

March 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: Reliability and Resource Adequacy Study Review – February 25, 2020 Update on Ongoing Work – Board's Request for Further Information - Reply

On February 25, 2020, Newfoundland and Labrador Hydro ("Hydro") provided the Board of Commissioners of Public Utilities ("Board") an update of ongoing work related to Hydro's *Reliability and Resource Adequacy Study* ("RRA Study"). On February 27, 2020, the Board requested that Hydro provide specific information related to the Assessment of Labrador-Island Link Reliability, Emergency Restoration Planning, and Extension of Holyrood as a Generating Facility. Further information is contained within.

Board Request 1: Assessment of Labrador-Island Link Reliability Considering Climatological Loads and Emergency Restoration Planning- Please provide the specific questions that these two reports are intended to address and describe the types of analyses, data and conclusions that each report will provide.

Assessment of Labrador-Island Link Reliability Considering Climatological Loads (to be filed November 15, 2020)

The Assessment of the Labrador-Island Link Reliability Considering Climatological Loads will address the following specific question:

What is the probability of failure of the Labrador-Island Link ("LIL") based on the mechanical strength characteristic of the as-built line under extreme weather circumstances?

The objective of this analysis is to assess the overall line reliability of the LIL considering associated climatological loads and two predominant types of icing exposures: (i) glaze icing due to freezing precipitation and icing in combination with wind; and (ii) rime icing due to in-cloud precipitation and rime icing in combination with wind.

The analysis will consist of the following components:

- A structural capacity assessment of the as-built design of the LIL following the Canadian Standards Association ("CSA") C22.3 60826-10, which primarily focuses on glaze icing;

- A structural capacity assessment of as-built design of the LIL under rime icing considering data collected at the test sites;¹ and
- A reliability assessment of the LIL considering both types of icing, including a sensitivity study, and the impacts on line reliability.

The outcomes of the analysis will provide critical findings with respect to failure rates associated with the LIL; these findings will provide a more comprehensive assessment of risk associated with the integration of the LIL into the overall power system. Findings from this analysis will be based on the actual as-built characteristics of the line infrastructure, enabling Hydro to make more informed decisions and recommendations with respect to resource adequacy.

Emergency Restoration Planning (to be filed May 15, 2020)

The specific question the Emergency Restoration Plan will address is:

What is the current Emergency Response Plan with respect to overland transmission for the LIL?

The Emergency Restoration Plan will supplement information provided in The Phase II Overhead Transmission Lines Emergency Response Plan.² That document outlined Nalcor's progress and plans to date for all emergency restoration activities. This Emergency Restoration Plan is scheduled to be included in Hydro's May 2020 Near-term Reliability Report and will include the planned operational response in place for winter 2020-2021. It will include protocols, equipment, personnel (i.e., internal or contractual), material locations, and logistical plans to be followed at this time in the event of a line failure.

Board Request 2: Extension of Holyrood as a Generating Facility - Please describe in detail the scope of this report, including the information that the planned testing will provide and explain how the scope of this report differs from the full condition assessment that is now delayed. Also, please confirm that the analysis and report to be provided on these issues will address both (a) the use of Holyrood in the short term for the next two winters, and (b) the changes that can be made to Holyrood for the longer term to determine if it can be considered as a long-term generating facility compared to other potential options.

Assessment of Options to Improve Holyrood's Suitability as a Backup Facility (to be filed by September 30, 2020)

The scope of this assessment will identify options for modification of the Holyrood Thermal Generating Station ("Holyrood TGS") to improve:

- Unit recall time;
- The time required to convert unit 3 from synchronous condenser to generation mode; and
- Minimum unit loading.

¹ CSA does not provide standards with respect to rime icing and therefore there is no applicable comparator against which those sections can be benchmarked. Hydro is undertaking further assessment to provide assurance that all local conditions have been appropriately considered.

² "Investigation and Hearing into Supply Issues and Power Outages on the Island Interconnected System - Phase Two - The Liberty Consulting Group Eighth Quarterly Monitoring Report on the Integration of Power Supply Facilities to the Island Interconnected System - Further Information - Hydro's Comments," Newfoundland and Labrador Hydro, November 29, 2019, Attachment 2.

This assessment will consider the technical and economical feasibility of modifying Holyrood TGS to become a suitable backup facility. Specifically, it will assess the advantages, disadvantages, and associated costs of potential technology modifications.

This assessment is significantly narrower in scope than the full condition assessment previously contemplated in Hydro's "Reliability and Resource Adequacy Study 2019 Update."³ The scope of the previously proposed full condition assessment⁴ required onsite inspection and detailed review of all major components and systems including significant offline testing and component dismantling. In comparison, the currently planned assessment⁵ is a high level exercise, designed to determine if suitable options exist that would address the three points noted above. While some on-site testing is required to support this analysis, testing is limited to online testing to determine the potential for reducing minimum unit loading.

Hydro confirms that this report will focus on whether it is technically and economically feasible to modify Holyrood TGS to become a suitable backup facility and thus be considered as a long-term resource option in Hydro's assessments.

The report will not address the use of the Holyrood TGS in the short-term for the next two winters. The use of the Holyrood TGS to support the Island Interconnected System until the reliable in-service of the LIL was addressed in Hydro's 2019 Update to the RRA Study; supplemental capital requirements for 2020 will be forthcoming to address capital requirements for the short-term.

Further Update on Ongoing Work

Assessment of As-Designed Structural Capacity of the Labrador-Island Link

In its February 25, 2020 correspondence, Hydro provided an update on the anticipated filing date of March 31, 2020 for the review of as-built structural capacity of the LIL being conducted by EFLA Consulting Engineers ("EFLA") titled "Assessment of As-Designed Capacity of the LIL." Hydro wishes to advise that the recent pandemic associated with COVID-19 may result in a delay in filing for that report. Hydro is working closely with EFLA, who is based in Europe, to expedite remaining work on this file and will notify the Board if the filing will be delayed.

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

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO



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

Encl.

³ "Reliability and Resource Adequacy 2019 Update," Newfoundland and Labrador Hydro, November 15, 2019.

⁴ Estimated cost approximately \$3 million.

⁵ Estimated cost approximately \$100,000.

cc: **Newfoundland Power**
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