Newfoundland and Labrador Hydro
Hydro Place. 500 Columbus Drive
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 I f. 709.737.1800
nlhydro.com

April 16, 2025

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

Attention: Jo-Anne Galarneau
Executive Director and Board Secretary

Re: Monthly Energy Supply Report for the Island Interconnected System for March 2025

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/mc

Encl.

ecc:

Board of Commissioners of Public Utilities
Jacqui H. Glynn
Board General

Consumer Advocate
Dennis M. Browne, KC, Browne Fitzgerald Morgan & Avis
Stephen F. Fitzgerald, KC, Browne Fitzgerald Morgan & Avis
Sarah G. Fitzgerald, Browne Fitzgerald Morgan & Avis
Bernice Bailey, Browne Fitzgerald Morgan & Avis

Linde Canada Inc.
Sheryl E. Nisenbaum
Peter Strong

Newfoundland Power Inc.
Dominic J. Foley
Douglas W. Wright
Regulatory Email

Teck Resources Limited
Shawn Kinsella

Island Industrial Customer Group
Paul L. Coxworthy, Stewart McKelvey
Denis J. Fleming, Cox & Palmer
Glen G. Seaborn, Poole Althouse

Monthly Energy Supply Report for the Island Interconnected System for March 2025

April 16, 2025

A report to the Board of Commissioners of Public Utilities

newfoundland labrador hydro

Contents

1.0 Introduction 1
2.0 System Hydrology 1
2.1 Ponding 5
2.2 Spill Activity 5
3.0 Production and Purchases 6
4.0 Thermal Production 6
5.0 Unit Deratings 7

List of Appendices

Appendix A: Ponding and Spill Transactions

Appendix B: Production and Purchase

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;

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 2025.

Ownership of the Water Management function resides within Hydro in the Resource and Production Planning department, and is at all times guided by Hydro's operating instructions and environmental standards. This group works in consultation with Energy Marketing to optimize the use of Hydro's hydrologic resources through import/exports and to ensure that the security of supply for domestic load for Hydro's customers remains paramount in all decisions, ensuring the delivery of least-cost, reliable service in an environmentally responsible manner.

2.0 System Hydrology

Reservoir inflows in March 2025 were 147% above the month's historical average.[1] 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	2025 (GWh)	2024 (GWh)	20-Year Average (GWh)	Minimum Storage Limit (GWh)	Maximum Operating Level (GWh)	Maximum Operating Level (%)
31-March-2025	1,874	1,979	1,446	281	2,452	76

[1] Calculated in terms of energy (gigawatt hour ["GWh"]).

The aggregate reservoir storage level on March 31, 2025 was 1,874 GWh, which is 24% below the seasonal maximum operating level and 567% above the minimum storage limit.[2] Total system energy increased by 260 GWh overall, resulting in a total system energy storage 428 GWh above the 20-year average. The spring freshet began along the Bay d'Espoir System and inflows to these reservoirs were 125% above average in March 2025. Inflows to the Hinds Lake Reservoir were 246% above average and inflows to the Cat Arm Reservoir were 315% above average.

There were two significant rainfall events in March 2025. On March 2, 2025, 26 mm of rainfall was recorded at Burnt Dam while 34 mm was recorded at Long Pond. A total of 45 mm of rainfall was recorded at Burnt Dam on March 7 and 8, while a total of 69 mm was recorded at Long Pond. Average daily temperatures above freezing were experienced on several occasions at multiple locations throughout the month, resulting in significant runoff from snow melt. The rain events combined with runoff from snow melt led to elevated water levels in Burnt Pond and Granite Reservoir, eventually resulting in the requirement to bypass at the Granite Canal Bypass Structure on two occasions in the month, please refer to section 2.2 for further details.

