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BY E-MAIL

March 30, 2015

Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
BoardSec@ontarioenergyboard.ca

Dear Ms. Walli:

Re: OEB staff Submission on Hydro One Networks Inc.'s Supply to Essex County Transmission Reinforcement Project, Phase 1
OEB File No. EB-2013-0421

Pursuant to Procedural Order No. 3, please find enclosed OEB staff submission in the above matter.

Yours truly,

Original signed by

Daniel Kim
Advisor

c. All parties in EB-2013-0421

March 30, 2015

OEB STAFF SUBMISSION
HYDRO ONE NETWORKS INC.
APPLICATION FOR LEAVE TO CONSTRUCT TRANSMISSION FACILITIES
OEB FILE NO. EB-2013-0421

INTRODUCTION

Hydro One Networks Inc. (Hydro One) filed an application on January 22, 2014 with the Ontario Energy Board (OEB) under section 92 of the *Ontario Energy Board Act, 1998* (Act) for an order granting leave to construct approximately 13 km of transmission line in the Windsor-Essex area and to install optic ground wire on existing and new towers as part of the Supply to Essex County Transmission Reinforcement (SECTR) project.

OEB staff submits that the leave to construct should be granted based on the review to the project need, project economics, impact of the proposed project on reliability and quality of electricity service, land matters and forms of agreement and environmental assessment.

THE PROCEEDING

The OEB issued a Notice of Application and Hearing (Notice) on February 13, 2014. Comber Wind Limited Partnership (Comber), E.L.K. Energy Inc. (ELK), Entegrus Powerlines Inc. (Entegrus), EnWin Utilities Ltd. (EnWin), Essex Powerlines Corporation (Essex), the Independent Electricity System Operator (IESO) and the former Ontario Power Authority (OPA) were granted intervenor status in Procedural Order No. 1. In Procedural Order No. 2, the OEB sought submissions on what transmission facilities fell under the scope of section 92 of the Act and for which an applicant, in this case, Hydro One, must seek leave of the OEB to construct, expand or reinforce. The OEB also invited Hydro One to clarify its position in relation to the approvals it sought in this application. The OEB determined that transformer stations require approval under section 92 if they are associated with the construction of a line which exceeds 2 km in length, and are exempt if they are not.

In a Notice of New Cost Allocation Issue and Procedural Order No. 3, the OEB decided that in order to facilitate the consideration of both the leave to construct

and the cost allocation issues[1] it would proceed with the hearing in two parallel phases. Phase 1 would deal with the leave to construct application, including consideration of the component and total costs of the project, but would not address cost allocation issues. Phase 2 would deal with the cost allocation issues. The OEB also set out the deadlines for written interrogatories and submissions.

As directed by the OEB, Hydro One filed its Argument-in-Chief on March 23, 2015.

PROJECT DESCRIPTION

Hydro one is proposing to build a new 230/27.6 kV Leamington Transformer Station (TS) in the Municipality of Leamington, constructing approximately 13 km of new double circuit 230 kV transmission line on a new right of way between the Leamington TS and new taps on 230 kV circuits C21J and C22J between Chatham TS and Sandwich Junction (to be known as Leamington Junction), and installing optic ground wire on top of the new 230 kV towers serving Leamington TS and on the existing C21J/C23Z. The planned in-service date for the project is March 2018.

PROJECT NEED

In its application Hydro One provided evidence prepared by the former OPA on the need for the SECTR project[2]. Demand in the Kingsville-Leamington subsystem has exceeded the supply capacity and is expected to continue to exceed the supply capacity over the 20 year forecast period[3]. There are also other restoration and reliability needs in the Windsor-Essex region, specifically a need to minimize the impact of supply interruptions to customers in the J3E-J4E subsystem[4]. It is also indicated that there is a lack of supply for the whole Windsor-Essex area and inadequate transmission capacity for delivering generation from the west part of Windsor to the bulk transmission grid. In summary, the evidence has identified that there are near-term supply capacity and restoration needs that the proposed project will address.

1 Hydro One's proposed allocation of costs in the current leave to construct application is not consistent with the OEB's current cost responsibility rules.
2 Exhibit B, Tab 1, Schedule 5
3 Supply to Essex County Transmission Reinforcement Project, Ontario Power Authority, January 2014, Executive Summary, Page 4.
4 Exhibit B, Tab 1, Schedule 4, page 2.

TRANSMISSION COST & ALTERNATIVES CONSIDERED

Hydro One offered alternatives to the proposed transmission upgrade that was provided as part of the former OPA's evidence[5].

Aside from the proposed SECTR project, the other alternative considered would be to reinforce the existing 115 kV transmission lines in the area (Division TS Alternative) by building a new transformer station near Woodslee junction consisting of two 230/115 kV autotransformers, and required switchgear, supplied from the C21J and C22J 230 kV circuits and upgrading the 115 kV connection line between Division TS and Kingsville TS[6].

Hydro One provided the following summary tables to compare the costs of the two alternatives considered.

