newfoundland labrador hydro
a nalcor energy company

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January 18, 2021

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 December 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

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Industrial Customer Group
Paul L. Coxworthy, Stewart McKelvey
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Dean A. Porter, Poole Althouse

Praxair Canada Inc.
Sheryl E. Nisenbaum

Teck Resources Limited
Shawn Kinsella

Monthly Energy Supply Report for the Island Interconnected System for December 2020

January 18, 2021

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 December 2020.

2.0 System Hydrology

Reservoir inflows in December 2020 were approximately 47% above the month's historical average. Inflows in 2020 ended at 8% 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 (%)
31-Dec-2020	2,041	1,695	1,947	1,214	2,441	84

The aggregate reservoir storage level on December 31, 2020 was 2,041 GWh, which is 16% below the seasonal maximum operating level and 68% 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 December of 1,947 GWh. At the end of December 2019, the aggregate storage level was 1,695 GWh.

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

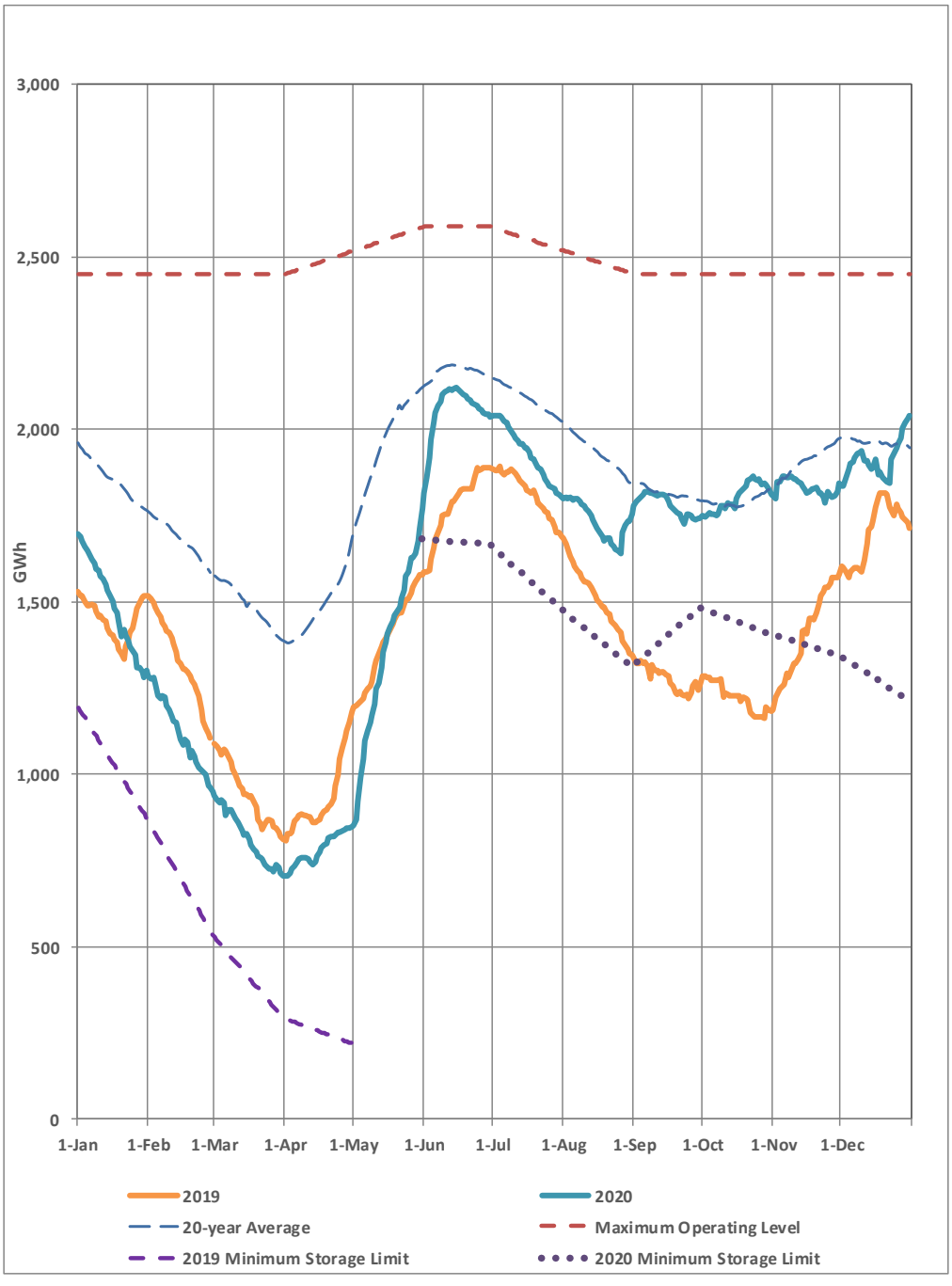

Figure 1: Total System Energy Storage

3.0 Production and Purchases

Appendix A provides a breakdown of power purchases, including imports, and production by plant during December 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 December 2020 to reliably meet Hydro's customer demand requirements. Unit 1 was operated for 686.5 hours, Holyrood TGS Unit 2 was operated for 468.5 hours, and Holyrood TGS Unit 3 operated for 744 hours. Total Holyrood TGS production was 139.8 GWh.

