newfoundland labrador hydro
a nalcor energy company

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December 17, 2020

The 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 Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Monthly Energy Supply Report for the Island Interconnected System for November 2020

Enclosed please find Newfoundland and Labrador Hydro's Monthly Energy Supply Report for the Island Interconnected System as directed by the Board of Commissioners of Public Utilities.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

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

Encl.

ecc: **Board of Commissioners of Public Utilities**
Jacqui Glynn
PUB Official Email

Newfoundland Power
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Praxair Canada Inc.
Sheryl E. Nisenbaum

Teck Resources Limited
Shawn Kinsella

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A report to the Board of Commissioners of Public Utilities

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1.0 Introduction

On February 8, 2016, the Board of Commissioners of Public Utilities ("Board") requested Newfoundland and Labrador Hydro ("Hydro") file a biweekly report containing, but not limited to, the following:

1) System Hydrology Report, as contained in Hydro's Quarterly report;
2) The thermal plant operated in support of hydrology;
3) Production by plant/unit; and
4) Details of any current or anticipated long-term derating.

In July 2016, the Board indicated that a monthly report would thereafter be sufficient. This report provides data for November 2020.

2.0 System Hydrology

Reservoir inflows in November 2020 were approximately 99% of the month's historical average. Inflows in 2020 to date are 4% above the historical average.

Table 1 summarizes the aggregate storage position of Hydro's reservoirs at the end of the reporting period.

Table 1: System Hydrology Storage Levels

Date	2020 (GWh)	2019 (GWh)	20-Year Average (GWh)	Minimum Storage Limit (GWh)	Maximum Operating Level (GWh)	Percentage of Maximum Operating Level (%)
30-Nov-2020	1,838	1,600	1,974	1,345	2,449	75

The aggregate reservoir storage level on November 30, 2020 was 1,838 GWh, which is 25% below the seasonal maximum operating level and 37% above the minimum storage limit.[1] The current storage level

[1] Minimum storage targets are developed annually to provide guidance in the reliable operation of Hydro's major reservoirs—Victoria, Meelpaeg, Long Pond, Cat Arm, and Hinds Lake. The minimum storage target is designed to show the minimum level of aggregate storage required such that if there was a repeat of Hydro's critical dry sequence, or other less severe sequence, Hydro's load can still be met through the use of the available hydraulic storage, maximum generation at Holyrood Thermal Generating Station, and non-firm imports. Hydro's long-term critical dry sequence is defined as January 1959 to March 1962 (39 months). Other dry periods are also examined during the derivation to ensure that no other shorter term historic dry sequence could result in insufficient storage.

is shown in Figure 1 in relation to the 20-year average storage level for the end of November of 1,974 GWh. At the end of November 2019, the aggregate storage level was 1,600 GWh.

Figure 1 plots the 2019 and 2020 storage levels, maximum operating level storage, and the 20-year average aggregate storage for comparison.

