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September 20, 2022

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Cheryl Blundon
Director Corporate Services & Board Secretary

Re: Monthly Energy Supply Report for the Island Interconnected System for August 2022

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:

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Monthly Energy Supply Report for the Island Interconnected System for August 2022

September 20, 2022

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 August 2022.

2.0 System Hydrology

Reservoir inflows in August 2022 were approximately 33% below the month's historical average. Inflows in 2022 are 137%[1] 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	2022 (GWh)	2021 (GWh)	20-Year Average (GWh)	Minimum Storage Limit (GWh)	Maximum Operating Level (GWh)	Percentage of Maximum Operating Level (%)
31-Aug-2022	2,178	1,482	1,831	1,227	2,452	89

[1] The July year-to-date inflow was incorrectly reported as 132% of average last month, when it was actually 142% of average. All other reported values were correct.

The aggregate reservoir storage level on August 31, 2022 was 2,178 GWh, which is 11% below the seasonal maximum operating level and 178% above the minimum storage limit.[2,3] The current storage level is shown in Figure 1 in relation to the 20-year average storage level for the end of August 2022 of 1,831 GWh. At the end of August 2021, the aggregate storage level was 1,482 GWh.

Overall system inflows in August 2022 were below average as a result of warm and dry weather. Inflows to the Bay d'Espoir system were approximately 70% of average and about 60% of average for both Cat Arm and Hinds Lake. No energy exports to mitigate spill were required in August 2022. Hydro assumed the negative ponding balance of 5.1 GWh as spill exports at the beginning of August because of excess storage in the reservoirs, resetting the ponding balance to 0 GWh.[4]

The Upper Salmon Hydroelectric Generating Station returned to service from its annual planned outage on August 4. Bypass of the Upper Salmon Hydroelectric Generating Station into Long Pond via the North Salmon Dam Spillway was ongoing since July 20, 2022 and ended on August 4, 2022. Bypass was required to keep Meelpaeg Reservoir below its maximum operating level during the outage.

Generation dispatch across the system throughout August was designed to minimize the risk of spill from reservoirs and to lower the Long Pond water level to approximately 181.35 m to facilitate upcoming planned riprap repairs on the LD-1 and LD-2 dams.

The Hinds Lake Hydroelectric Generating Station began its annual planned outage on August 22, 2022.

Figure 1 plots the 2021 and 2022 storage levels, minimum storage limits, maximum operating level storage, and the 20-year average aggregate storage for comparison.

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[2] 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 the Holyrood Thermal Generating Station ("Holyrood TGS"), 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.

[3] Inflows and storage at Victoria Reservoir continued to be calculated using manual water level measurements in August due to an ongoing issue with the automatic water level gauge. Environment Canada was contacted to troubleshoot the issue and the gauge was repaired during a site visit on August 11, 2022.

[4] Pursuant to the Pilot Agreement for the Optimization of Hydraulic Resources, exporting when system load is low allowed for sustained generation from Island hydraulic facilities and the utilization of water (energy) that would otherwise have been spilled, while not increasing the risk of spill elsewhere in the system.

