

December 2, 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 – November 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.<sup>1</sup> Enclosed please find the update as requested.

The Lower Churchill Project (“LCP”) and its contractors continue to follow all COVID-19 Health and Safety measures as per the established guidelines. The LCP will continue to closely monitor the COVID-19 pandemic and follow advice from medical experts and Public Health guidance.

## **1.0 LABRADOR-ISLAND LINK**

### **1.1 Commissioning Activities**

#### **1.1.1 Bipole Commissioning**

GE Canada (“GE”) has incorporated all required functions into the Bipole software, now referred to as the Full Function Bipole (“FFB”) software. As previously reported, during Factory Acceptance Tests (“FAT”) of the FFB software, it was determined that the software contained critical bugs that required fixing before it could be used for Trial Operations. GE worked for several weeks to resolve the bugs, which was followed by another round of regression testing and FAT to confirm the fixes. After completion of testing, GE advised that they resolved some, but not all, critical software bugs. With the

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<sup>1</sup> 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.

resolution of some of the bugs, the FFB software has increased reliability compared to the current version and will allow increased power transfer over LIL, but it will not be suitable for Trial Operations and final commissioning. GE is preparing to release this version of software to site in early December 2021. LCP is permitting GE to release this version of software in order to test the stability and robustness of the software while GE works to resolve all critical bugs and release a version of software that is capable of achieving the Trial Operations milestone. The risk posed by the presence of remaining bugs is managed through the use of operational restrictions, which allow the operation of LIL by providing a workaround for those bugs. GE has not provided a schedule for the version of software for Trial Operations, but it is anticipated that it will be released to site in Q1 2022. In the absence of a detailed schedule from GE, LCP still considers March 31, 2022, a reasonable date to expect GE to complete Trial Operations.

### **1.1.2 Soldiers Pond Synchronous Condensers**

As previously reported, GE Power has completed Dynamic Commissioning, Trial Operations, and special tests for all three synchronous condenser (“SC”) units at the Soldiers Pond SC Site.

On November 16, 2021, during punchlist clearance for SC1 at the Soldiers Pond Site, GE Power made an adjustment to the lube oil system. It is believed that during testing to verify this change, the collector end bearing was damaged. The bearing must be disassembled to validate this hypothesis. GE Power is responsible for the bearing repairs and associated costs. GE Power has not provided a schedule to complete the repairs but has indicated that it could take several months to have the unit back in service. SC2 and SC3 remain in operation.

There is no impact to power transfer over LIL due to this incident as only two large rotating machines located on the Avalon Peninsula, either SCs or generators, are required for the full operation of the system. The SCs have redundancy in their design; the third SC is effectively a spare so that power transfer over LIL is not impacted when a SC is taken out of service for maintenance or repairs. SC2 and SC3 are in operation with no planned maintenance work. Holyrood Units 1 and 3 are online and Unit 2 is expected to be placed back in service mid to late December.

## **1.2 Operations**

As previously reported, LIL has been energized intermittently since October 15, 2021, to allow GE conduct a series of dynamic commissioning tests on the current version of FFB software. Those tests were complete on November 11, 2021, and the LIL has been operating throughout the month transferring up to 312MW. GE requested outages from November 22–23, 2021 and November 29–December 4, 2021, to clear punchlist items.

## **1.3 Outages**

On November 26, 2021, Hydro experienced an unplanned outage to the LIL, resulting in an under frequency load shedding event on the Island Interconnected System. At the time of the trip, Hydro was experiencing an outage affecting Labrador East and efforts were underway to restore the Labrador East system via the Muskrat Falls – Happy Valley interconnection. Incorrect transformer differential protection settings caused the transformer protection to trip as load in Labrador East was being brought online, causing a bipole trip of the LIL. The LIL was back online on November 27, 2021.

## 2.0 MUSKRAT FALLS GENERATION

### 2.1 Commissioning Activities

#### 2.1.1 Unit 4

Unit 4 commissioning activities are complete. Release for Service was achieved on November 25, 2021.

### 2.2 Operations

#### 2.2.1 Unit 1

Unit 1 repairs and maintenance required as a result of the restart activities following the oil release and turbine pit flooding are now complete. The Unit is currently operating. A two day outage is being planned to update governor settings and to install new communications hardware. This work will be undertaken as system conditions permit.

#### 2.2.2 Unit 2

Unit 2 is currently out of service for scheduled maintenance. Andritz will be completing a runner inspection related to the vibration issue, as well as complete any remaining punchlist items. The unit is expected to be back in service by mid-December 2021.

#### 2.2.3 Unit 3

Unit 3 is currently operating. There is a planned outage scheduled for early January 2022 to complete any remaining punch list items.

#### 2.2.4 Unit 4

Unit 4 is currently out of service to complete remaining punchlist items. The unit is expected to be back in service by mid-December 2021.

## 3.0 MUSKRAT FALLS PROJECT OVERALL SCHEDULE

As noted above, GE has not provided a schedule for the FFB software. LCP considers the timeframe noted below as a possible outcome for GE to achieve.

**Table 1: LIL FFB Software Commissioning Schedule**

Milestones	GE Schedule	LCP Assess Possible Outcomes
FAT: Complete	TBD	TBD
Dynamic Commissioning: Complete	TBD	Late January 2022
Trial Operations: Start (at available power)	TBD	Late January 2022
Trial Operations: Complete <sup>2</sup>	TBD	Late March 2022

<sup>2</sup> Trial Operations is complete after 30 consecutive days of power transfer without a trip attributed to the HVdc system.

All four units at the Muskrat Falls Generating Facility are commissioned and released for service to Operations.

**Table 2: Muskrat Falls Generation Commissioning Schedule**

<b>Generating Unit</b>	<b>Completion of Commissioning and Released for Service</b>	<b>Status</b>
Unit 1	December 22, 2020	Released for Service
Unit 2	June 12, 2021	Released for Service
Unit 3	August 14, 2021	Released for Service
Unit 4	November 25, 2021	Released for Service

#### **4.0 CF(L)CO<sup>3</sup> MULTI-PARTY POOLING AGREEMENT AND HYDRO-QUÉBEC IOA<sup>4</sup>**

As of November, weekly discussions to progress the IOA continued between the Newfoundland and Labrador System Operator and Hydro-Québec (with CF(L)Co as an observer). Discussions also continued pertaining to which entities will be party to the agreement. Overall, the target date to complete the IOA remains January 2022.

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

Yours truly,

#### **NEWFOUNDLAND AND LABRADOR HYDRO**



Michael S. Ladha  
General Counsel, Corporate Secretary & Commercial  
MSL/kd

**ecc: Board of Commissioners of Public Utilities**  
Jacqui H. Glynn  
Maureen P. Greene, Q.C.  
PUB Official Email

**Newfoundland Power**  
Dominic J. Foley  
Lindsay S. A. Hollett  
Regulatory Email

**Consumer Advocate**  
Dennis M. Browne, Q.C., Browne Fitzgerald Morgan & Avis  
Stephen F. Fitzgerald, Browne Fitzgerald Morgan & Avis  
Sarah G. Fitzgerald, Browne Fitzgerald Morgan & Avis  
Bernice Bailey, Browne Fitzgerald Morgan & Avis  
Bernard M. Coffey, Q.C.

<sup>3</sup> Churchill Falls (Labrador) Corporation (“CF(L)Co”).

<sup>4</sup> Interconnection Operators Agreement (“IOA”).

**Industrial Customer Group**

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

**Labrador Interconnected Group**

Senwung F. Luk, Olthuis Kleer Townshend LLP  
Julia K.G. Brown, Olthuis Kleer Townshend LLP