

June 3, 2021

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 – Labrador-Island Link Monthly Update – May 2021*

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 Consulting Group’s (“Liberty”) Eighth Quarterly Monitoring Report on the Integration of Power Supply Facilities to the Island Interconnected System. In its response, Hydro committed to providing Liberty and the Board with a monthly status update regarding the schedule for the Labrador-Island Link (“LIL”) software development and testing, updated information in response to the specific requests detailed in the Board’s November 21, 2019 correspondence, and other pertinent information with respect to the Muskrat Falls Project. On January 19, 2021, the Board requested Hydro continue monthly reporting and outlined specific information, at a minimum, to be included.¹ Enclosed please find the information provided by Nalcor Energy with respect to the Board’s request.

1.0 COVID-19 PANDEMIC EFFECTS ON MUSKRAT FALLS PROJECT EXECUTION

The safety of project workers and their families, the communities in which Nalcor Energy operates, and the public is of utmost importance to Nalcor Energy and the company is taking all responsible measures to protect people’s health and safety. The Lower Churchill Project (“LCP”) and its contractors continue to follow all COVID-19 Health and Safety measures as per the established guidelines.

LCP continues to closely monitor the COVID-19 pandemic and follow advice from medical experts and Public Health guidance, and will implement mitigation measures as necessary to reasonably mitigate the COVID-19 risk to workers and the communities they live in.

¹ Hydro’s report has been adjusted to reflect the Board’s request, with the exception of information related to the LIL monthly energy transfers and Maritime Link availability and exports and imports in the month. Both pieces of information are currently included in Hydro’s monthly energy supply report and are not available in a time frame that corresponds with the timing of this report.

2.0 LABRADOR-ISLAND LINK

2.1 Commissioning Activities

2.1.1 Bipole Commissioning

As previously reported, Trial Operations for the Interim Bipole Software was complete on May 1, 2021. Since that time, LIL has been online to transfer power when possible. LCP and Hydro continue to work together to identify opportunities to bring LIL online to increase power transfer and operational experience.

GE Canada (“GE”), previously referred to as GE Grid, has developed all the remaining functions for the Final Bipole Software and has integrated them into the software. GE is progressing through their software testing stages slower than planned due increased time required to resolve bugs. GE has confirmed LCPs assessment that there is increased risk and pressure on the Final Bipole Software schedule. LCP is awaiting an updated schedule from GE to reflect the current schedule pressures.

GE has confirmed that their beam supplier started manufacturing at two of their European factories in April 2021; however, quality concerns have caused GE to reject a number of beams, which has resulted in a slower than expected delivery from the factories. GE is scheduled to ship the first batch of beams to Canada prior to the end of this week. At this time, GE is maintaining their beam replacement schedule with work planned to start on Pole 2 in June 2021 and Pole 1 in July 2021. All beam replacement work is currently scheduled to be complete in August 2021.

2.1.2 Soldiers Pond Synchronous Condensers

GE Power is continuing with completions and commissioning work at the Soldiers Pond Synchronous Condenser Site. SC3 completed Trial Operations on May 25, 2021. LCP is working through the process of SC3 Turnover to Nalcor Energy, Power Supply. SC2 is balanced and rotating; synchronization to the grid is planned for June 2021. The elliptical bearings are installed in SC1; work to connect internal instrumentation and end caps will continue throughout the month. GE Power’s schedule has not changed since the previous monthly update; SC3 was complete in May 2021, SC2 to be complete in July 2021, and SC1 to be complete in September 2021.

2.2 Operations

2.2.1 Labrador-Island Link Damage

Root Cause Investigations into the electrode line and transmission line failures are complete. Reports of the incidents were finalized in May 2021, and provided to stakeholders.

2.2.2 Outages

There were no system outages during the reporting period.

3.0 MUSKRAT FALLS GENERATION

3.1 Commissioning Activities

3.1.1 Unit 1

Unit 1 was released for service and transferred to operations on December 22, 2020.

3.1.2 Unit 2

Unit 2 was first synchronized to the grid on May 15, 2021. Online commissioning and the 72-hour trial run were successfully completed on May 27, 2021. Outstanding systems tests are currently being performed. Investigation into a trip during Unit 2 commissioning related to the controls system is ongoing. Unit 2 release for service milestone is now planned for the second week of June 2021.

3.1.3 Unit 3

Unit 3 head cover modifications are complete and the unit was released for water up on May 18, 2021. The Unit is currently being prepared for first turn.

3.1.4 Unit 4

Unit 4 installation activities are ongoing. Welding rework on the Unit is complete; final inspections on the inner head cover are ongoing. Head cover bolt modifications will be completed in parallel with final installation activities.

3.2 Operations

As previously noted, Andritz has identified a design issue with the bolts between the inner and intermediate head covers for the generating units. Monthly head cover and weld inspections continue to be performed on Unit 1. A planned outage will be required to address the Unit 1 inner/intermediate head cover bolts and stator bar replacement. Timing of inspections and required modifications will be scheduled with operations. This work is scheduled for later this year.

4.0 MUSKRAT FALLS PROJECT OVERALL SCHEDULE

The current schedule for the bipole software is outlined in Table 1. Currently, there is no change to Final Bipole Software schedule since the previous report. As noted in section 2.1.1, LCP is expecting an updated schedule from GE based on their slower than planned performance, which could have an impact on the overall project schedule.

