

June 11, 2019

Robert Reinmuller
Director, Transmission System Planning
Hydro One Networks, Inc.
483 Bay Street
Toronto, ON M5G 2P5

Dear Robert:

Re: Building a new 230 kV double-circuit line from Chatham SS to Lakeshore TS to reinforce the bulk transmission system west of Chatham

The purpose of this letter is to request Hydro One to initiate the work and activities, including seeking Environmental Assessment and Leave-to-Construct approvals, and subsequent construction of a new 230 kV double-circuit line from the Chatham Switching Station (“SS”) to the new Lakeshore Transformer Station (“TS”) located at Leamington Junction and associated station facilities at the terminal stations. The required in-service date for these facilities is prior to the winter of 2025/2026.

The purpose of these new facilities is to:

- Increase the overall transfer capability of the bulk transmission system west of Chatham in order to reliably supply the forecast load growth in the Kingsville-Leamington area and the broader Windsor-Essex Region in the near- to mid-term,
- Permit the resources and bulk facilities in this region to operate efficiently for local and system needs, and
- Maintain existing interchange capability on the Ontario-Michigan interconnection between Windsor and Detroit.

More details regarding the needs and solution options for reinforcing the bulk transmission system west of Chatham are documented in an IESO’s report entitled “Need for Bulk Transmission Reinforcement in the Windsor-Essex Region, June 13, 2019”.

Background

The west of Chatham bulk transmission system extends from Chatham in the east to Windsor in the west and is part of the larger west of London bulk transmission network, as shown in Figure 1.

This system is comprised of a 230 kV and 115 kV high voltage network interconnecting the load centers and large generators in the region to the Ontario electricity grid. As well, it provides a point of interconnection with the power system in Michigan. The west of Chatham system plays an important role in providing an adequate and reliable electricity supply to customers in the

Windsor-Essex region and enabling efficient operations of the resources in the region and on the interconnection.

There has been a significant increase in the demand forecast for electricity in the Kingsville-Leamington area. Primarily, this is driven by rapid expansion in the greenhouse sector and aggressive adoption of artificial crop lighting. As a result, the electricity demand in the Windsor-Essex region is forecast to double over the next five years and continue to grow in the longer term beyond that.

While the current demand in this region is being adequately supplied from local generation and from the region's bulk transmission system at this time, the significant and sustained growth forecast for the Kingsville-Leamington area and the broader Windsor-Essex region will require reinforcement of the existing supply. Studies conducted by the IESO, with support from Hydro One and the local LDCs, concluded that reinforcement of the existing transmission system, both the bulk and regional networks, is necessary and is the most economical solution to address the region's near- to mid-term electricity needs. New supply options were considered, but found to be less economic than the transmission solution. The studies also identify that supplementing the available supply with demand-side and interim solutions, while the transmission solution is being implemented, is also beneficial.

Integrated Transmission Solution

The recommended transmission solution comprises two stages:

- Stage 1: A new switching station at the Leamington Junction ("Lakeshore TS") to be in-service by the end of 2022, as identified in the hand-off letter¹ issued by the IESO to Hydro One on January 31, 2019. This will improve the capability of the system to connect and supply additional transformer stations and large transmission customers that are currently planning to connect.
- Stage 2: A new 230 kV double-circuit transmission line connecting Chatham SS to Lakeshore TS and associated terminal facilities, with an in-service date prior to the winter of 2025/2026, in order to address the specified bulk system level needs, as documented in the aforementioned report.

The ongoing Windsor-Essex Integrated Regional Resource Plan ("IRRP") will incorporate these transmission solution recommendations and continue to look at needs of the local area, focus on investigation of non-wires alternatives to manage evolving capacity needs in the region, and provide customers in the region with adequate line connection and step-down transformation capacity, while maintaining a level of reliability consistent with accepted planning standards.

West of Chatham (Chatham to Lakeshore) Transmission Line Project Scope

Based on the above considerations, the IESO recommends that Hydro One initiate the work and activities, including seeking Environmental Assessment and Leave-to-Construct approvals, and subsequent construction of a new 230 kV double-circuit line from Chatham SS to the new

¹ Further details on the switching station can be found here: http://www.ieso.ca/-/media/Files/IESO/Document-Library/regional-planning/Windsor-Essex/Switching-Station-in-the-Leamington-Area_Signed_Jan-31-2018.pdf?la=en

Lakeshore TS and associated station facilities at the terminal stations. Single-line diagrams of the existing and proposed facilities are shown in Figures 2 and 3 respectively. The work for the new line will need to be coordinated with the Lakeshore TS development, in order to appropriately plan the station layout for connection and allow for the installation of any reactive facilities, as required.

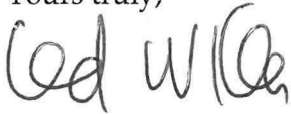
The project and its related costs and timelines have been discussed with Hydro One. The IESO understands that an in-service date of prior to the winter of 2025/2026 is achievable, while recognizing that earlier implementation will only further support growth in the region. Hydro One has indicated that costs for the project are projected to range between \$115 M and \$150 M. If project costs are forecasted to exceed the upper end of this range, and/or the delivery timeline cannot meet the targeted in-service date, Hydro One will notify the IESO so that the assessment of the bulk system reinforcement plan in the Windsor-Essex region can be updated.

Future Activities

The subject transmission line is the second stage of a number of improvements to the bulk transmission system that will be required to support load growth in the Windsor-Essex region. Together, the new line and station form the basis for accommodating mid- and long-term needs in the Windsor-Essex region and into the broader West of London area. The IESO will continue to monitor the progress of load and generation developments in the area. Future stages of system reinforcement will be triggered as required. The IESO feels that this is a prudent approach to meeting the need in the region.

