

January 14, 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 – The Liberty Consulting Group Eighth Quarterly Monitoring Report on the Integration of Power Supply Facilities to the Island Interconnected System – Monthly Update

On November 15, 2019, The Liberty Consulting Group (“Liberty”) filed its Eighth Quarterly Monitoring Report on the Integration of Power Supply Facilities to the Island Interconnected System (“Liberty Report”). On November 21, 2019, the Board of Commissioners of Public Utilities (“Board”) requested that Newfoundland and Labrador Hydro (“Hydro”) provide further information as a result of the findings in the Liberty Report, with established deadlines for provision of the information. Hydro provided responses on November 29, 2019 and December 13, 2019, as well as a Labrador Island Link (“LIL”) and Muskrat Falls Unit 1 schedule update on December 20, 2019. Hydro also committed to provide Liberty and the Board with a monthly update commencing January 14, 2020. This update includes information on the ongoing issues noted in the Board’s November 21, 2019 correspondence and the in-service date for the first generating unit at Muskrat Falls.

Board Request #1

The Board requested that Hydro immediately provide the reports received to date from the independent third parties retained to monitor and report on the LIL performance. Hydro previously advised that as the referenced independent third parties were retained by Nalcor Energy (“Nalcor”), and the resulting reports were provided to Nalcor under those contractual arrangements, the request by the Board was under legal review by Nalcor. Nalcor has advised that the release of the reports to external parties is prohibited under the contractual agreements with the independent third party. However, Nalcor will continue the practice of providing an overview and description of the areas of concern to Liberty and the Board in the Quarterly Review meetings.

Board Request #2

The Board requested the schedule for LIL software development and testing, and directed Hydro to advise the Board on any future changes to this schedule, the reason for the change, and the implications of any delay for delivery of power and energy to the Island Interconnected System over the LIL.

Hydro provided details on the schedule in the November 29, 2019 correspondence to the Board, which was updated on December 20, 2019. The schedule noted in the December 20, 2019 correspondence (Table 1) remains unchanged.

Table 1: Integrated Project Schedule

GE Milestone	December 20, 2019 Update
Interim Software – Limited Functionality	
FAT ¹ complete; Interim Software to Site	February 2, 2020
Dynamic Commissioning: Low Load Testing	March 3–March 15, 2020
Dynamic Commissioning: Trial Operations at Low Load	March 16–June 12, 2020
Final Software – Full Functionality	
Final Software to site	June 9, 2020
Dynamic Commissioning complete at available power	July 15, 2020
High Power Testing	July 16, 2020

Although the final date for full functionality of the software has not changed, the schedule risk to the interim software remains high. As noted previously, this schedule is an important factor to consider in Hydro’s decision regarding the planned standby period for the Holyrood Thermal Generating Station. As previously committed,² Hydro will update the Board regarding the necessary actions for Hydro to ensure reliable service while the new assets are brought on line. The current LIL schedule will certainly influence whether the current planned period for standby service should be extended.

Board Request #3

The Board requested further information from Hydro on the investigation into the issue regarding firing angle ranges within the LIL Converter Stations, including details of the problem as well as the plan and schedule to address it.

In its December 13, 2019 correspondence, Hydro noted that the operational studies were completed using a generic LIL model developed by TransGrid Solutions (“TransGrid”), and that Nalcor now had the GE LIL PSSE model. The GE model better represents the GE control system’s response and Hydro and TransGrid are repeating the analysis using the GE model. Based on the results of the initial analysis, it was determined that the generic model required a configuration change to better represent the GE system’s response to the required overload condition in order to more accurately demonstrate pole behaviour when the power order was doubled. The analysis of the GE model shows that the issues previously believed to be causing system impacts are not occurring in this updated model. Analysis into the firing angle range issue is not yet complete. Once final, Hydro intends to file a revision to the Stage 4D report³ and will also incorporate the final results in the Stage 4E report. Hydro anticipates filing these reports in February 2020. Hydro will also provide a summary of the nature of the firing angle issue and, if necessary, the actions taken and any further action to be taken.

¹ Factory Acceptance Testing (“FAT”).

² “Reliability and Resource Adequacy Study – Liberty Recommendations – Further Information - Hydro’s Comments,” Newfoundland and Labrador Hydro, October, 31, 2019.

³ Technical Note: TN1205.71.04, “Stage 4D LIL Bipole: Transition to High Power Operation,” TransGrid Solutions Inc., September 25, 2019.

Board Request #4

In its November 21, 2019 letter, the Board referenced Liberty's discussion of binding/vibration at the Soldiers Pond Synchronous Condensers. The Board required Hydro to report on these two issues, including details of the problems and the investigation into their root causes, as well as a plan and schedule to address them.

In its December 13, 2019 correspondence, Hydro provided details regarding plans to address both issues, as well as details regarding potential root causes and the status of the investigation. Vibration tests were completed in December 2019, as planned, and functional testing and analysis are ongoing. Modifications to the bearing support to reduce axial vibration are ongoing. Modification to the bearings to address the binding issues is also in progress. As committed in the December 13, 2019 correspondence to the Board, Hydro will provide a further update to the Board regarding the status of the investigation into the synchronous condenser issues by January 31, 2020.

Muskrat Falls Unit 1 Update

In the December 20, 2019 correspondence to the Board Hydro provided a schedule update with respect to the in-service date of Muskrat Falls Unit 1. The Ready to Turn milestone continues to be planned for January 2020 and commercial operation from Unit 1 is anticipated in mid-March 2020.

Should you have any questions, please contact the undersigned.

Yours truly,

Newfoundland and Labrador Hydro



Geoffrey P. Young, Q.C.
Corporate Secretary & General Counsel
GPY/sk

cc: **Newfoundland Power**
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