The March snow survey of the island hydroelectric system took place from March 3 to 5. This was the first snow survey of 2025, with the February survey being cancelled due to low snow conditions. The survey found that overall snowpack across Hydro's island reservoirs, comparing snow water equivalents, is at 33% of the long-term historical average in March 2025. Snowpack at each individual watershed and sub-basin in the system was also found to be below average in March 2025. The entire Long Pond and Upper Salmon watersheds were unable to be surveyed due to low snow conditions. The Meelpaeg and Granite watersheds were found to have snow water equivalents at 15% of average due to multiple sites that were also unable to be surveyed because of the lack of snow. Burnt Pond snow water equivalent was found to be 26% of average, and Victoria Lake was found to be 47% of average. The Hinds Lake watershed had a snow water equivalent 50% of average, while the Cat Arm reservoir was 85% of average.

[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 supplemented with maximized deliveries of power from the Muskrat Falls Hydroelectric Generating Facility ("Muskrat Falls") over the Labrador-Island Link ("LIL"). Hydro's long-term critical dry sequence is defined as January 1959 to March 1962 (39 months). Other dry periods are also considered during this analysis to ensure that no other shorter-term historic dry sequence could result in insufficient storage.

Table 2 summarizes the unit outages experienced during March 2025.

Table 2: **March 2025 Unit Outage Summary**

Unit Name	Date offline	Return to Service	Outage Reason	Notes
Bay d'Espoir Unit 1	March 6	March 6	Planned outage	n/a
Bay d'Espoir Unit 2	March 6	March 6	Planned outage	n/a
Bay d'Espoir Unit 4	March 6	March 6	Forced outage	Due to broken shear pin.
Bay d'Espoir Unit 5	March 10	March 10	Planned outage	n/a
Upper Salmon	March 10	March 10	Forced outage	To investigate issues regarding the SAC[3] low flow alarm.
Granite Canal	March 11	Ongoing	Forced derating	Unit de-rated to 32 MW due to vibration issue.
Bay d'Espoir Unit 6	March 11	March 11	Planned outage	n/a
Bay d'Espoir Unit 4	March 12	March 12	Planned outage	n/a
Bay d'Espoir Unit 3	March 13	March 13	Planned outage	n/a
Bay d'Espoir Unit 6	March 16	March 26	Planned outage	n/a
Bay d'Espoir Unit 4	March 18	March 18	Planned outage	n/a
Bay d'Espoir Unit 5	March 26	March 26	Planned outage	n/a
Paradise River	March 23	March 28	Planned outage	n/a
Bay d'Espoir Unit 1	March 31	Ongoing	Planned outage	n/a
Bay d'Espoir Unit 2	March 31	Ongoing	Planned outage	n/a

Figure 1 plots the 2024 and 2025 storage levels, minimum storage limits, maximum operating level storage, and 20-year average aggregate storage for comparison. In addition to the 2024–2025 limits, Hydro has established the minimum storage limits to April 30, 2025. The 2024–2025 limits were developed considering maximized delivery of power from Muskrat Falls, supplemented by available Recapture Energy from the Churchill Falls Hydroelectric Generating Station over the LIL, utilizing the transmission limits associated with the >58.0 Hz under frequency load shedding scheme.[4]

[3] Surface Air Coolers ("SAC").

[4] The 2024–2025 analysis assumed that only two units at the Holyrood Thermal Generating Station ("Holyrood TGS") would be online and operating at minimum load during the winter 2024–2025 period. Hydro plans to have all three units at the Holyrood TGS available at full capability, if needed. The minimum storage methodology was updated to ensure Hydro's reservoirs could continue to provide reliable service to customers at the lowest possible cost, in an environmentally responsible manner. In this context, Hydro expects Island reservoirs to be supported with Muskrat Falls energy instead of thermal energy from the Holyrood TGS.