IESO will continue to work with, and provide support to, Hydro One in the implementation of this project. We look forward to an ongoing exchange of information as Hydro One proceeds with the development of the project.

Yours truly,



Leonard Kula, P. Eng.

Vice President, Planning, Acquisition and Operations, and Chief Operating Officer

cc:

Terry Young, IESO
Jessica Savage, IESO
Bob Chow, IESO
IESO Records

Figures: System Maps

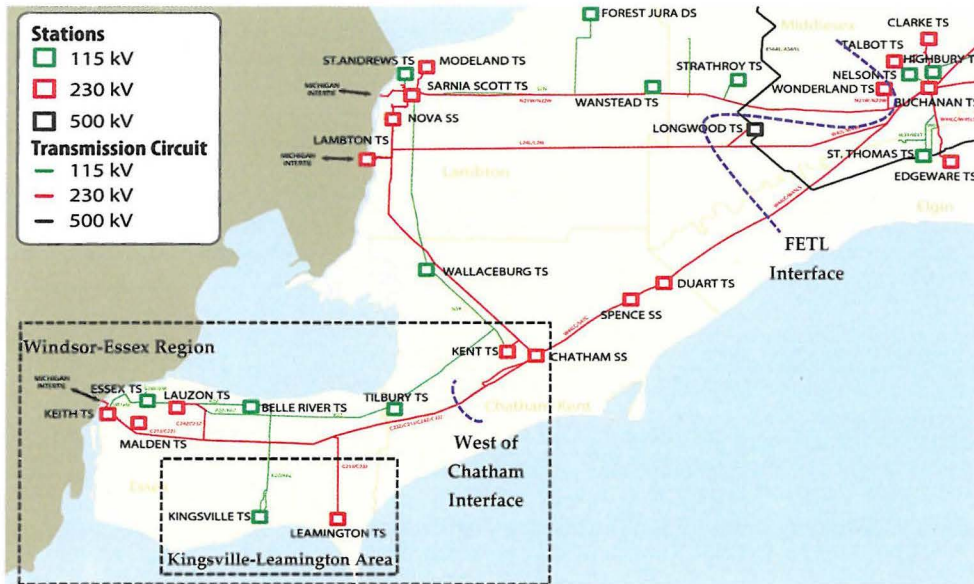


Figure 1: Geographical map of the Windsor-Essex Region

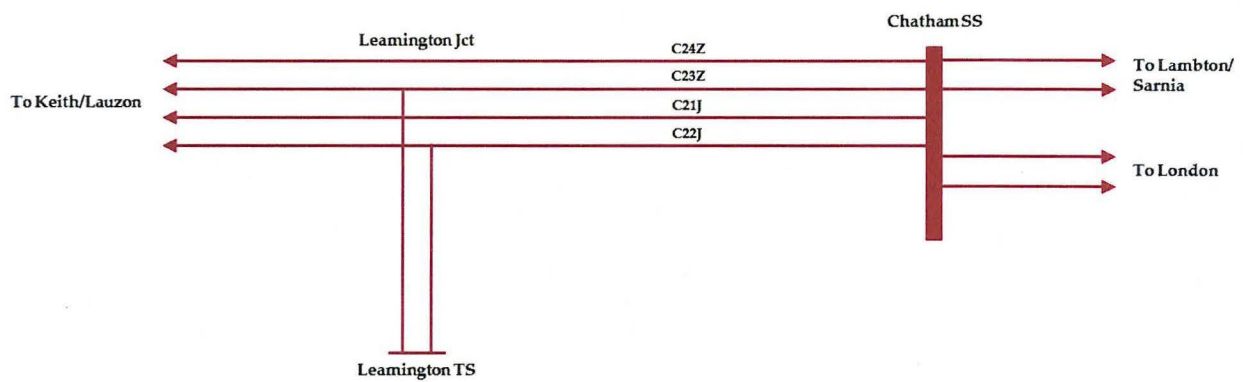


Figure 2: Single line diagram of existing facilities in the Leamington area

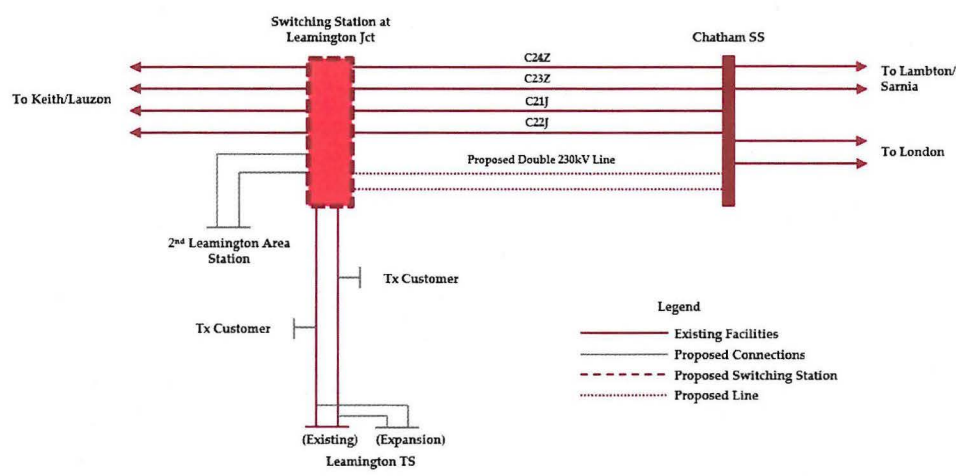


Figure 3: Single line diagram of existing and proposed facilities in the Leamington area