Hydro One Networks Inc.

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BY COURIER

April 4, 2018

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

Dear Ms. Walli:

EB-2004-0476 - Hydro One Networks Inc.'s Niagara Reinforcement Project

Hydro One Networks received section 92 approval to construct the Niagara Reinforcement Project ("NRP") on July 8, 2005. Due to a land dispute in Caledonia, Ontario, the project was unable to be completed and placed in-service. Per Appendix A Section 1.3, in the Conditions of Approval, Hydro One is advising the Board of a material change to the project and seeking approval to complete construction as described in this letter.

PROJECT DESCRIPTION AND BACKGROUND

In October 2004, Hydro One sought approval to construct transmission facilities in the Niagara Region (please see Figure 1 for a map of the project area) to alleviate transmission constraints at the Queenston Flow West transmission interface. The Project, with an estimated cost to complete of \$116 million, included:

- construction of a new 76 km double circuit 230 kV transmission line between Allanburg Transformer Station ("TS") and Middleport TS;
- upgrades to Middleport TS; and
- a provision that would enable a section of one new 230 kV line, from Caledonia TS to St. Ann's Junction) to be operated at 115 kV as emergency back-up supply for Dunnville TS.

The planned in-service date was the summer of 2007.

In the summer of 2006, when the project was near completion, an unforeseen land claim dispute, unrelated to the project, between a developer and the First Nations communities in the Caledonia



area put the project on hold. This disruption did not allow a section of the line near Caledonia to be completed, and therefore the line could not be put in-service.

In EB-2006-0501, the OEB provided Hydro One with relief from the carrying charges that it would incur on the funds used to finance the NRP, allowing Hydro One to recover AFUDC, based on the project's \$98 million cost incurred.

CURRENT STATUS

The Niagara Interface and Queenston Flow West interface are critical corridors for moving supply into the province, as it facilitates the importing and exporting of power between New York state and Ontario. The existing Niagara transmission capability can limit imports via the New York interties and at times can constrain the hydroelectric generation in Niagara. Limitations on the 230kV Niagara transmission capability restrict any significant new renewable or clean energy development in the Niagara area. In the last Large Renewable Program (LRP) procurement, the Niagara area was a restricted zone for prospective projects. NRP increases the number of 230kV circuits connecting the Niagara area system to the rest of Ontario from five to seven. The IESO's 18-month Outlook "An Assessment of the Reliability and Operability of the Ontario Electricity System" released on March 21, 2018 confirms that transmission congestion continues to restrict generation in the Niagara region and that the NRP project once completed, will increase the transfer capability to the rest of the Ontario system by approximately 700 MW.¹

NRP will allow for more cost effective and timely refurbishment of the very critical Sir Adam Beck II transmission station which connects the Beck generation and the interconnections with New York. Because of the high utilization and criticality of the 230kV Niagara transmission circuits there are significant limitations for outages that results in complex and lengthy refurbishment work at the Beck II station. NRP will significantly alleviate such limitations such as outage durations at Middleport TS².

The NRP is also expected to provide additional value to transmission ratepayers by reducing line losses on the QFW interface by between 10,500 MWh and 22,750 MWh on an annual basis.

Since 2006, Hydro One has attempted to reach an agreement with the affected First Nations. In late 2016 and throughout 2017, substantial progress has been made such that Hydro One and the Six Nations Elected Council believe an agreement has been reached which will allow completion of the NRP.

In order to complete construction of the NRP the following work is required (please see Figure 2 below):

¹ IESO's 18-month Outlook "An Assessment of the Reliability and Operability of the Ontario Electricity System", page 29

 $^{^2}$ In the 2003 Blackout, a key breakup of the Ontario system occurred over the Niagara 230kV circuits because the Niagara generation complex is more strongly coupled to New York than Ontario. This was a contributing factor for upper state NY to stay intact while Ontario did not. During major system disturbances and islanding conditions, hydroelectric generation is the most robust source of generation to maintain system stability.



- String 8.5km of 230kV transmission line, from tower #248 east of Caledonia TS near Grand River to tower #285 northwest of Caledonia TS, about 10% of the whole project
- Install 21 structures from Caledonia TS towers 266 A/B to tower #282 required due to vandalism over the years
- Erect two 3-pole structures and an air break switch and connect it to existing 115kV line at Caledonia Junction (emergency supply to Dunville TS)
- Install additional protection facilities at Middleport TS, Allanburg TS and Sir Adam Beck SS #2
- Repair and reinforce access roads
- Increase height of outstanding towers due to change in clearance standards
- Remove and restring conductors and shield wires in the incomplete section from tower #248 to #253 due to aging (creep)
- Vegetation management in the completed portions of the line

To facilitate the remaining work, Hydro One will utilize A6N, a partnership between Aecon Utilities Inc. and The Six Nations of the Grand River, for their construction services for completion of the Niagara Reinforcement Project.

The 2005 section 92 approval was for a total project cost of \$116 million to be in-service in 2007. The total project cost to complete this work is now estimated to be \$129.2 million, with an in-service date in May 2019. Project costs are estimated to be approximately \$13 million, or 11%, over the previously approved amount.

After a detailed re-estimate, there is more work required to place the asset into service than initially described in EB-2008-0272 filed September 30/08. Due to vandalism over the last 12 years, some new tower and line work will be needed, requiring stringing of 8.5 km of transmission line to connect to the conductor termination points. Some material necessary to complete the project (lattice structures, insulators) needs to be repurchased. Also, protection changes are necessary to the terminal stations as a result of Thorold GS now connected to one of the circuits (Q26M) in 2010.

Hydro One believes that the incremental cost to complete the project is a prudent expenditure and should be approved. The NRP will deliver benefits to Ontario's ratepayers by providing increased supply capacity, reducing line losses and facilitating outage reliability in the Niagara region.

REVENUE REQUIREMENT RECOVERY

The costs associated with the NRP are currently in Hydro One Transmission's construction work-in-progress account. Hydro One anticipates that a partnership agreement will be reached between The Six Nations of the Grand River, The Mississaugas of New Credit and Hydro One, leading to the formation of a new transmission company and the ultimate transfer of the NRP asset out of Hydro One into the new company. As a result, Hydro One Transmission will not



include the in-service addition of the NRP in its 2018 rate base, as part of its upcoming 2019-2022 transmission rate filing. If the partnership is formed, a separate application will be made seeking revenue recovery on the in-serviced rate base. If a partnership is not formed, Hydro One Transmission will apply to the Board for a deferral account to record related expenses and foregone revenue, to be disposed of in a future hearing.

An electronic copy of this has been filed through the Ontario Energy Board's Regulatory Electronic Submission System (RESS).

Should you have any questions on this application, please contact myself at (416) 345-5393 or via email at Joanne.Richardson@HydroOne.com.

Sincerely,

ORIGINAL SIGNED BY JOANNE RICHARDSON

Joanne Richardson











Figure 2: Detailed View of the Line Section to be completed