Standby units were operated for a total of 13.3 hours during the month. Total standby generation during the month was 0.4 GWh. Standby generation was not required to support reservoir storage.

In December 2020, 1.9 GWh was imported over the Maritime Link as a result of ponding activities. The ponded balance at month end was -0.4 GWh. Additionally, testing activities resumed on the Labrador Island Link in December 2020, resulting in the delivery of 17.4 GWh of energy at Soldiers Pond. Total exports for the month of December were 3.2 GWh.

5.0 Unit Deratings

Holyrood TGS Unit 1 was on a planned maintenance outage from December 4, 2020 to December 6, 2020 to complete an air heater wash. On December 22, 2020 the unit was derated to 50 MW for four hours and then taken offline for an additional 23 hours to conserve feed water as a result of an issue in the water treatment plant. After the water treatment plant was returned to full capacity, the unit was returned to service. Otherwise Unit 1 was available at full load capability for December.

Holyrood TGS Unit 2 remained offline on hot standby with full load capability until December 12, 2020 as it was not required for system generation. During return to service on December 12, 2020 a tube leak was discovered in the superheater section of the boiler. After replacement of the failed tube, the unit was returned to service on December 19, 2020 with full load capability. On December 22, 2020 the unit was derated to 50 MW for approximately fifteen hours to conserve feed water as a result of an issue in the water treatment plant. After the water treatment plant was returned to full capacity, the unit was returned to full capability for the remainder of the month.

Holyrood TGS Unit 3 operated with full load capability through December with one exception. On December 22, 2020 the unit was derated to 50 MW for approximately fifteen hours to conserve feed water as a result of an issue in the water treatment plant. After the water treatment plant was returned to full capacity, the unit was returned to full capability for the remainder of the month.

The Stephenville Gas Turbine was available at full capacity for the entire month of December 2020.

The Hardwoods Gas Turbine was available at full capacity for the full month of December 2020.

Appendix A

Production and Purchases

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Production and Purchases[2]

	December 1, 2020 to December 31, 2020 (GWh)	Year-to-Date December 31, 2020 (GWh)
Hydro Generation (Hydro)		
Bay d'Espoir Plant		
Unit 1	42.3	381.0
Unit 2	42.0	353.8
Unit 3	29.2	359.7
Unit 4	15.2	138.3
Unit 5	26.2	200.6
Unit 6	16.1	254.1
Unit 7	85.2	917.7
Subtotal Bay d'Espoir Plant	**256.2**	**2,605.3**
Upper Salmon Plant	44.3	530.9
Granite Canal Plant	26.8	231.4
Hinds Lake Plant	27.4	300.5
Cat Arm Plant		
Unit 1	34.7	392.6
Unit 2	35.9	421.6
Subtotal Cat Arm Plant	**70.6**	**814.2**
Paradise River	5.3	38.4
Star Lake Plant	9.9	132.2
Rattle Brook Plant	1.8	13.3
Nalcor Exploits Plants	49.9	568.6
Mini Hydro	0.0	0.0
Total Hydro Generation	**492.2**	**5,234.8**
Thermal Generation (Hydro)		
Holyrood TGS		
Unit 1	50.1	369.8
Unit 2	32.9	398.1
Unit 3	56.8	282.2
Subtotal Holyrood TGS Units	**139.8**	**1,050.1**
Holyrood Gas Turbine and Diesels	0.4	4.9
Hardwoods Gas Turbine	0.0	0.9
Stephenville Gas Turbine	0.0	0.5
Other Thermal	0.0	0.3
Total Thermal Generation	**140.3**	**1,056.7**
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	2.9	46.4
Co-Generation	3.4	50.4
Subtotal Corner Brook Pulp and Paper	**6.3**	**96.8**
Wind Purchases	15.0	175.7
Maritime Link Imports[3]	2.0	191.5
New World Dairy	0.2	2.1
Labrador-Island Link Imports[4]	17.4	17.4
Total Purchases	**40.9**	**483.6**
Total[5]	**673.3**	**6,775.1**

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