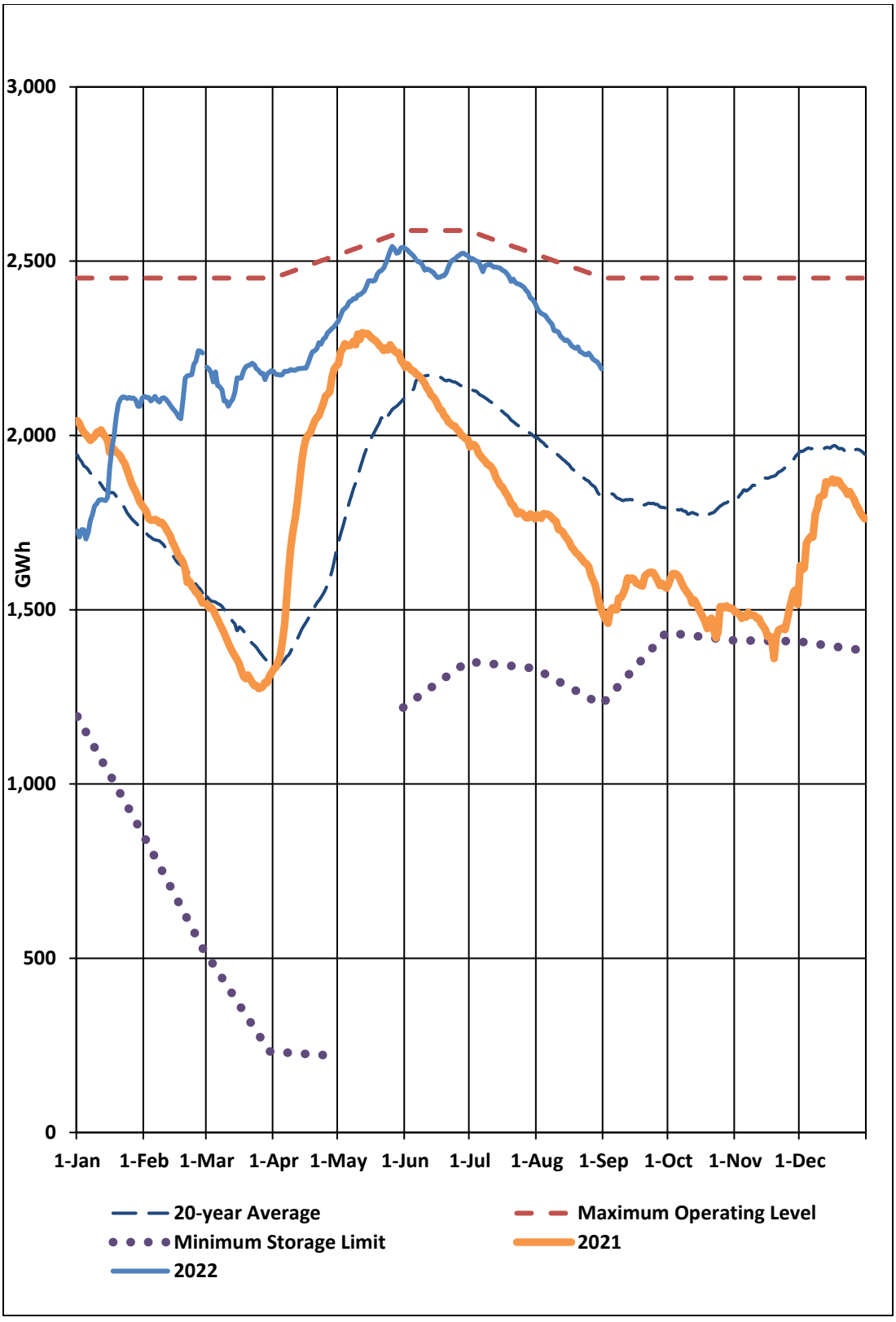

Figure 1: Total System Energy Storage

3.0 Production and Purchases

Appendix A provides a breakdown of power purchases, including imports, and production by plant during August 2022.

4.0 Thermal Production and Imports

No units at the Holyrood TGS were required to generate during August 2022 for system requirements. Total energy production from the Holyrood TGS during the month of August 2022 was 0 GWh.

Standby units were operated for a total of 29.4 hours during the month to support system requirements. Total standby production during the month was 0.6 GWh. Standby generation was not required to support reservoir storage. The Hardwoods Gas Turbine was operated in synchronous condenser mode for the entire month of August 2022.

Testing activities continued on the Labrador-Island Link ("LIL") in August 2022, resulting in the delivery of 71.3 GWh of energy at Soldiers Pond. Total metered energy over the Maritime Link to Nova Scotia for the month of August 2022 was 65.3 GWh.[5,6] Energy Marketing exported 37.4 GWh[7] associated with the delivery of the Nova Scotia Block and Supplemental Energy[8] and 18.7 GWh of bulk surplus energy.[9] Exports of 9.1 GWh occurred over the Maritime Link associated with ponding activities. The ponded balance at month end was negative 9.1 GWh.[10] No energy was repaid to Energy Marketing by CBPP pursuant to the Temporary Energy Exchange Agreement during August 2022.

