newfoundland labrador hydro
a nalcor energy company

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June 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 May 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

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

Encl.

ecc: **Board of Commissioners of Public Utilities**
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Teck Resources Limited
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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 May 2021.

2.0 System Hydrology

Reservoir inflows in May 2021 were approximately 42% of the month's historical average. Inflows in 2021 decreased to 99% 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

Date	2021 (GWh)	2020 (GWh)	20-Year Average (GWh)	Minimum Storage Limit (GWh)	Maximum Operating Level (GWh)	Percentage of Maximum Operating Level (%)
31-May-2021	2,195	1,814	2,088	1,011	2,588	85

The aggregate reservoir storage level on May 31, 2021 was 2,195 GWh, which is 15% below the seasonal maximum operating level and 117% above the minimum storage limit.[1] The current storage level is

[1] Minimum storage limits 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 limit is designed to indicate 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.

shown in Figure 1 in relation to the 20-year average storage level for the end of May of 2,088 GWh. At the end of May 2020, the aggregate storage level was 1,814 GWh.

Runoff due to snow melt was complete in the Bay d'Espoir and Hinds Lake watersheds by the third week of April. Periods of rainfall in conjunction with inflows resulting from the melt of remaining snowpack at Cat Arm during the first half of May attributed to high inflows and it was considered at high risk of spill. During this time, reservoir levels at the other reservoirs were high and being monitored closely for risk of spill. From May 7, to May 20, 2021 Hydro engaged Nalcor Energy Marketing ("NEM") to export energy on its behalf to aid in the mitigation of spill pursuant to the Pilot Agreement for the Optimization of Hydraulic Resources.[2,3] During this period NEM was able to export 17.2 GWh of energy on Hydro's behalf that may have otherwise been spilled. Any remaining snow that was present in the high elevation areas in the Cat Arm watershed had melted by the third week of May, at which point spill avoidance exports ceased. Spill did not occur in the system in May.

Figure 1 plots the 2020 and 2021 storage levels, minimum storage limits, maximum operating level storage, and the 20-year average aggregate storage for comparison.

[2] Further pursuant to the Pilot Agreement for the Optimization of Hydraulic Resources, prior to exporting spilled energy Hydro assumed the negative ponding balance of -6.7 GWh from prior ponding exports as spill exports, bringing the ponded balance to 0.0 GWh during the first week of May.

[3] Exporting when system load is light allowed for sustained generation from island hydraulic facilities, in particular maximization of the Cat Arm plant, and the utilization of water (energy) that would otherwise have been spilled, while not increasing the risk of spill elsewhere in the system.

