

February 17, 2020

Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro – Labrador East Reliability Plan Update

Newfoundland and Labrador Hydro (“Hydro”) is currently executing the Muskrat Falls to Happy Valley Interconnection Project (“Project”), as approved in the Board of Commissioners of Public Utilities (“Board”) Order No. P.U. 9(2019), to address both reliability issues and forecast capacity shortfalls in Labrador East.¹ On November 12, 2019, Hydro filed correspondence with the Board indicating that based on an analysis of voltage conditions in Labrador East, the transmission interconnection portion of the Project cannot be established until the first generation unit at Muskrat Falls is released for service and voltage deviations are maintained within acceptable limits as set in Hydro’s Transmission Planning Criteria.² On December 4, 2019, the Board directed Hydro to resume filing the monthly Labrador East Reliability Plan Updates that were suspended in January 2019 and requested that further specific information be provided in the December 2019 report and subsequent reports, where required. Hydro’s February 2020 Labrador East Reliability Plan Update follows.

i. Ensure Reliability of the North Plant for Peak Loading Conditions

Board Direction: “The January 15, 2019 status update of this initiative stated ‘A third-party service provider for the North Plant Diesels carried out an on-site assessment on April 26, 2018. The assessment indicated that the units were not in a condition to guarantee reliable service for the 2018/2019 winter season.’ Have any assessments of the North Plant been undertaken since April 26, 2018? If so, please provide details.”

Status: Ongoing.

Update: As noted in the January 2020 update, prior to the installation of an immersion heater,³ Hydro evaluated the operational risks of undertaking such work on an aged engine and determined it would pose increased risk of operational malfunction. In addition, such an installation would require a unit outage of four to five days for installation. As a result of this reassessment, the installation of an immersion heater has been cancelled and the 600 V space heater, which currently

¹ The Labrador East Interconnected System includes the communities of Happy Valley-Goose Bay, North West River, Sheshatshiu and Mud Lake.

² “Muskrat Falls to Happy Valley Interconnection Project,” Newfoundland and Labrador Hydro, November 12, 2019.

³ Identified in “Newfoundland and Labrador Hydro – Labrador East Reliability Plan Update,” Newfoundland and Labrador Hydro, December 17, 2019. This heater was internally sourced and will remain in Hydro’s inventory.

heats the entire engine enclosure, will be maintained. Hydro considers both units reliable for the current winter season.

ii. Ensure Reliability of the Gas Turbine for Peak Loading Conditions

Board Direction: “Please confirm that all winter readiness activities have been completed on the gas turbine and that the unit has been tested this year to ensure that it can transition between synchronous condenser mode to generation mode if required over this winter season.”

Status: Complete. The gas turbine has been fully tested and verified as available and operational and the synchronous condenser function is operating and online.

iii. Inspection of L1301/L1302

Board Direction: “Hydro should continue to report on any issues identified during the six-week inspection program that was reinstated on October 22, 2019.”

Status: Ongoing

Update: Hydro completed the inspection of L1301/L1302 on January 14, 2020. No defects were found during that inspection, and no issues have occurred on the lines since that time. The next inspection is planned for February 25, 2020 as per the six-week schedule.

iv. Curtailable/Interruptible Service Options

Board Direction: “Hydro should identify any curtailable or interruptible customers that are on the Labrador East system and the number and duration of any curtailments/interruptions in the reporting month.”

Status: Ongoing

Update: The interruptible service option for Labrador Lynx Limited was approved in Board Order No. P.U. 42(2019). There have been no requests for interruption made to date.

v. Operations Protocol

Board Direction: “The January 15, 2019 Labrador East Reliability Plan stated that the transfer capacity of L1301/L1302 had been reduced by 1 MW to 76 MW due to an issue with the tap changer on the T31 transformer at Churchill Falls. Was the tap changer repair undertaken since that time? Please confirm the expected transfer capacity of L1301/L1302 for this winter season.”

Status: No change. As noted in Hydro’s December 2019 update,⁴ Hydro did not proceed with repair of the tap changer. Hydro elected not to seek the small gain in transfer capacity when balanced against an extended outage. Therefore, transfer capacity on the transmission system remains at 76 MW.

⁴ “Newfoundland and Labrador Hydro – Labrador East Reliability Plan Update,” Newfoundland and Labrador Hydro, December 17, 2019.

vi. Labrador East Customer Communication Initiative

Board Direction: "Please provide a copy of Hydro's Advance Notification Protocol communications plan for Labrador East."

Status: Complete.⁵

vii. Load Forecast

Board Direction: "Please provide the most recent load forecast for Labrador East."

Status: Unchanged. Please refer to Table 1 for the most recent load forecast⁶ for Labrador East, as provided to the Board on December 17, 2019.⁷

Table 1: Labrador East Interconnected Load Forecast for December 2019 (MW)

	2019–2020 ⁸	2020–2021	2021–2022	2022–2023	2023–2024	2024–2025
P50 Peak	78.4	79.1	79.4	79.7	80.0	80.4
P90 Peak	79.8	80.5	80.8	81.1	81.4	81.8

Other Items

As noted in the December 17, 2019 correspondence to the Board, due to outage coordination with the Muskrat Falls Project for site activities, Hydro was unable to complete functional testing activities for the Protection and Control and Supervisory Control and Data Acquisition equipment. Testing was successfully completed on February 12, 2020 and confirms that, in the event of a catastrophic failure on L1301, Hydro is in a position to provide power on a contingency basis to Labrador East over the new system. While this tie-in could pose a customer equipment risk due to the previously identified voltage issues, Hydro would make a decision based on customer outage exposure using the limited supply from the Happy Valley Gas Turbine and the North Plant, anticipated L1301 restoration time, weather forecasts, and energization time for the interconnection.

Hydro is not aware of any other items that could impact the reliability of the Labrador East Interconnected System during the 2019–2020 winter season.

Should you have any questions or comments about any of the enclosed, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO



Shirley A. Walsh
Senior Legal Counsel, Regulatory
SAW/las

⁵ "Newfoundland and Labrador Hydro – Labrador East Reliability Plan Update," Newfoundland and Labrador Hydro, December 17, 2019, att. 1.

⁶ Effective December 2019. Forecasted load at Happy Valley Terminal Station.

⁷ "Newfoundland and Labrador Hydro – Labrador East Reliability Plan Update," Newfoundland and Labrador Hydro, December 17, 2019.

⁸ Includes a load of 4.2 MW based on an updated forecast to reflect latest load indications from Labrador Lynx Limited.

cc: **Newfoundland Power**
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