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August 11, 2022

Quinn Ross, Esq.  
The Ross Firm  
100-144 Courthouse Square  
Goderich, Ontario N7A 1M9

Re: **Investigative Summary** – Preliminary Report  
Proposed Transmission Line Expansion (EB-2022-0140)  
Party Client Represents: All Landowners  
Location: Transmission line expansion from Chatham to Lakeshore  
Ontario, Canada  
**S-E-A Matter No. 07.124476**

Dear Mr. Ross:

On July 7, 2022, you requested that SEA, Ltd. (S-E-A) conduct an evaluation into the need and justification of the proposed construction of a Hydro One Networks, Inc. (HONI) double-circuit 230 kilovolt (kV) transmission line in southwestern Ontario. This investigation was assigned to S-E-A Senior Electrical Engineer Edward R. Brill, P.E., as S-E-A Matter No. 07.124476.

S-E-A was requested to investigate and review documents and data presented by HONI and other interested parties into the Chatham to Lakeshore 230 kV Transmission Line. Specifically, S-E-A was requested to render professional opinions whether HONI's choice to acquire additional land and build a new transmission line is the best solution to the landowners and rate payers affected by this proposed project. S-E-A was also asked to review alternative technologies for viability for the proposed project and transmission needs and provide opinions on the feasibility and appropriateness of alternative technologies. This summary addresses the areas S-E-A plans to address related to price, reliability, and power quality outlined in a ruling by the Ontario Hydro Board (OHB) on August 5, 2022.

This Investigative Summary is based on the information and analysis conducted to date, does not contain all the data, facts, and analysis related to the investigation, and is not intended for use as a litigation report or expert disclosure. A more comprehensive analytical report can be prepared at your request, should future litigation or file processing require. Additional examination, investigation, analysis, and/or testing may be required prior to the issuance of a more comprehensive report.

The methodology utilized by S-E-A during the investigation of this project will be in accordance with *The Scientific Method* and applicable principles. The investigation and analysis of any incident is a complex and scientific endeavor. The methodology of such an endeavor, therefore, must include the comprehensive, objective, and accurate compilation and analysis of the available data.

S-E-A will examine this project for impact on ratepayers for cost, reliability, and power quality. The following areas will be analyzed in S-E-A's final report:

- HONI's decision to only consider the limited options of DO NOTHING, BUILD GENERATION, or BUILD NEW TRANSMISSION LINES is a narrow scope that penalizes the rate payers and the property owners affected by this proposed project. Alternatives that can allow the existing right-of-way to carry 2-3.5 times the power in the existing right-of-way without requiring additional land do not appear to have been considered. By not considering other alternatives, HONI is increasing costs to ratepayers, increasing exposure to reliability concerns and penalizing the affected landowners.
- HONI provided no evidence that they considered options such as reconductoring with high current-carrying capability conductors. Reconductoring existing transmission lines can double the capacity while using the existing transmission towers and right-of-way. Based on the need of increased power flow, an existing HVAC right-of-way can be converted to transmit up to 3.5 times the power via HVDC by installing a converter station on either end, changing the bundling of the lines and modifying the structures.
- The decision to run the new line using a proposed path that requires 2/3 of the route through a new right-of-way acquired from the present landowners raises the exposure of the transmission system that can reduce reliability and increase exposure to weather damage and potential outages. Using the existing proven transmission corridor reduces line exposure. None of the criteria used to rank and select the proposed route provided cost savings to rate payers. In fact, the proposed route will be more costly to ratepayers and penalize the landowners along the proposed route.



- HONI's decision to construct the new proposed 230 kv transmission line using dated technology towers and dated conductor technology also will increase the long-term expenses and reduce long term reliability to the ratepayers. By not considering advances made over the past 30 years in the design of advanced conductors and towers, questions the selection process of materials and design for the proposed project.

Prepared By:



Edward R. Brill  
Technical Consultant