5.0 Unit Deratings

Holyrood TGS Unit 1 remained on planned annual maintenance outage for the entire month of August 2022. The scheduled return to service date is September 24, 2022.

[5] Totals include the provision of emergency and inadvertent energy to Nova Scotia Power Inc., provision of the Nova Scotia Block, the Supplemental Block, and export activity conducted by Energy Marketing including the export of spilled energy on Hydro's behalf.
[6] Physical delivery of the Nova Scotia Block will only occur when the LIL is online and able to transfer power.
[7] Due to power system operations, metered quantities may not match commercially transacted volumes.
[8] Nova Scotia Block and Supplemental Energy quantities are reflected at the point of commercial transaction.
[9] Bulk surplus energy includes Muskrat Falls energy and energy repaid to Energy Marketing by Corner Brook Pulp and Paper Limited ("CBPP") that is sold to external markets.
[10] Due to Hydro's assumption of the negative pond balance in the beginning of August as spill exports, resetting the pond balance to 0 GWh, as noted in Section 2.0 above.

Holyrood TGS Unit 2 was offline on planned annual maintenance outage for the entire month of August 2022. The scheduled return to service date is October 29, 2022.

Holyrood TGS Unit 3 was on planned annual maintenance outage until August 27, 2022 when the unit was placed online in synchronous condenser mode. The unit continued to operate as a synchronous condenser for the remainder of August 2022.

The Hardwoods, Holyrood and Stephenville Gas Turbines were available at full capacity for the entire month of August 2022.

Appendix A

Production and Purchases

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Table A-1: Generation and Purchases[1]

	August 1–31, 2022 (GWh)	YTD[2] August 31, 2022 (GWh)
Hydro Generation (Hydro)		
Bay d'Espoir		
Unit 1	41.0	300.7
Unit 2	40.8	303.7
Unit 3	22.7	262.6
Unit 4	3.4	153.5
Unit 5	0.0	148.3
Unit 6	0.0	156.1
Unit 7	64.7	585.3
Subtotal Bay d'Espoir	172.7	1,910.3
Upper Salmon	34.3	341.0
Granite Canal	13.9	138.8
Hinds Lake	15.1	280.1
Cat Arm		
Unit 1	25.4	223.4
Unit 2	27.2	242.7
Subtotal Cat Arm	52.6	466.0
Paradise River	1.3	22.9
Star Lake	12.2	93.1
Rattle Brook	0.9	11.3
Nalcor Exploits	47.8	410.9
Mini Hydro	0.0	0.0
Total Hydro Generation (Hydro)	**350.7**	**3,674.6**
Thermal Generation (Hydro)		
Holyrood TGS		
Unit 1	0.0	194.3
Unit 2	0.0	210.5
Unit 3	0.0	139.2
Subtotal Holyrood TGS Units	0.0	544.0
Holyrood Gas Turbine and Diesels	0.5	1.4
Hardwoods Gas Turbine	0.0	0.7
Stephenville Gas Turbine	0.0	0.5
Other Thermal	0.0	0.5
Total Thermal Generation (Hydro)	**0.6**	**547.1**
Purchases		
Requested Newfoundland Power and Vale CBPP[3]	0.0	0.0
Capacity Assistance	0.0	0.0
Firm Energy Power Purchase Agreement	0.0	0.0
Secondary	4.2	30.1
Co-Generation	4.3	34.6
Subtotal CBPP	8.5	64.7
Wind Purchases	10.2	115.6
Maritime Link Imports[4]	0.3	0.6
New World Dairy	0.3	2.2
LIL Imports[5]	71.3	804.7
Total Purchases	**90.6**	**987.8**
Total[6]	**441.9**	**5,209.4**

[1] Gross generation.
[2] Year-to-date ("YTD").
[3] Corner Brook Pulp and Paper Limited ("CBPP").
[4] Includes energy flows as a result of purchases and inadvertent energy.
[5] Includes purchases as result of testing activity as well as deliveries that are then exported over the Maritime Link.
[6] Actuals reflect rounded values to the nearest tenth of a GWh. Differences between total vs. addition of individual components due to rounding.