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April 19, 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 March 2021

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

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Senior Legal Counsel, Regulatory
SAW/kd

Encl.

ecc: **Board of Commissioners of Public Utilities**
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Monthly Energy Supply Report for the Island Interconnected System for March 2021

April 19, 2021

A report to the Board of Commissioners of Public Utilities



Contents

1.0	Introduction	1
2.0	System Hydrology	1
3.0	Production and Purchases	4
4.0	Thermal Production and Imports.....	4
5.0	Unit Deratings	4

List of Appendices

Appendix A: Production and Purchases

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 March 2021.

2.0 System Hydrology

Reservoir inflows in March 2021 were approximately 90% of the month’s historical average. Inflows in 2021 increased to 82% of the year-to-date 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

	2021	2020	20-Year Average	Minimum Storage Limit	Maximum Operating Level	Percentage of Maximum Operating Level
Date	(GWh)	(GWh)	(GWh)	(GWh)	(GWh)	(%)
31-Mar-2021	1,329	707	1,333	277	2,452	54

The aggregate reservoir storage level on March 31, 2021 was 1,329 GWh, which is 46% below the seasonal maximum operating level and 380% above the minimum storage limit.¹ The current storage

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.

1 level is shown in Figure 1 in relation to the 20-year average storage level for the end of March of
2 1,333 GWh. At the end of March 2020, the aggregate storage level was 707 GWh.

3 The second snow survey of 2021 was completed during the third week of March.² The survey indicated
4 that, for the system as a whole, snowpack water equivalent (mm) was approximately 79% of average
5 and equivalent energy (GWh) was approximately 79% of average. Based on the available snowpack data,
6 the snowpack was approximately 106.7 mm of snow water equivalent at Bay d’Espoir,³ approximately
7 146.4 mm at Hinds Lake, and approximately 231.9 mm at Cat Arm.

8 Figure 1 plots the 2020 and 2021 storage levels, maximum operating level storage, and the 20-year
9 average aggregate storage for comparison. The minimum storage limits are established to the end of
10 April 2021. The remaining 2021 targets will be established following the freshet.

² The first snow survey was completed mid-February; however, due to inclement weather preventing the majority of locations from being sampled and lack of snow at some locations, the data gathered was only suitable for maintaining a historical record of the sites that were sampled and not an accurate reflection of snow pack in the system.

³ The snowpack value at the Bay d’Espoir location represents a weighted total.

