

**Hydro One Networks Inc.**

8<sup>th</sup> Floor, South Tower  
483 Bay Street  
Toronto, Ontario M5G 2P5  
www.HydroOne.com

Tel: (416) 345-5700  
Fax: (416) 345-5870  
Cell: (416) 258-9383  
Susan.E.Frank@HydroOne.com

**Susan Frank**

Vice President and Chief Regulatory Officer  
Regulatory Affairs

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MAY 29 2007



ONTARIO ENERGY BOARD

BY COURIER

May 29, 2007

Ms. Kirsten Walli  
Secretary  
Ontario Energy Board  
Suite 2700, 2300 Yonge Street  
P.O. Box 2319  
Toronto, ON.  
M4P 1E4

Dear Ms. Walli:

*Handwritten: 30/5*

**EB-2007-0027 – Hydro One Networks' Section 92 Woodstock Area Transmission Reinforcement Project Application – Revisions to Filing**

I am attaching ten (10) copies of the revisions listed below to the Hydro One Networks' Application and Prefiled Evidence in support of an Application pursuant to Section 92 of the Ontario Energy Board Act for leave to construct transmission facilities in the Woodstock Area. Electronic copy (text-searchable Acrobat format) will be sent to the Board Secretary e-mail address.

Exhibit B, Tab 1, Schedule 4, pages 2 to 5.

Sincerely,

Susan Frank

Attach.

c. EB-2007-0027 Intervenors

*EB-2007-0027*

OEB BOARD SECRETARY	
File No:	Sub File: <i>1</i>
Panel	<i>Bill R. Paul V Kenel</i>
Licensing	<i>Robert C.</i>
Other	<i>Kristi S.</i>
00/04	



1 The OPA identified Woodstock as a rapidly growing area that will require increased  
2 transmission supply into the area<sup>1</sup> and included this project in the list of transmission  
3 projects required in the 2007-2010 period<sup>2</sup>.

## 4 5 **2.0 NON-DISCRETIONARY INVESTMENT TRIGGERS/OBJECTIVES**

6  
7 In the context of Section 92 applications, four non-discretionary investment triggers can  
8 be identified which may determine the need for new or modified transmission expansion  
9 investments.

10  
11 The four triggers, which could drive new or modified investments, are:

- 12  
13 1. to achieve Government objectives or that are prescribed in governmental directives or  
14 regulations;  
15 2. to satisfy reliability standards and guidelines within a specified operating timeframe.  
16 3. to connect new customers (i.e., load or generator).  
17 4. to address concerns with near term equipment or facility loading or ratings when their  
18 capacities are, or are about to be, exceeded.

19  
20 The need for this project is driven by the second and fourth triggers noted above, as  
21 discussed in Section 2.2 of this Schedule.

## 22 23 **2.1 Load Growth**

24  
25 The existing load in the Woodstock Area supplied by the 115kV system is 99.4 MW. By  
26 2010, the 115kV supplied load is forecast to increase to 135.8 MW. The load on the 115

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<sup>1</sup> Ontario's Integrated Power System Plan, "Discussion Paper 5: Transmission", page 59.

<sup>2</sup> Ontario's Integrated Power System Plan, "Discussion Paper 7: Integrating the Elements – A preliminary Plan", page 111.

1 kV system is forecast to continue increasing beyond 2010 as a result of new industrial  
 2 load that is ancillary to the Toyota load, such as parts fabrication, and increased  
 3 residential and commercial loads. As a result, the 115kV supplied load in the Woodstock  
 4 Area is expected to be about 161.3 MW by 2016, as shown in Table 1.

5  
 6 The load forecast in Table 1 reflects the current forecast of Woodstock TS load; the  
 7 current timing of the Toyota load; and recent load information for Lafarge. The load  
 8 forecast in Table 1 agrees with the load forecast assumed in the SIA provided in Exhibit  
 9 B, Tab 6, Schedule 3 and assumes the Toyota load will remain at 25 MW beyond 2016.  
 10 The load forecast continues to support all of the conclusions and recommendations in the  
 11 planning study.

12  
 13 **Table 1: Woodstock Area 115 kV Coincident Summer Peak Load Forecast (MW)**  
 14

Station	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Woodstock *	89.4	86.0	90.3	95.0	99.8	102.5	105.3	108.1	111.0	114.0	117.3
Lafarge	10	11	11	11	11	11	11	11	11	11	11
Toyota	0	8	15	25	25	25	25	25	25	25	25
<b>115kV Load Sub-total</b>	<b>99.4</b>	<b>105.0</b>	<b>116.3</b>	<b>131.0</b>	<b>135.8</b>	<b>138.5</b>	<b>141.3</b>	<b>144.1</b>	<b>147.0</b>	<b>150.0</b>	<b>153.3</b>
Plus load transfer to Ingersoll TS**	0	8	8	8	8	8	8	8	8	8	8
<b>Total Assuming Load Transfer back to Woodstock</b>	<b>99.4</b>	<b>113.0</b>	<b>124.3</b>	<b>139.0</b>	<b>143.8</b>	<b>146.5</b>	<b>149.3</b>	<b>152.1</b>	<b>155.0</b>	<b>158.0</b>	<b>161.3</b>

15  
 16 \* Woodstock includes the forecast load at the existing Woodstock TS, which has a capacity  
 17 of 92MVA, and a future connection transformer station in the Woodstock area required in  
 18 the next several years.

