newfoundland labrador hydro
a nalcor energy company

Hydro Place. 500 Columbus Drive.
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 f. 709.737.1800
www.nlh.nl.ca

December 17, 2019

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. 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. 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 report and subsequent reports, where required. The update effective December 17, 2019, along with the information requested in the December 4, 2019 correspondence, follows.

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

> *"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."*[1]

Hydro has not initiated any additional third-party condition assessments on the North Plant since 2018. Hydro addressed several critical items that affected reliable operation of units G7 and G8 in the North Plant. New engine starters were installed on G8 and two spare starters have been acquired and stored. Roof reinforcement and repairs were undertaken to stop water ingress into the enclosure between the units. An oil immersion heater was sourced for G7 and is awaiting installation once a crew is available. A spare heater is also being procured to serve as a spare for both units. Currently, a 600 V heater is being

[1] "Newfoundland and Labrador Hydro – Labrador East Reliability Plan Updates – Resume Monthly Reporting and Further Information Requested," Board of Commissioners of Public Utilities, December 4, 2019, at p. 1.

used to keep both units warm until the immersion heater can be installed. A fuel system upgrade was executed and verified to ensure full 5 MW combined capability from both units. Hydro has used the two North Plant diesel engines for outages on October 17, 2019 and October 25, 2019 and, while the units are aged, considers both reliable for the coming winter season.

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

> *"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."*[2]

As noted in Hydro's "2019–2020 Winter Readiness Planning Report," filed on December 10, 2019, all winter readiness planning activities for the Happy Valley Gas Turbine were successfully completed by December 1, 2019. This included a successful test to ensure transition between synchronous condenser mode and generation mode. The Happy Valley Gas Turbine was also utilized reliably during the planned outage of L1301/L1302 from October 25 to 26, 2019 for the replacement of a crossarm on L1301, providing 21 MW to the Labrador East system to prevent a customer outage.

iii. Inspection of L1301/L1302

> *"Hydro should continue to report on any issues identified during the six-week inspection program that was reinstated on October 22, 2019."*[3]

Hydro is continuing to complete regular inspections of L1301/L1302, with the latest inspection completed on December 13, 2019. No defects were found during that inspection. The next inspection is planned for January 14, 2020.

iv. Curtailable/Interruptible Service Options

> *"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."*[4]

As noted in Hydro's correspondence on November 12, 2019, Hydro has applied for approval of an interruptible service agreement with Labrador Lynx Limited, similar to the agreement approved by the Board in Board Order No. P.U. 37(2018). This agreement is proposed to terminate upon completion of the interconnection portion of the Project or March 31, 2020, whichever is earliest.

As the application for the interruptible agreement with Labrador Lynx Limited has not yet been approved, Hydro has not instituted any interruptions to date.

---

[2] Ibid.
[3] Ibid at p. 2.
[4] Ibid.

v. Operations Protocol

> *"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."*[5]

Given the small impact on capacity, the original plan to have the interconnection portion of the Project completed in December 2019, and the plan to remove this transformer from service post interconnection, 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.

vi. Labrador East Customer Communication Initiative

> *"Please provide a copy of Hydro's Advance Notification Protocol communications plan for Labrador East."*[6]

The Advance Notification Protocol was initiated in 2018 for Labrador East. Awareness activities have commenced for the 2019–2020 winter season as per the updated Advance Notification Protocol included as Attachment 1 to this letter.

vii. Load Forecast

> *"Please provide the most recent load forecast for Labrador East."*[7]

Please refer to Table 1 for the most recent load forecast[8] for Labrador East.[9] As the Labrador East System is a winter-peaking system, the timeframes noted in Table 1 are specific to the respective winter seasons. Demand associated with the Department of National Defence's proposed central heating system is not included in the forecast.

