therefore please state why the applicant feels that transmission costs assigned to customers for cost responsibility purposes should be limited to \$ 0.7 million.

## **11) Aboriginal Peoples Consultations**

### **Reference**

Exhibit B, Tab 6, Schedule 5, page 3, lines 3-9

### **Preamble**

Hydro One states in the pre-filed evidence that it consulted with the Ontario Ministry of Aboriginal Affairs, and Indian and Northern Affairs Canada, and has provided information on this project to the following Aboriginal Peoples: Chippewas of the Thames First Nation; Oneida Nation of the Thames; Munsee-Delaware Nation; Mississaugas of the New Credit First Nation; Chippewas of Kettle and Stoney Point; Walpole Island First Nation; and Six Nations of the Grand River. Hydro One stated that it will continue consultation and discussions with Aboriginal Peoples relating to this project and will work to resolve any issues or concerns that may arise.

### **Questions/Requests**

Please provide a status update with regard to the following;

- a. Identify all of the Aboriginal groups that have been contacted in respect of this application.
- b. Indicate:
  - I. how the Aboriginal groups were identified;
  - II. when and how contact was first initiated;
  - III. the individuals within the Aboriginal group who were contacted, and their position in or representative role for the group; and

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<sup>1</sup> OEB Proceeding EB 2007 0013; Decision and Order; pages 4 and 5

- IV. a listing, including the dates, of any phone calls, meetings and other means that may have been used to provide information about the project and to hear any interests or concerns of Aboriginal groups with respect to the project.
- c. Provide relevant information gathered from or about the Aboriginal groups as to their treaty rights, any filed and outstanding claims or litigation concerning their treaty rights, treaty land entitlement or aboriginal title or rights, which may potentially be impacted by the project.
  - d. Provide any relevant written documentation regarding consultations, such as notes or minutes that may have been taken at meetings or from phone calls, or letters received from, or sent to, Aboriginal groups.
  - e. Identify any specific issues or concerns that have been raised by Aboriginal groups in respect of the project and, where applicable, how those issues or concerns will be mitigated or accommodated.
  - f. Explain whether any of the concerns raised by Aboriginal groups with respect to the applied-for project have been discussed with any government department or agencies, and if so, identify when contacts were made and who was contacted.
  - g. If any of the Aboriginal groups who were contacted either support the application or have no objection to the project proceeding, identify those groups and provide any available written documentation of their position. Also, indicate whether their positions are final or preliminary or conditional in nature and if so, under what circumstances those positions may change.
  - h. Provide details of any know Crown involvement in consultations with Aboriginal groups in respect of the applied-for project.

## ***12) Other Agreements and Approvals***

### ***Reference***

Exhibit B, Tab 6, Schedule 1, page 1, lines 5-15

### ***Preamble***

The IESO has completed a System Impact Assessment for the proposed facilities under the IESO Connections Assessment and Approval process and has filed a final draft (April 12/09) of the document with the pre-filed evidence. In this document the IESO makes certain recommendations that are summarized on pages 2 and 3.

Hydro One has completed a Customer Impact Assessment in accordance with its Cost Connections procedure and Hydro One plans to file this document as soon as it is available. In the past when Hydro One provided these reports, it made recommendations so as to allow the successful implementation of the project in question and it is Board staff's expectation Hydro One will do the same with this project.

***Questions/Requests***

- a) Does Hydro One agree with the recommendations made by the IESO with respect to the System Impact Assessment and does Hydro One commit to fully implementing these recommendations?
- b) Does Hydro One agree with the recommendations with respect to the Customer Impact Assessment and does Hydro One commit to fully implementing these recommendations as well as encouraging Woodstock Hydro and the local high voltage direct customers to fully implement any recommendations that are directed at them?