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May 17, 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 April 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

A handwritten signature in blue ink, appearing to read "Shirley A. Walsh", written over a horizontal line.

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

Encl.

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

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Teck Resources Limited

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Monthly Energy Supply Report for the Island Interconnected System for April 2021

May 17, 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 April 2021.

2.0 System Hydrology

Reservoir inflows in April 2021 were approximately 206% of the month’s historical average. Inflows in 2021 increased to 33% above 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)	(%)
30-Apr-2021	2,006	854	1,616	220	2,518	80

The aggregate reservoir storage level on April 30, 2021 was 2,006 GWh, which is 20% below the seasonal maximum operating level and 812% 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 April of
2 1,616 GWh. At the end of April 2020, the aggregate storage level was 854 GWh.

3 The third snow survey was completed during the third week of April. At the time of the snow survey,
4 runoff due to snow melt had ended at the Bay d'Espoir system and the Hinds Lake watershed;
5 significantly earlier than previous years on record. The survey indicated that, for the system as a whole,
6 snow water equivalent (mm) was approximately 16% of average and equivalent energy (GWh) was
7 approximately 22% of average. Based on the available snowpack data, the snowpack was approximately
8 176.8 mm of snow water equivalent at Cat Arm. Spring freshet continues at the Cat Arm reservoir and is
9 expected to continue through May.

10 Figure 1 plots the 2020 and 2021 storage levels, minimum storage limits ,maximum operating level
11 storage, and the 20-year average aggregate storage for comparison. In addition to the 2021 limits
12 presented in Figure 1, Hydro has established minimum storage limits to April 30, 2022 in consideration
13 of the unlikely event that the Labrador-Island Link ("LIL") is unable to deliver energy to the Island
14 Interconnected System for three months during winter 2022.² This will help ensure sufficient storage to
15 reliability serve customers should the LIL become unavailable during the months that have historically
16 high customer loads and low inflows into the system.

² The three winter months are January to March 2022, inclusive.