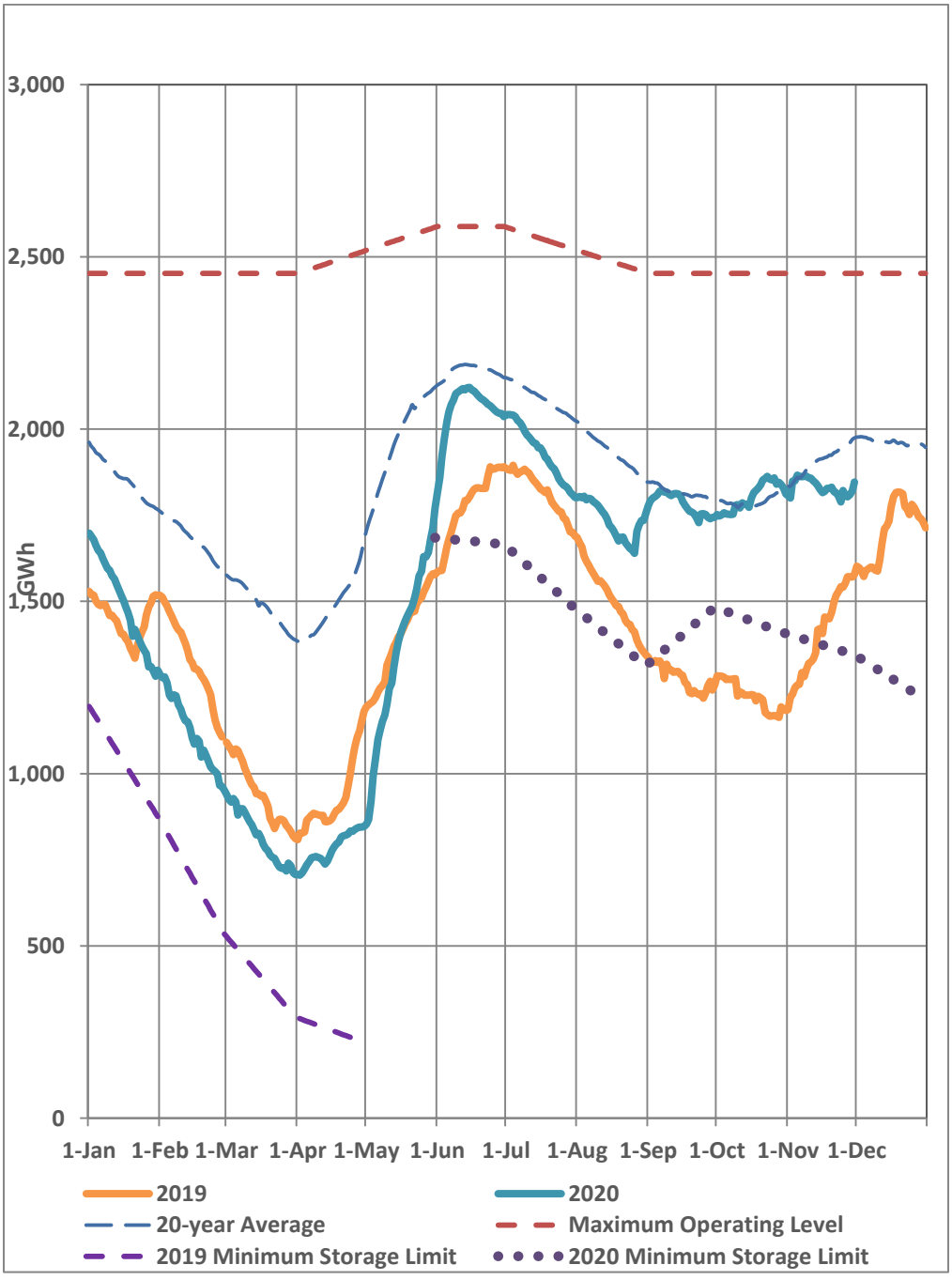

Figure 1: Total System Energy Storage

3.0 Production and Purchases

Appendix A provides a breakdown of power purchases, including imports, and production by plant during November 2020.

4.0 Thermal Production and Imports

Units 1, 2, and 3 at the Holyrood Thermal Generating Station ("Holyrood TGS") were required to generate during November 2020 to reliably meet Hydro's customer demand requirements. Unit 1 was operated for 575.3 hours, and Holyrood TGS Unit 2 was operated for 687.9 hours. Holyrood TGS Unit 3 operated in synchronous condenser mode for 157.9 hours for system voltage and stability requirements before operating in generation mode for 371.5 hours. Total Holyrood TGS production was 117.3 GWh.

Standby units were operated for a total of 3.4 hours during the month. Total standby generation during the month was 0.0 GWh[2]. Standby generation was not required to support reservoir storage.

Imports over the Maritime Link were used in November 2020 to offset the use of thermal generation. In addition, imports and exports occurred for ponding purposes. Total imports of 4.5 GWh and exports of 1.3 GWh occurred in November 2020 resulting in a ponded balance of 1.2 GWh as of November 30, 2020. There was no energy imported over the Labrador-Island Link in November 2020 due to the continued outage.

5.0 Unit Deratings

Holyrood TGS Unit 1 remained on outage in early November to repair the west boiler feed pump. The unit was returned to service on November 7, 2020 with a derating to 85 MW while repairs to the west boiler feed pump continued. On November 16, 2020 the repaired west boiler feed pump was commissioned and the unit was returned to full capability. The unit remained at full capability through the remainder of the month.