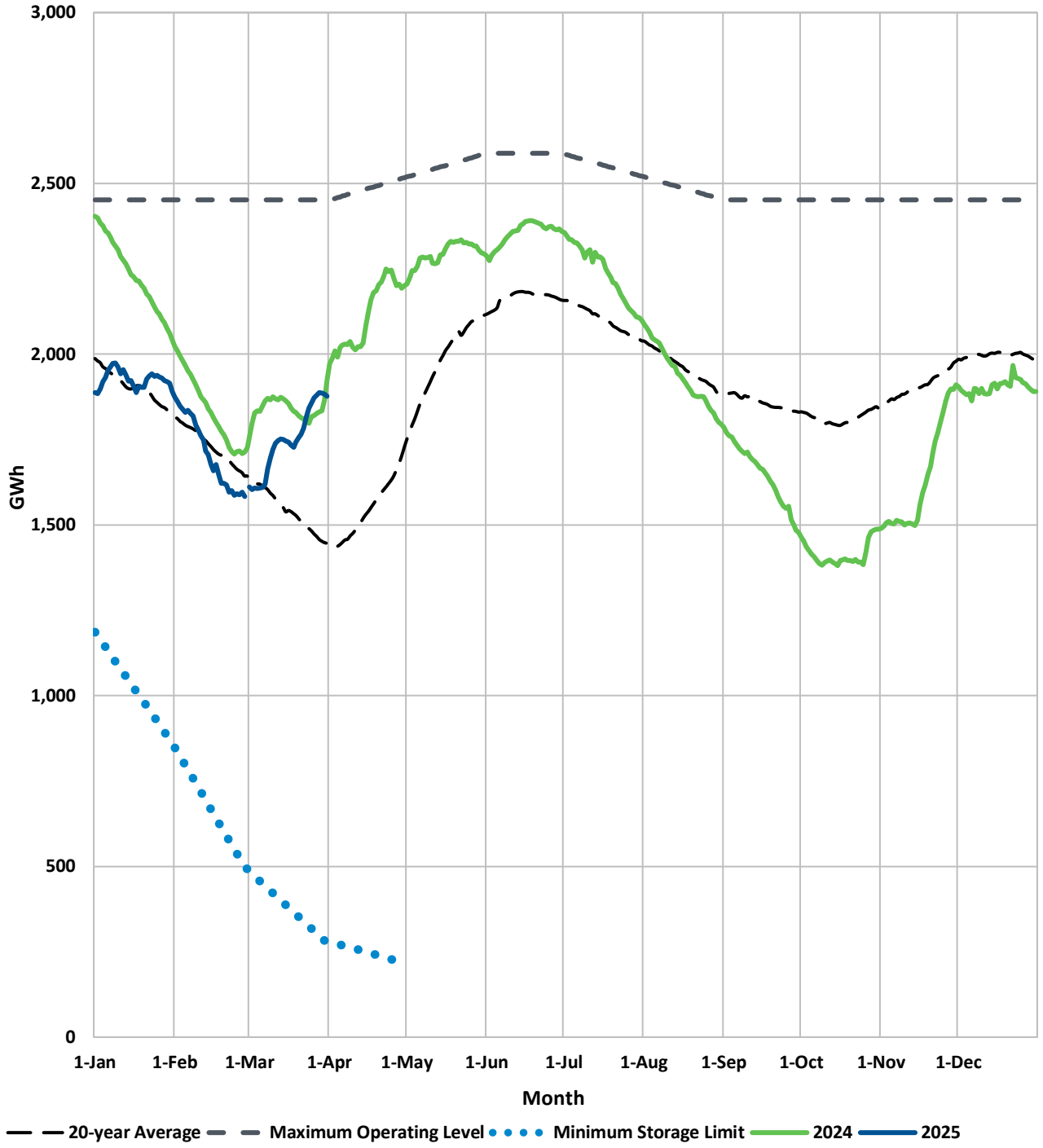

Figure 1: Total System Energy Storage[5]

[5] Data points in Figure 1 represent storage at the beginning of each day. Table 1 reports the end-of-day storage values, which results in a small difference between the storage data presented in Table 1 and Figure 1.

2.1 Ponding

In Board Order No. P.U. 49(2018), the Board approved Hydro's application for approval of a Pilot Agreement for the Optimization of Hydraulic Resources ("Pilot Agreement").[6] The intent of the Pilot Agreement is to optimize Hydro's hydraulic resources through the strategic use of its storage capabilities, taking advantage of the variability of energy pricing in external markets over time.

Appendix A provides information regarding imported and exported energy transactions under the Pilot Agreement during the month. No ponding exports or imports over the Maritime Link occurred during March 2025.