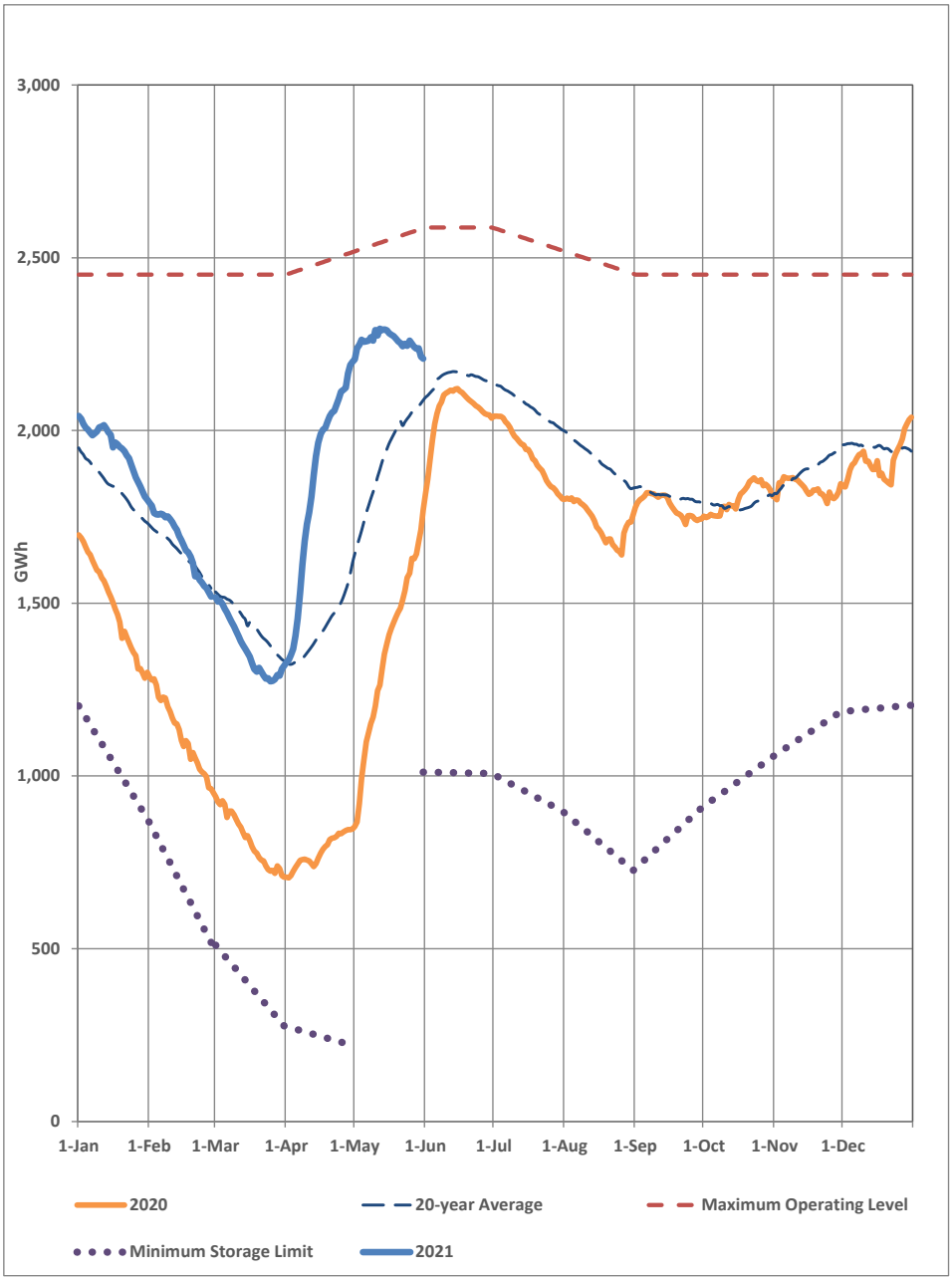

Figure 1: Total System Energy Storage

3.0 Production and Purchases

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

4.0 Thermal Production and Imports

To reliably meet system requirements, Unit 1 at the Holyrood Thermal Generating Station ("Holyrood TGS") was required to generate at minimum during the first week of May 2021 and Unit 2 was required to generate at minimum until the third week of May 2021. Unit 1 was operated for 162 hours, and Holyrood TGS Unit 2 was operated for 492 hours. Holyrood TGS Unit 3 was not operated in May 2021. Total Holyrood TGS production was 40.2 GWh.

Standby units were operated for a total of 42.0 hours during the month. Total standby production during the month was 1.7 GWh. Standby generation was not required to support reservoir storage.

In May 2021, imports rounding to 0.0 GWh[4] occurred over the Maritime Link for ponding purposes only. The ponded balance at month end was -0.1 GWh. Testing activities continued on the Labrador-Island Link ("LIL") in May 2021, resulting in the delivery of 37.1 GWh of energy at Soldiers Pond. Total exports over the Maritime Link for the month of May were 30.0 GWh.[5] In addition to exports over the Maritime

[4] Actual imports for ponding purposes amounted to 32 MWh.
[5] Total exports include the provision of emergency and inadvertent energy to Nova Scotia Power Inc. and export activity conducted by NEM including the export of spilled energy on Hydro's behalf.

Link, a total of 19.1 GWh was delivered to Corner Brook Pulp and Paper Limited by NEM via the LIL as per the Temporary Energy Exchange Agreement.

5.0 Unit Deratings

Holyrood TGS Unit 1 operated at full capability until May 7, 2021 when it was taken offline and placed on standby as it was not required to support system requirements. The unit remained on standby until May 27, 2021 when the annual maintenance outage commenced.

Holyrood TGS Unit 2 operated at full capability until May 21, 2021 when it was taken offline and placed on standby as it was not required to support system requirements.

Holyrood TGS Unit 3 remained on annual maintenance outage for the month of May 2021.

The Hardwoods Gas Turbine was available at full capacity for the entire month of May 2021.

The Stephenville Gas Turbine was available at full capacity for the entire month of May 2021 with the exception of a planned maintenance outage from May 25, 2021 to May 30, 2021 to complete preventative and corrective maintenance.

The Holyrood Gas Turbine was available at full capacity for the entire month of May 2021 with the exception of a planned maintenance outage from May 15, 2021 to May 21, 2021 to complete preventative and corrective maintenance.

Appendix A

Production and Purchases

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Production and Purchases[6]

	May 1, 2021 to May 31, 2021 (GWh)	Year-to-Date May 31, 2021 (GWh)
Hydro Generation (Hydro)		
Bay d'Espoir Plant		
Unit 1	12.1	167.5
Unit 2	13.3	174.2
Unit 3	39.3	164.0
Unit 4	20.9	75.9
Unit 5	27.0	110.4
Unit 6	19.5	84.7
Unit 7	91.0	419.2
Subtotal Bay d'Espoir Plant	**223.2**	**1,195.9**
Upper Salmon Plant	53.7	256.2
Granite Canal Plant	19.6	114.9
Hinds Lake Plant	27.3	163.6
Cat Arm Plant		
Unit 1	32.3	179.3
Unit 2	32.7	183.1
Subtotal Cat Arm Plant	**65.0**	**362.3**
Paradise River	1.7	9.9
Star Lake Plant	12.6	60.7
Rattle Brook Plant	2.6	5.7
Nalcor Exploits Plants	51.1	262.1
Mini Hydro	0.0	0.0
Total Hydro Generation	**456.8**	**2,431.5**
Thermal Generation (Hydro)		
Holyrood TGS		
Unit 1	9.3	206.6
Unit 2	30.9	239.3
Unit 3	0.0	112.6
Subtotal Holyrood TGS Units	**40.2**	**558.4**
Holyrood Gas Turbine and Diesels	1.5	4.8
Hardwoods Gas Turbine	0.1	0.4
Stephenville Gas Turbine	0.1	0.2
Other Thermal	0.0	0.0
Total Thermal Generation	**41.9**	**563.9**
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	9.2
Co-Generation	4.0	23.3
Subtotal Corner Brook Pulp and Paper	**5.1**	**32.5**
Wind Purchases	17.5	89.8
Maritime Link Imports[7]	0.2	0.9
New World Dairy	0.3	1.5
Labrador-Island Link Imports[8]	37.1	276.8
Total Purchases	**60.1**	**401.5**
Total[9]	**558.8**	**3,396.9**

[6] Gross generation.
[7] Includes energy flows as a result of purchases and inadvertent energy.
[8] Includes purchases as a result of testing activity as well as deliveries that are then exported over the Maritime Link.
[9] Actuals reflect rounded values to the nearest tenth of a GWh. Differences between total vs. addition of individual components due to rounding.