Holyrood TGS Unit 2 was available at full capacity for the entire month of November 2020 with the exception of a trip on November 22, 2020 as a result of a procedural error while back washing the condenser. The unit was returned to service approximately two hours later. Also, from November 28,

[2] Standby generation for the month of November 2020 was negligible due to the low operating hours.

2020 to November 29, 2020 the unit was on a planned outage to complete an air heater wash and perform scheduled maintenance activities.

Holyrood TGS Unit 3 conversion from synchronous condenser mode to generation mode was completed on November 14, 2020. On November 15, 2020 the unit was put on-line with a scheduled deration to 130 MW due to safety valve testing. On November 18, 2020 the unit was taken off line for one hour to replace a generator potential transformer fuse. On November 19, 2020 the unit was de-rated to 35 MW for less than five hours to investigate a trip of the west forced draft fan variable frequency drive. The scheduled de-rating to 130 MW was removed and Unit 3 became fully available on November 20, 2020 with the completion of the on-line safety valve testing.

The Stephenville Gas Turbine was available at full capacity for the entire month of November 2020 with the exception of a planned maintenance outage from November 8, 2020 to November 15, 2020 to complete preventative and corrective maintenance.

The Hardwoods Gas Turbine was available at full capacity for the full month of November 2020 with the exception of a planned derating of the unit on November 23 and November 24, 2020 to complete borescope inspection of the End A and B engines respectively. There was also a planned outage on November 27, 2020 to complete black start testing.

Appendix A

Production and Purchases

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Production and Purchases[3]

	November 1, 2020 to November 30, 2020 (GWh)	Year-to-Date November 30, 2020 (GWh)
Hydro Generation (Hydro)		
Bay d'Espoir Plant		
Unit 1	41.0	338.7
Unit 2	40.1	311.9
Unit 3	33.8	330.5
Unit 4	17.8	123.1
Unit 5	20.2	174.4
Unit 6	23.0	238.0
Unit 7	82.8	832.6
Subtotal Bay d'Espoir Plant	**258.7**	**2,349.1**
Upper Salmon Plant	50.4	486.7
Granite Canal Plant	24.0	204.5
Hinds Lake Plant	22.9	273.0
Cat Arm Plant		
Unit 1	34.4	357.9
Unit 2	34.9	385.8
Subtotal Cat Arm Plant	**69.2**	**743.6**
Paradise River	2.8	33.1
Star Lake Plant	4.7	122.3
Rattle Brook Plant	1.4	11.6
Nalcor Exploits Plants	32.9	518.8
Mini Hydro	0.0	0.0
Total Hydro Generation	**467.1**	**4,742.7**
Thermal Generation (Hydro)		
Holyrood TGS		
Unit 1	40.6	319.6
Unit 2	50.3	365.2
Unit 3	26.4	225.4
Subtotal Holyrood TGS Units	**117.3**	**910.3**
Holyrood Gas Turbine and Diesels	0.0	4.5
Hardwoods Gas Turbine	0.0	0.9
Stephenville Gas Turbine	0.0	0.5
Other Thermal	0.1	0.3
Total Thermal Generation	**117.4**	**916.4**
Purchases		
Requested Newfoundland Power and Vale	0.0	0.1
Corner Brook Pulp and Paper		
Capacity Assistance	0.0	0.0
Firm Energy Power Purchase Agreement	0.0	0.0
Secondary	1.6	43.5
Co-Generation	4.6	47.0
Subtotal Corner Brook Pulp and Paper	**6.2**	**90.5**
Wind Purchases	20.0	160.7
Maritime Link Imports[4]	4.5	189.4
New World Dairy	0.0	1.9
Labrador-Island Link Imports[5]	0.0	0.0
Total Purchases	**30.7**	**442.7**
Total[6]	**615.3**	**6,101.8**

[3] Gross generation.
[4] Includes energy flows as a result of purchases and inadvertent energy.
[5] Includes purchases as a result of testing activity.
[6] Actuals reflect rounded values to the nearest tenth of a GWh. Differences between total vs. addition of individual components due to rounding.