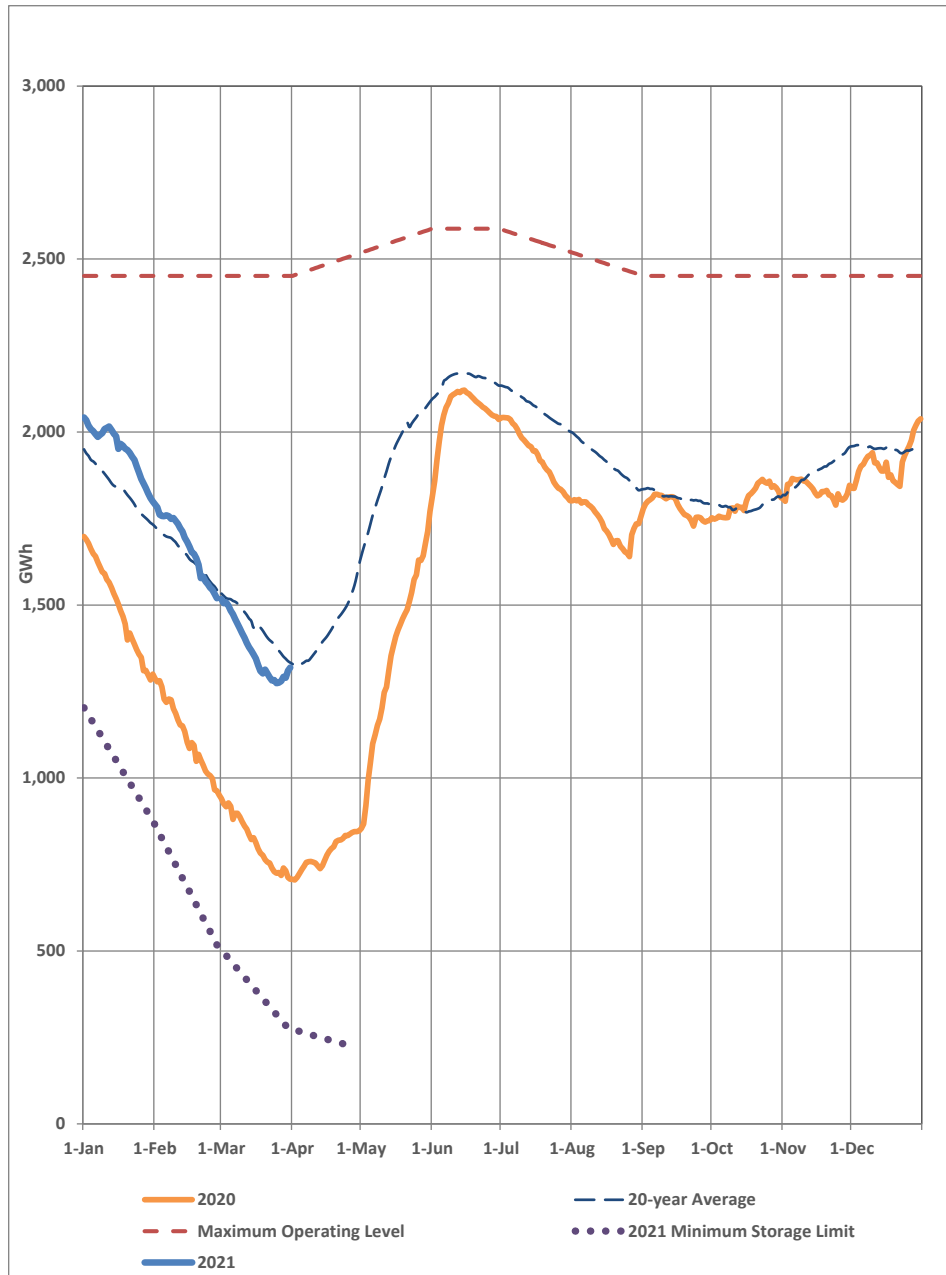


Figure 1: Total System Energy Storage⁴

⁴ As reported in the April 2020 Monthly Energy Supply Report, filed with the Board on May 19, 2020, Hydro established minimum storage limits to April 2021 in consideration of potential delays in the availability of the Labrador-Island Link to deliver energy to the Island Interconnected System.

3.0 Production and Purchases

Appendix A provides a breakdown of power purchases, including imports, and production by plant during March 2021.

4.0 Thermal Production and Imports

Units 1, 2, and 3 at the Holyrood Thermal Generating Station (“Holyrood TGS”) were required to generate during March 2021 to reliably meet Hydro’s customer demand requirements. Unit 1 was operated for 593.8 hours, Holyrood TGS Unit 2 was operated for 741.5 hours, and Holyrood TGS Unit 3 operated for 706.5 hours. Total Holyrood TGS production was 146.3 GWh.

Standby units were operated for a total of 25.4 hours during the month. Total standby generation during the month was 2.0 GWh. Standby generation was not required to support reservoir storage.

In March 2021, imports rounding to 0.0 GWh⁵ occurred over the Maritime Link for ponding purposes only. The ponded balance at month end was -7.3 GWh. Testing activities continued on the Labrador-Island Link in March 2021, resulting in the delivery of 47.1 GWh of energy at Soldiers Pond. On March 8, 2021, approximately 0.14 GWh was generated to supply Emergency Energy to Nova Scotia Power, pursuant to the Interconnection Operators Agreement⁶ between Hydro and Nova Scotia Power.⁷ Total exports over the Maritime Link for the month of March were 9.0 GWh.⁸

5.0 Unit Deratings

Holyrood TGS Unit 1 operated at full capability for the month of March 2021. From March 23, 2021 to March 24, 2021, the unit was on a planned outage to complete an air heater wash. It remained on standby until March 29, 2021, as it was not required to support system loading. It was returned to service on March 29, 2021.