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

	2019-2020[10]	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

[5] Ibid.
[6] Ibid.
[7] Ibid.
[8] Effective December 2019. Forecasted load at Happy Valley Terminal Station.
[9] The Labrador East Interconnected System includes the communities of Happy Valley-Goose Bay, North West River, Sheshatshiu and Mud Lake.
[10] Includes a load of 4.2 MW based on an updated forecast to reflect latest load indications from Labrador Lynx Limited.

viii. Other Items

The January 2019 Labrador East Reliability Plan Update referenced New Customer Connections and detailed that Hydro had received approval in Board Order No. P.U. 36(2018) for a regulation temporarily restricting load additions greater than 100 kW in Labrador East. At that time the regulation was to remain in effect until May 30, 2019. Hydro subsequently applied to extend the effective date of the regulation, which was approved in Board Order No. P.U. 18(2019). The regulation will remain in place until further order of the Board.

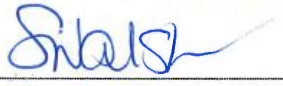
Due to outage coordination with the Muskrat Falls Project for site activities, Hydro was unable to complete function testing activities for the Protection and Control and Supervisory Control and Data Acquisition equipment. The commissioning phase will now occur in early January 2020, resulting in the completion of the interconnection portion of the Project. Once this testing is complete, the interconnection portion of the Project will be ready for tie-in. At that point, in the event of a catastrophic failure on L1301, Hydro will be 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 North Plant, L1301 restoration time, forecasted weather and energization time for the interconnection.

Hydro is not aware of any other items that could impact the reliability of the Labrador East 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/sk

cc: **Newfoundland Power**
Mr. Gerard M. Hayes

Consumer Advocate
Mr. Dennis M. Browne, Q.C, Browne Fitzgerald Morgan & Avis

Industrial Customer Group
Mr. Paul L. Coxworthy, Stewart McKelvey
Mr. Denis J. Fleming, Cox & Palmer
Mr. Dean A. Porter, Poole Althouse

ecc: **Board of Commissioners of Public Utilities**
Ms. Jacqui Glynn
PUB Official Email

Newfoundland Power
Ms. Kelly C. Hopkins
Regulatory Email

Consumer Advocate
Mr. Stephen F. Fitzgerald, Browne Fitzgerald Morgan & Avis
Ms. Sarah G. Fitzgerald, Browne Fitzgerald Morgan & Avis
Ms. Bernice Bailey, Browne Fitzgerald Morgan & Avis

Iron Ore Company of Canada
Mr. Gregory A.C. Moores, Stewart McKelvey

Labrador Interconnected Group
Mr. Senwung Luk, Olthuis Kleer Townshend LLP
Ms. Julia Brown, Olthuis Kleer Townshend LLP

Attachment 1

Advance Notification Protocol

Labrador East Implementation Communications Plan

newfoundland labrador hydro
a nalcor energy company

Advance Notification Protocol

Labrador East Implementation
Communications Plan

Update: December 9, 2019

INTRODUCTION

In an effort to ensure that customers in Labrador East have timely notification of any anticipated supply shortages, the Advance Notification Protocol, initiated for Labrador East in 2018, will be implemented in advance of winter 2019-2020. The Advance Notification Protocol is an alert system, originally developed in partnership with Newfoundland Power in 2014 for the Island Interconnected System. Alerts are designed to advise customers of the status of power supply in order for customers to be better informed and be prepared for potential impacts or outages.

COMMUNICATIONS OBJECTIVES

- To build awareness among customers and stakeholders in Labrador East of the Advance Notification Protocol.
- To educate residential and business customers on specific conservation measures/actions required during supply shortages.
- To ensure Hydro employees in Labrador are familiar with the Advanced Notification Protocol and able to assist with implementation.

COMMUNICATIONS APPROACH

Customer Focused
The over-arching communications approach is to ensure a customer focus – with information that is helpful and valuable to customers, while demonstrating empathy and concern for the impact potential outages, particularly rotating outages, have on customers.

