

August 13, 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 – July 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 update as requested.

1.0 COVID-19 PANDEMIC EFFECTS ON MUSKRAT FALLS PROJECT EXECUTION

The safety of project workers and their families, the communities in which Hydro operates, and the public is of utmost importance, 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, GE Canada (“GE”) is progressing through the Final Bipole Software testing stages slower than planned due to increased time required to resolve outstanding punches, which are primarily software bugs. GE has provided a schedule update based on their current status. Completion of Factory Acceptance Testing (“FAT”) has moved from August 10, 2021 to August 30, 2021. Table 1 in Section 4.0 has been updated to reflect this schedule delay.

The valve hall beam replacement work in both Pole 1 and Pole 2 is complete. The LIL operated in monopole mode using Pole 2 from July 28, 2021 to August 4, 2021, at power transfer levels ranging from 45 MW to 125 MW. The LIL was taken offline on August 4, 2021 to allow GE to complete some punch list items prior to completion of Pole 1 beam replacement, as well as to allow Power Supply to execute its planned transmission line maintenance and repair work on the Labrador portion of the LIL. This work is scheduled from August 5, 2021 to August 16, 2021 and August 23, 2021 to September 5, 2021. Further details on Power Supply’s scope of work are noted in Section 2.2.1.

The LIL is scheduled to be re-energized from August 16, 2021 to August 22, 2021 to allow GE to conduct a series of Pole 1 and bipole tests. After completion of the transmission line work on September 5, 2021, the LIL is planned to be re-energized for Bipole Dynamic Commissioning.

2.1.2 Soldiers Pond Synchronous Condensers

GE Power is continuing with completions and commissioning work at the Soldiers Pond Synchronous Condenser Site. SC2² and SC3³ are both in operation and have supported the LIL power transfer. LCP is working with Power Supply on turnover of the units. Dynamic Commissioning for SC1⁴ has started; the unit has been rotated at its maximum speed of 900 rpm. Balancing of the unit is ongoing. The schedule for completion of SC1 is still October 2021.

2.2 Operations

2.2.1 Labrador-Island Link Damage

As noted above, Power Supply is completing maintenance and repair work, related to the 2021 ice storm, on the Labrador portion of the LIL that was planned for summer 2021, as well as upgrades as a result of the Root Cause Investigation. This work is scheduled from August 5, 2021 to August 16, 2021 and August 23, 2021 to September 5, 2021. The transmission line work includes replacement of dampers and armor rods, installation of air flow spoilers, secure turnbuckles, electrode arm repairs, conductor splicing and patching, installation of vibration monitors, and adjustment of insulator suspension clamps.

² Synchronous Condenser 2 (“SC2”).

³ Synchronous Condenser 3 (“SC3”).

⁴ Synchronous Condenser 1 (“SC1”).

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 released for service and transferred to operations on June 12, 2021. Planning is ongoing with Andritz and Power Supply to complete the remaining punchlist items.

3.1.3 Unit 3

Unit 3 was synchronized to the grid on July 16, 2021, achieving First Power. On line commissioning and trial operations have been under way since then. Andritz has implemented changes to the unit programming and completed firmware updates to address issues that were identified during commissioning. The 72-hour run was repeated after these changes were made and was successfully concluded on August 9, 2021. Documentation close out and punch list clearance are underway in anticipation of Release for Service in mid-August 2021.

3.1.4 Unit 4

Unit 4 static commissioning activities are ongoing. The unit programming and firmware updates referenced on Unit 3 have also been made on Unit 4. The delay to Unit 3 in-service has caused a slip in the Unit 4 Release for Service date which is now expected in October 2021.

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. The required modifications have been made to Units 2, 3, and 4. Unit 1 was turned back to LCP in early July 2021 to complete the welding rework and head cover modifications; this work is ongoing. Planning is also ongoing with Andritz and Power Supply to complete the generator stator bar replacement on Unit 1; the tentative start date is currently planned for mid-August 2021.

The programming and firmware changes identified above for Unit 3 will be made on Unit 1 before it is returned to service. These changes will be made on Unit 2 during the LIL planned outage between August 23, 2021 and September 5, 2021.

4.0 MUSKRAT FALLS PROJECT OVERALL SCHEDULE

GE's current schedule for the Final Bipole Software is outlined in Table 1. As noted in Section 2.1.1, GE has advised that the FAT Complete date has moved to August 30, 2021. GE is looking at ways to mitigate

the delay on subsequent milestones by assessing opportunities to compress the schedule to meet the overall Project completion date of November 26, 2021.

Prior to this month’s report, LCP had been providing its own schedule forecast for GE’s scope of work based on performance trends and assumptions. Construction and software development are now complete, with the final stage being software testing, including detection and resolution of bugs. Given the unpredictability of bug detection and resolution, it is no longer meaningful for LCP to provide its own assessment of GE’s schedule for this stage and, as such, the LCP schedule has been adjusted to reflect that of GE. LCP recognizes the risk to further delays and will continue to work with GE to mitigate impacts to the overall schedule. LCP will continue to communicate schedule updates as they are received from GE.

Trial Operations is complete after 30 consecutive days of power transfer without a trip attributed to the HVdc system.

Table 1: LIL Final Bipole Software Commissioning Schedule

Milestones	GE Schedule	LCP Schedule
FAT Complete	August 30, 2021	August 30, 2021
Dynamic Commissioning: Complete	September 30, 2021	September 30, 2021
Trial Operations: Start (at available power)	September 30, 2021	September 30, 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	June 12, 2021	Released for service
Unit 3	August 15, 2021	Commissioning tests completed
Unit 4	October 15, 2021	

The overall Muskrat Falls Project completion date remains November 26, 2021.

5.0 CF(L)CO⁵ MULTI-PARTY POOLING AGREEMENT AND HYDRO-QUÉBEC INTERCONNECTION OPERATORS AGREEMENT

Throughout July 2021, weekly discussions to progress the Interconnection Operators Agreement (“IOA”) continued between the Newfoundland and Labrador System Operator and Hydro-Québec, with CF(L)Co as an observer. The target date to complete the IOA remains on track for January 2022 and no material hurdles to its completion have arisen or are currently envisioned.

⁵ Churchill Falls (Labrador) Corporation (“CF(L)Co”).

If you have any questions or comments, please contact Michael S. Ladha, General Counsel, Corporate Secretary & Commercial.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO



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