Trial Operations is complete after 30 consecutive days of power transfer without a trip attributed to the HVdc system. LCP has an allowance of 60 days to complete Final Bipole Trial Operations. GE has included 90 days in their schedule to complete Final Bipole Trial Operations, as per their contractual requirements.

Table 1: LIL Bipole Software Commissioning Schedule

Final Bipole Software		
	GE Schedule	LCP Schedule
Final Software to Site	July 29, 2021	July 29, 2021
Dynamic Commissioning: Complete	September 7, 2021	September 14, 2021
Trial Operations: Start (at available power)	September 7, 2021	September 15, 2021
Trial Operations: Complete (at available power)	December 9, 2021	November 14, 2021

The forecast completion schedule for the Muskrat Falls Generating Units outlined in Table 2 has been provided to LCP by Andritz.

Table 2: Muskrat Falls Generation Commissioning Schedule

Generating Unit	Completion of Commissioning and Released for Service	Status
Unit 1	December 22, 2020	Released for service
Unit 2	May 31, 2021	2 nd week of June 2021
Unit 3	July 31, 2021	
Unit 4	September 30, 2021	

Based on the schedules presented above, the overall Muskrat Falls Project completion date is currently November 14, 2021, which as noted above could be impacted by the pending schedule update from GE.

5.0 Hydro’s Response to Liberty Consulting Group Eleventh Quarterly Monitoring Report, May 11, 2021

In the most recent Liberty Consulting Group Quarterly Monitoring Report, Liberty noted that:

Hydro’s monthly LCP status reports to the Board appear to present what Nalcor has told it, not necessarily Hydro’s own assessment of further delay risk and resulting reliability consequences. Hydro, not Nalcor, has responsibility for addressing customer supply risks created by LIL delay. The now long track record of continuing delays and inaccuracy in assessing their length requires that Hydro make its own assessment of risks and formulate plans to address their consequences for service delivery. Hydro’s monthly reports to the Board need to begin and continue to offer its own assessment of schedule risks and plans for responding to them.

Hydro acknowledges that the timing of the expected in-service of the Muskrat Falls Project assets is at the onset of the winter season. Liberty has noted “with risk of full-scale LIL availability even next winter now emerging, Hydro’s needs to make plans for addressing the reliability threats those risks impose.” Hydro agrees there is a material potential for unavailability, in part or in whole, of the LIL during the upcoming winter season, particularly given the uncertainty regarding the in-service of the assets. Hydro’s current plan for the upcoming winter season considers the LIL being unavailable for the entire winter period. To that end, Hydro had already been making and implementing plans with the

assumption that there will be minimal or no LIL availability this winter. Hydro views this as a cautious and prudent approach to be ready to reliably service customers no matter the project status. If the assets come into reliable service per the schedule, Hydro will adjust its generation profile accordingly. Actions taken include:

- Managing system energy considering required minimum energy (water) storage limits to ensure there is sufficient energy in storage to supply customers in the event of a three-month outage to the LIL during the peak winter period;
- investing necessary capital in the Holyrood Thermal Generating Station (“Holyrood TGS”) to support its ability to be fully available for generation during the upcoming winter season;
- completing comprehensive operating maintenance to ensure Holyrood TGS is able to operate reliably to its full capacity;
- maintaining the necessary employee complement at the Holyrood TGS to ensure reliable operation;
- ensuring sufficient fuel availability at Holyrood TGS;
- completing and filing Winter Readiness reports which provide assessments of progress of critical work to be completed in advance of the winter operating season.
- investing and maintaining in the remainder of its generating fleet to support total system availability during the upcoming winter season; and
- conducting system reliability analysis for a wide range of operating scenarios to assess system risk under varying conditions.

While Liberty has suggested that “Hydro’s monthly reports to the Board need to begin and continue to offer its own assessment of schedule risks and plans for responding to them”, respectfully, the analysis and findings presented in Hydro’s Near-term Reliability reports, as well as its winter readiness assessments, provide stakeholders with a clear view of system risk for the upcoming winter season. It is Hydro’s opinion that instituting additional reporting on schedule and risks is unnecessary. As noted above, Hydro is already readying the system for no LIL availability for this coming winter season and therefore such an effort to make assessments on schedule risk will not result in additional actions being taken beyond those noted above already underway.

Hydro works closely with Nalcor Energy to regularly review the schedule status of all Muskrat Falls assets and meets regularly, at both the technical and leadership levels, to monitor and mitigate risks. Further, representatives of Nalcor, the Board, and Liberty meet on a regular basis to review and discuss Muskrat Falls Project progress. Finally, as the majority of the matters related to schedule risk are between Nalcor and its contractors, it remains appropriate for Nalcor to continue reporting on these issues.

Hydro is committed through its planning and asset management activities to assess risk and take action to provide reliable service for its customers through the full system transition. Hydro assess and provides the Board with updates on its operational status for the upcoming winter season through both its Near-term reliability reports and its winter readiness reports, filed in October, November and

December annually. An additional assessment of Muskrat Falls Project schedule risks and plans by Hydro introduces additional cost and complexity without providing customer and system benefit. Hydro believes it should remain focused on actively managing its operations, executing the necessary capital and maintenance work, and managing risk (including the unavailability of the LIL) to support reliable service for its customers.

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

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO



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