Forthright, Simple, and Helpful Tone
The tone of messaging will be a straight forward and helpful one that assists customers and key stakeholders in understanding the important role they play in terms of conservation and reducing demand on the electricity system during supply shortages. Clear and specific conservation actions will be communicated directly to customers.

Responsive
Communications will be executed swiftly when an alert level is triggered, with a responsive and open approach to customer questions or concerns.

KEY MESSAGES

Specific messaging has been developed for the Advance Notification Protocol based on the customer actions required, as outlined below.

Advance Notification Protocol

The Advance Notification Protocol is a three level, public alert system to advise customers of the status of the power supply in order to be prepared for any potential impacts. There are three levels of notification:

1. Power Watch
    - Message: No immediate action required. Electricity system being watched closely. Be prepared to conserve electricity if asked.
2. Power Warning
    - Message: Conserve electricity. This is a warning that current day electricity supply is getting close to maximum capacity. Be prepared for rotating power outages.
3. Power Emergency
    - Message: Rotating power outages in effect. Conserve electricity. Safety should remain your highest priority when using alternate sources of power, heat, or light in your homes.

Conservation messaging has been developed for both residential and business customers.
Conservation at home:

- Key Message: Knowing how your home uses energy and following these tips will help you do your part to conserve electricity, if required.
    - Reduce heat by a few degrees
    - Avoid using appliances, electronics, and hot water
    - Turn off unnecessary lighting

Business Conservation

- Key Message: During a call for conservation, your business can help. When electricity demand is greater than the available supply, businesses have a big role to play. Here's how you can help:
    - Reduce heat by a few degrees
    - Turn off outdoor lighting not needed for safety or security
    - Avoid using unnecessary equipment such as computers, monitors, or other equipment not required
    - Stagger equipment start up

Rotating Outages

- During a Power Emergency, messaging will focus on duration and frequency of rotating outages.
- Power outage safety messaging will be critical.
- Messaging and infographics explaining cold load pick up will be shared.

COMMUNICATIONS TACTICS

An education program was executed in 2018 when the Advance Notification Protocol first rolled out for Labrador East. As was done last year, information will be provided to customers prior to winter in Labrador East public/media relations, social media, digital and website content, and direct customer outreach through key stakeholder groups, bill information, and other tactics as required. Existing infographics and videos, previously proven to be successful in creating understanding, will continue to be used to simplify and visually present information.

External

- Key Stakeholder Presentations:
  - Town of Happy Valley Goose Bay
  - Happy Valley Goose Bay Chamber of Commerce
  - Town of North West River
  - Sheshatshiu First Nation
  - 5 Wing Goose Bay
  - MHA, Perry Trimper
  - Key customers (as required)

- Customer Communications:
  - December e-bill and bill footnote
  - Digital content on website
  - Social media

Internal

- Information session for TRO Labrador
- Customer Service Centre Q&A

Materials

Hydro will leverage existing communications materials developed for the Advance Notification Protocol implementation on the island such as:

- Infographics – What to do – Power Watch, Power Warning, Power Emergency
- Video – Advance Notification Protocol – keeping customers informed
- Infographic – How to conserve at home
- Infographic – How to conserve at your business
- Video – How to conserve energy
- Infographic – Communications during an outage
- Infographic – Cold Load Pickup

Timing

	Deliverable	**Responsible**
Week of December 9	Review protocol with System Operations &TRO Staff	TRO Lab Regional Manager
Week of December 9	Book Stakeholder Meetings	TRO Lab Regional Manager
Week of December 16	Mail out to all customers	Customer Service
Week of December 16	Social Media & Web Info	Corporate Communications

EVALUATION

Evaluation will focus on the understanding of the Advance Notification Protocol among Labrador East customers and stakeholders.

Evaluation will include discussions with key stakeholders and customers, traditional media monitoring, social media monitoring, public sentiment, visits to website, and calls to customer call center.

Of note, during winter 2018-2019, there was one Advance Notification Protocol Power Watch alert, which overall was well received and understood by customers in the region.