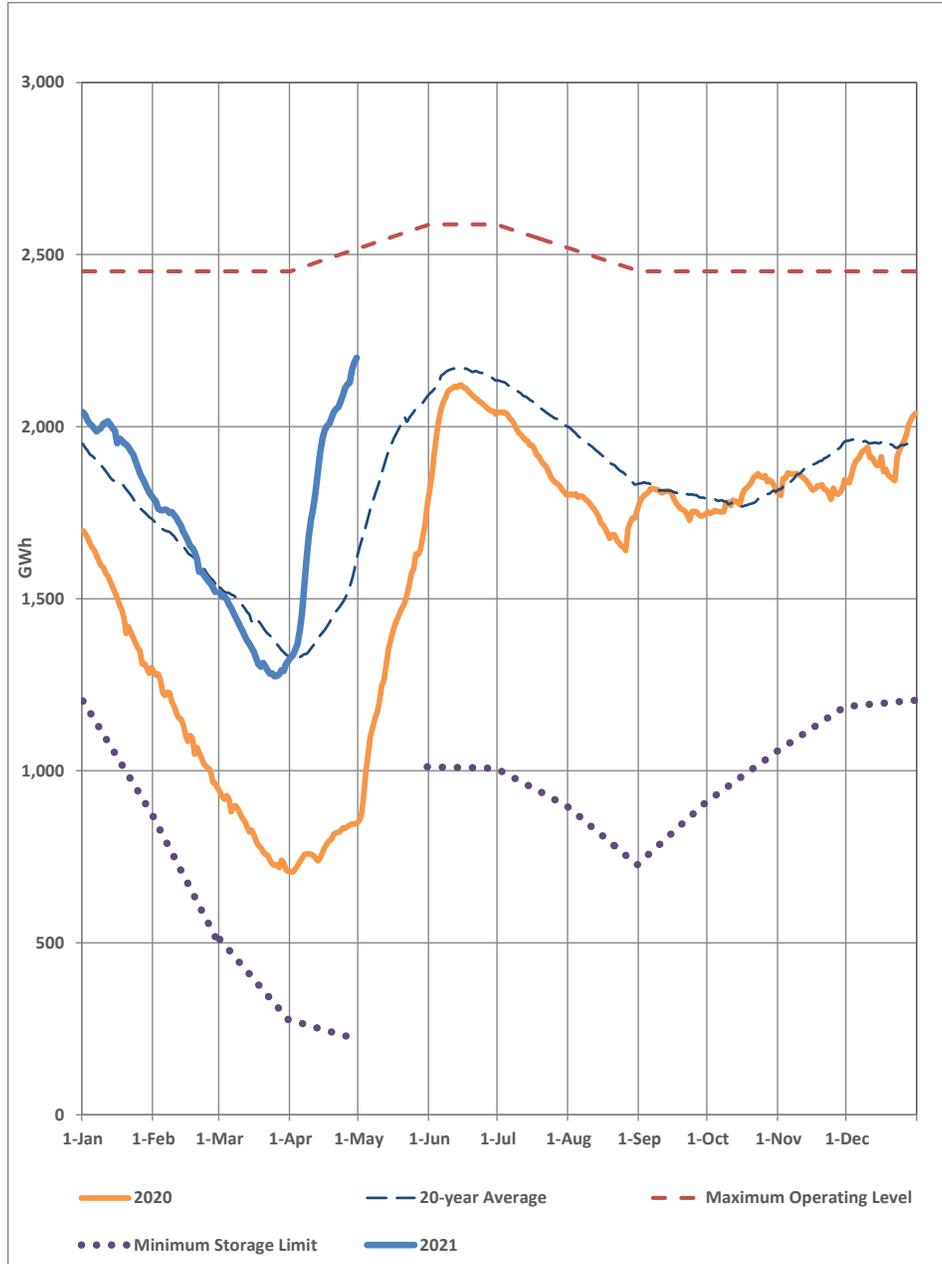


Figure 1: Total System Energy Storage

3.0 Production and Purchases

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

4.0 Thermal Production and Imports

Units 1 and 2 at the Holyrood Thermal Generating Station (“Holyrood TGS”) were required to generate during April 2021 to reliably meet system requirements. Unit 1 was operated for 720 hours, and Holyrood TGS Unit 2 was operated for 676 hours. Holyrood TGS Unit 3 was not operated in April 2021. Total Holyrood TGS production was 97.8 GWh.

Standby units were operated for a total of 1.9 hours during the month. Total standby production during the month was negligible. Standby generation was not required to support reservoir storage.

In April 2021, imports of 0.9 GWh occurred over the Maritime Link for ponding purposes only. The ponded balance at month end was -6.6 GWh. Testing activities continued on the Labrador-Island Link in April 2021, resulting in the delivery of 108.6 GWh of energy at Soldiers Pond. Total exports over the Maritime Link for the month of April were 32.6 GWh.³ In addition to exports over the Maritime Link, a total of 31.7 GWh was provided to Corner Brook Pulp and Paper Limited (“CBPP”) via the LIL as per the Temporary Energy Exchange Agreement.

5.0 Unit Deratings

Holyrood TGS Unit 1 operated at full capability for the month of April 2021.

Holyrood TGS Unit 2 was de-rated to 80 MW on April 15, 2021 due to air heater fouling. On April 17, 2021 the unit was further de-rated to 50 MW due to air duct vibrations induced by the increasing air heater fouling. The air heater wash was completed from April 20, 2021 to April 22, 2021 and the unit was returned to service at full capability on April 22, 2021.

Holyrood TGS Unit 3 was placed on standby on March 30, 2021, as it was not required to support system loading. The unit remained in standby until April 10, 2021 when the annual maintenance outage and capital works commenced.

³ Total exports include the provision of emergency and inadvertent energy to Nova Scotia Power Inc. and export activity conducted by Nalcor Energy Marketing.

- 1 The Hardwoods Gas Turbine was available at full capacity throughout the month of April 2021 with the
- 2 exception of a planned maintenance outage from April 12, 2021 to April 23, 2021 to complete
- 3 preventative and corrective maintenance.

- 4 Stephenville Gas Turbine and Holyrood Gas Turbine were both available at full capacity for the entire
- 5 month of April 2021.



Appendix A

Production and Purchases

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

Production and Purchases⁴

	April 1, 2021 to April 30, 2021 (GWh)	Year-to-Date April 30, 2021 (GWh)
Hydro Generation (Hydro)		
Bay d'Espoir Plant		
Unit 1	32.5	155.4
Unit 2	38.8	160.9
Unit 3	27.5	124.7
Unit 4	3.8	55.0
Unit 5	10.7	83.4
Unit 6	6.8	65.2
Unit 7	71.5	328.1
Subtotal Bay d'Espoir Plant	191.5	972.7
Upper Salmon Plant	42.1	202.5
Granite Canal Plant	27.8	95.3
Hinds Lake Plant	13.1	136.3
Cat Arm Plant		
Unit 1	26.4	147.0
Unit 2	26.4	150.4
Subtotal Cat Arm Plant	52.8	297.4
Paradise River	1.0	8.2
Star Lake Plant	11.6	48.1
Rattle Brook Plant	1.7	3.2
Nalcor Exploits Plants	57.8	211.0
Mini Hydro	0.0	0.0
Total Hydro Generation	399.4	1,974.7
Thermal Generation (Hydro)		
Holyrood TGS		
Unit 1	51.2	197.2
Unit 2	46.7	208.4
Unit 3	0.0	112.6
Subtotal Holyrood TGS Units	97.8	518.2
Holyrood Gas Turbine and Diesels	0.0	3.3
Hardwoods Gas Turbine	0.0	0.3
Stephenville Gas Turbine	0.0	0.2
Other Thermal	0.0	0.0
Total Thermal Generation	97.8	522.0
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	0.3	8.1
Co-Generation	4.5	19.3
Subtotal Corner Brook Pulp and Paper	4.7	27.4
Wind Purchases	18.3	72.4
Maritime Link Imports ⁵	0.0	0.7
New World Dairy	0.3	1.2
Labrador-Island Link Imports ⁶	108.6	239.7
Total Purchases	131.9	341.4
Total⁷	629.2	2,838.1

⁴ Gross generation.

⁵ Includes energy flows as a result of purchases and inadvertent energy.

⁶ Includes purchases as a result of testing activity as well as deliveries that are then exported over the Maritime Link.

⁷ Actuals reflect rounded values to the nearest tenth of a GWh. Differences between total vs. addition of individual components due to rounding.