Table 1: Cost of the Division TS Alternative[7]

Facilities	Cost ($ million)
Division TS consisting of two 230/115 kV autotransformers connecting circuits K2/6Z and C21/22J, and required switchgear	63.5
K2/6Z 115 kV line upgrade between Division TS and Kingsville TS	34.2
Division TS Alternative Cost	**$97.7 million**

5 Exhibit B, Tab 1, Schedule 5, Supply to Essex County Transmission Reinforcement Project, Ontario Power Authority, January 2014, 6, page 32.
6 Exhibit B, Tab 1, Schedule 5, Supply to Essex County Transmission Reinforcement Project, Ontario Power Authority, January 2014, 6.3.1, Strengthening the Existing 115 kV System, page 36.
7 Exhibit B, Tab 1, Schedule 5, Supply to Essex County Transmission Reinforcement Project, Ontario Power Authority, January 2014, 6.3.3, Alternatives Comparison, page 42.

Table 2: Cost of the Leamington TS Alternative[8]

Facilities	Cost ($ million)
Leamington TS DESN consisting of two 75/125 MVA transformers	32.1
Approximately 13 km of double-circuit 230 kV connection line between C21J /C22J and Leamington TS	45.3
Leamington TS Alternative Cost	**$77.4 million**

OEB staff submits that the proposed Leamington TS alternative is the least cost alternative for meeting the capacity and reliability requirements for the Windsor-Essex area.

PROJECT COST

Hydro One has indicated that the line cost of the SECTR project is $45.3M, which includes the cost of building approximately 13 km of new 230 kV double-circuit line on a new right of way and installation of optic ground wire, providing connections to the new circuits and right of way acquisitions. The transformation cost of the SECTR project is $32.1M, which includes the cost of establishing a new Leamington TS, providing the station with two 230/27.6 – 27.9 kV 71/100/125 MVA step-down transformers, associated 27.6 kV switchgear and feeder positions and property acquisition.

A 25-year discounted cash flow analysis for the Line Connection facilities and Transformation Connection facilities were provided[9]. Both results indicated that the forecast incremental revenues are expected to be insufficient to pay for the incremental capital and operating costs and therefore a capital contribution is required. Hydro One estimated the capital contribution for the Line Connection Pool to be $31.2M and the capital contribution for the Transformation Connection Pool to be $8.2M for Hydro One Distribution.

8 Exhibit B, Tab 1, Schedule 5, Supply to Essex County Transmission Reinforcement Project, Ontario Power Authority, January 2014, 6.3.3, Alternatives Comparison, page 42.

9 Exhibit B, Tab 4, Schedule 3, page 4 of 17.

IMPACT OF PROJECT ON RELIABILITY AND QUALITY OF ELECTRICITY SERVICE

System Impact Assessment

The IESO completed a final System Impact Assessment (SIA), dated June 9, 2014 and finds that the proposed project, subject to the requirements specified in the SIA Report, is expected to have no material adverse impact on the reliability of the integrated power system. It also concludes that with the use of operating measures, thermal loading of transmission facilities remain within their capabilities, and that voltage performance at customer connection points meets Market Rules Requirements.

Customer Impact Assessment

The purpose of the Customer Impact Assessment (CIA) is to assess the potential impacts of the proposed new transmission facilities on the existing connected load and generation customers in the Windsor-Essex area, which is in accordance with the OEB's Transmission System Code.

Hydro One completed a final CIA, dated June 9, 2014. The CIA Report found that: the proposed project has no significant impact on Short-Circuit Levels in the area; the proposed transmission reinforcement has no material adverse reliability impact on existing customers in the area; and the voltage assessment as reported in the SIA Report shows that voltage performance remains within the Planning Criteria for all scenarios studied.

It is the view of OEB staff that the filed SIA and CIA satisfy Hydro One's requirement to file completed SIA and CIA reports for this leave to construct application. OEB staff notes that reliability and quality of electricity service for transmission customers identified in the CIA study would not be negatively impacted. Similarly, the SIA identified no significant issues.

LAND MATTERS AND FORMS OF AGREEMENT

The proposed SECTR project will involve constructing a new 230 kV overhead transmission line on steel lattice towers along a new corridor. The proposed line will connect to the future Leamington TS and tower structure 225 (Leamington Junction) on the Chatham Switching Station and Keith TS corridor. The proposed corridor from Leamington Junction to Leamington TS will be a combination of:

provincially-owned property (whose title is held by the Ministry of Infrastructure, and managed by Infrastructure Ontario); easement rights on municipally-owned and private property and municipal road corridors.

In response to OEB staff interrogatory #1, Hydro One stated that it had purchased the land required for the transformer station in December 2009 and no additional land for the station is required.

OEB staff is satisfied that Hydro One's procedures for acquiring the land rights are in accordance with the requirements set out in the Filing Requirements[10] and the Act. OEB staff submits that the OEB's approval of Hydro One's application should be conditional upon Hydro One obtaining all permanent and temporary land rights and easements.

ENVIRONMENTAL ASSESSMENT AND APPROVAL

The application indicated that the SECTR project falls within the *Class Environmental Assessment for Minor Transmission Facilities* (Class EA), which is approved under the *Environmental Assessment Act* (EA Act) by the Ministry of Environment (MOE).

OEB staff also notes that by filing the Environmental Study Report (ESR) with the MOE on July 22, 2010, Hydro One has complied with the EA Act for the Class EA for the SECTR project. Hydro One has stated that prior to construction, Hydro One will seek all regulatory approvals, licences and permits as required.

Hydro One received approval of its ESR for the transmission line as defined in the SECTR project by the MOE[11] and therefore OEB staff submits that it has no issues with the proposed project.

All of which is respectfully submitted.

10 Filing Requirements for Electricity Transmission Applications, Chapter 4, July 31, 2014.
11 Exhibit B-6-5, Attachment 10.