Holyrood TGS Unit 2 operated at full capability for the month of March 2021. On March 18, 2021, the unit was taken offline on a planned outage of 2.5 hours to replace worn generator brushes.

⁵ Actual imports for ponding purposes amounted to 1 MWh.

⁶ Article 5, Schedules A3 and C9.

⁷ A copy of the agreement was provided in “The Board’s Investigation and Hearing into Supply Issues and Power Outages on the Island Interconnected System – Availability of Requested Information from Hydro, July 5, 2017 Update,” Appendix C.

⁸ Total exports include the provision of emergency and inadvertent energy to Nova Scotia Power Inc. and export activity conducted by Nalcor Energy Marketing.

- 1 Holyrood TGS Unit 3 operated at full capability for the month of March 2021. On March 30, 2021, the
- 2 unit was taken offline and placed on standby, as it was not required to support system loading.
- 3 The Hardwoods Gas Turbine, Stephenville Gas Turbine, and Holyrood Gas Turbine were available at full
- 4 capacity for the entire month of March 2021.



Appendix A

Production and Purchases

Monthly Energy Supply Report for the Island Interconnected System for March 2021
Appendix A: Production and Purchases

Production and Purchases⁹

	March 1, 2021 to March 31, 2021 (GWh)	Year-to-Date March 31, 2021 (GWh)
Hydro Generation (Hydro)		
Bay d'Espoir Plant		
Unit 1	41.3	122.9
Unit 2	41.0	122.1
Unit 3	27.1	97.2
Unit 4	11.6	51.3
Unit 5	15.4	72.8
Unit 6	14.2	58.4
Unit 7	81.8	256.6
Subtotal Bay d'Espoir Plant	232.3	781.2
Upper Salmon Plant	57.3	160.4
Granite Canal Plant	21.0	67.5
Hinds Lake Plant	42.1	123.2
Cat Arm Plant		
Unit 1	42.7	120.6
Unit 2	43.8	124.0
Subtotal Cat Arm Plant	86.5	244.5
Paradise River	2.7	7.2
Star Lake Plant	12.8	36.5
Rattle Brook Plant	0.2	1.5
Nalcor Exploits Plants	51.3	153.2
Mini Hydro	0.0	0.0
Total Hydro Generation	506.1	1,575.3
Thermal Generation (Hydro)		
Holyrood TGS		
Unit 1	43.0	146.1
Unit 2	55.0	161.7
Unit 3	48.3	112.6
Subtotal Holyrood TGS Units	146.3	420.4
Holyrood Gas Turbine and Diesels	1.9	3.3
Hardwoods Gas Turbine	0.1	0.3
Stephenville Gas Turbine	0.0	0.2
Other Thermal	0.0	0.0
Total Thermal Generation	148.3	424.2
Purchases		
Requested Newfoundland Power and Vale	0.0	0.0
Corner Brook Pulp and Paper		
Capacity Assistance	0.0	0.0
Firm Energy Power Purchase Agreement	0.0	0.0
Secondary	1.1	7.9
Co-Generation	4.9	14.8
Subtotal Corner Brook Pulp and Paper	6.0	22.7
Wind Purchases	18.2	54.1
Maritime Link Imports ¹⁰	0.2	0.7
New World Dairy	0.3	0.9
Labrador-Island Link Imports ¹¹	47.1	131.1
Total Purchases	71.8	209.4
Total¹²	726.2	2,208.9

⁹ Gross generation.

¹⁰ Includes energy flows as a result of purchases and inadvertent energy.

¹¹ Includes purchases as a result of testing activity as well as deliveries that are then exported over the Maritime Link.

¹² Actuals reflect rounded values to the nearest tenth of a GWh. Differences between total vs. addition of individual components due to rounding.