19 \*\* A temporary 8 MW load transfer from Woodstock TS to Ingersoll TS agreed to in  
 20 October 2006 to mitigate the 102 MVA voltage limit issue and the overloading of the  
 21 current Woodstock TS. This 8 MW transfer is to be returned to Woodstock TS once both  
 22 of these issues are solved. The table shows the transfer continuing indefinitely because  
 23 there is no firm date for the new connection transformer station.

1  
2 It is not anticipated that the forecast load growth can be met through generation in the  
3 Woodstock Area, or through conservation and demand management initiatives, as  
4 indicated by the OPA in their letter of support provided in Exhibit B, Tab 6, Schedule 2.  
5

## 6 **2.2 Relevant Transmission Planning Guidelines**

7

8 The transmission planning guidelines relevant to assess the need for transmission  
9 reinforcement proposed in this application are as follows:  
10

- 11 i. **Voltage Decline performance guideline** - Following a recognized contingency (such  
12 as the outage of a single transmission circuit), a maximum allowable voltage decline  
13 shall not exceed 10% at any bus, with a minimum allowable post-contingency voltage  
14 at 115 kV buses of 108 kV.  
15

16 Results from the planning study provided in Exhibit B, Tab 6, Schedule 5, indicate  
17 that immediately following a loss of the 115kV line W12W, the voltage in the  
18 Woodstock Area can drop to 86.8 kV. This is significantly lower than the allowable  
19 post-contingency voltage of 108 kV for the Woodstock TS 115 kV bus. As noted on  
20 page 11 of the planning study, the post-contingency voltages at Woodstock TS will  
21 drop below 108 kV when the Woodstock Area load exceeds 102 MW. As shown in  
22 Figure 1 below, which is based on the load forecast in Table 1 and the results of the  
23 planning study, the voltage decline limit is expected to be exceeded in the summer of  
24 2007.  
25

- 26 ii. **Transmission line thermal overload guideline** - With all transmission elements in  
27 service, any single element contingency (outage) shall not result in loading of any  
28 circuit post-contingency such that it exceeds its MW rating.

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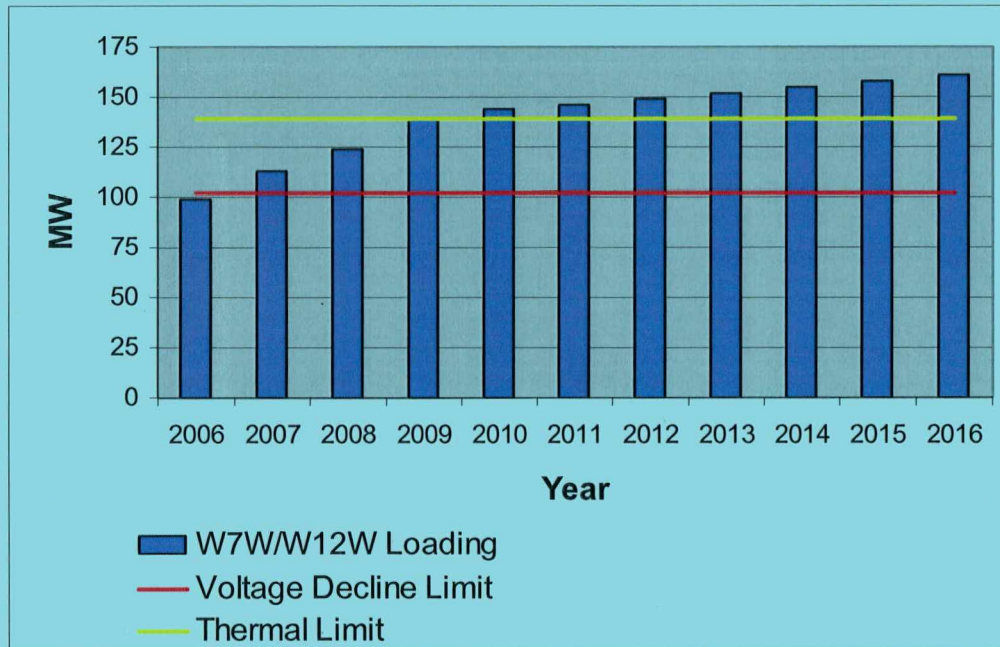
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6

7

As shown in Figure 1 below, which is based on the load forecast in Table 1 and the results of the planning study in Exhibit B, Tab 6, Schedule 5, the loading of the 115 kV circuits W7W and W12W is expected to exceed the applicable thermal limit of 139 MW starting in 2010.

**Figure 1. Loading on W7W / W12W versus Voltage Decline and Thermal Limits**



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