Q. **Reference: Application Rev. 1, Volume 2, Wabush Terminal Station Upgrades**

a. What is driving load growth in the Labrador West region?

b. Have IOC and Wabush mines indicated a willingness to pay for the project in order to firm up their supply and avoid curtailment (page 2)? Who is responsible for these costs under Hydro's connection policy? Please explain.

c. Have generation and/or energy efficiency/demand management alternatives been considered to alleviate supply issues in Labrador West?

A.

a. Table 2 of the Wabush Terminal Station Upgrades project report[1] presents the long-term forecasts of P50 and P90 coincident customer demand for the 25-year study period. The long-term forecast load growth across the 25-year study period is approximately 0.9%, or 0.036% per year and reflects a modest increase in load for the combined communities of Wabush and Labrador City. The near-term load growth that is included in the year 2020–2021 loads included in Table 2 is driven by the start-up of iron ore mining operations by Tacora Resources ("Tacora") plus additional firm power requirements requested by the Iron Ore Company of Canada ("IOC") for its iron ore mining operations.

b. Newfoundland and Labrador Hydro ("Hydro") has held consultation sessions with IOC and Tacora to discuss the proposed project. Neither customer has expressed a concern with the proposed project.

The proposed project involves the addition of common assets to ensure sufficient capacity for all customers in western Labrador in accordance with baseline forecasted load. On this basis, all Labrador interconnected customers would be responsible for the costs.

[1] "2021 Capital Budget Application," Newfoundland and Labrador Hydro, rev 1, August 7, 2020 (originally filed August 4, 2020), vol II, tab 13, p. 4

c. Generation alternatives at Wabush Terminal Station were considered as part of the "Labrador Interconnected System Transmission Expansion Study."[2] The installation of four 50 MW gas turbines complete with synchronous condenser capability was considered as an alternative to supply the low incremental load forecast of 434 MW. Please refer to Alternative 15 in Appendix B of the "Labrador Interconnected System Transmission Expansion Study" submitted in Hydro's response to PUB-NLH-039 of this proceeding for details. In addition to this, the installation of temporary generation to provide a backup supply in the event of a transformer failure was also considered. It was determined that the equipment costs associated with the lease and operation of mobile generation over a two-year transformer replacement time frame at the Wabush Terminal Station would be in excess of $10 million (excluding fuel costs). It was also noted that the logistics of an emergency installation in winter months would be particularly problematic.

Due to the low cost of electricity, Hydro's energy efficiency programs, including takeCHARGE, have had a modest impact for Hydro Rural customers in Labrador West. Historical savings have been less than 0.5% per year. Such an approach therefore does not present an acceptable solution for regional capacity limitations.

Demand management for industrial customers was considered as part of the "Labrador Interconnected System Transmission Expansion Study." Analysis was performed to assess the cost of load curtailment where customers would be compensated for load interruption. As provided in Appendix B of the "Labrador Interconnected System Transmission Expansion Study," the life cycle costs associated with this alternative exceed those of the recommended solution involving upgrades to the Wabush Terminal Station.

[2] "Labrador Interconnected System Transmission Expansion Study," Newfoundland and Labrador Hydro, rev 2, April 3, 2019 (originally filed October 31, 2018).