2.2 Spill Activity

Appendix A provides information regarding spill-avoidance export transactions undertaken.[7] Bypassing occurred from the Granite Canal Bypass Structure from March 15 to 16 and March 25 to 26 due to elevated reservoir levels from high inflows as a result of runoff from rainfall and snowmelt. A summary of the year-to-date ("YTD") total volumes spilled or bypassed in both MCM[8] and GWh can be found in Table 3.

Table 3: Spill Activity

	Granite Canal Bypass		Upper Salmon Bypass		Burnt Dam Spillway	
	MCM	**GWh**	**MCM**	**GWh**	**MCM**	**GWh**
31-March-2025	8.4	0.8	-	-	-	-
YTD Total	**22.8**	**2.2**	**0.0**	**0.0**	**0.0**	**0.0**

[6] The Third Amended and Restated Pilot Agreement for the Optimization of Hydraulic Resources was approved as per Board Order No. P.U. 35(2022), and was extended as per Board Order No. P.U. 30(2023), and again in Board Order No. P.U. 29(2024).
[7] Pursuant to the Pilot Agreement, exporting when system load is low allows for increased generation from Island hydraulic facilities and the utilization of water (energy) that would have otherwise been spilled, while not increasing the risk of spill elsewhere in the system.
[8] Million cubic metres ("MCM").

3.0 Production and Purchases

Appendix B provides a breakdown of power purchases, including the import and export activity over the LIL and Maritime Link and production by plant during March 2025. There was no energy repaid from CBPP[9] to Energy Marketing under the Temporary Energy Exchange Agreement in March 2025. There was 0.4 GWh of emergency energy, including losses, supplied to Nova Scotia over the Maritime Link during March 2025.

4.0 Thermal Production

Units 1 and 2 at the Holyrood TGS were online for system requirements during March 2025 except for the unit outages as described in Section 5.0. Holyrood TGS Unit 3 was unavailable due to a forced outage late March 1, 2025 and was returned to service early March 2, 2025. From then, the unit was online until March 18, 2025 when it went on a planned outage. On March 20, 2025, the unit became available with the conclusion of the planned outage but was not returned to service as it was not required to meet system demand. The annual outage for this unit then began on March 30, 2025. Total energy production from the Holyrood TGS was 141.7 GWh during the month. Standby generation was not used to support reservoir storage. The operating hours for the Holyrood TGS, Holyrood Combustion Turbine ("CT"), and the Hardwoods and Stephenville Gas Turbines ("GT") are summarized in Table 4.

Table 4: **Holyrood TGS and Combustion Turbines Operating Hours**

	Operating Hours	Synch Condense Hours	Available Hours
Holyrood TGS			
Unit 1	516.72	0	516.72
Unit 2	740.32	0	740.32
Unit 3	408.85	0	661.82
Combustion Turbines			
Hardwoods GT	1.17	738.45	739.62
Stephenville GT	0	728.88	744.00
Holyrood CT	3.32	0	717.79

[9] Corner Brook Pulp and Paper Limited ("CBPP").

5.0 Unit Deratings

Holyrood TGS Unit 1 was online with a de-rated capacity of 105 MW at the beginning of March 2025 due to an issue with the main steam control valves that prevented them from opening more than 56%. This issue had been present since the unit was first returned to service on February 13, 2025 following completion of the major turbine overhaul. The unit was offline on a planned outage from March 10 to March 16 to investigate and correct the control valve issues. Unit 1 was returned to service on March 16, 2025 with full capability, which was proven by load test on March 17, 2025. On March 21, 2025, the unit was taken offline on a planned outage to replace the servo valve on the main steam control valves and was returned to service on March 24, 2025. On March 26, 2025, the unit tripped on drum level due to an issue with a feedwater valve. The valve was manually opened, and the unit returned to service approximately four hours later. Unit 1 was online at full capacity for the remainder of March 2025.

Holyrood TGS Unit 2 was taken offline for a planned maintenance outage to change generator brushes on March 7, 2025. It was returned to service the same day. Other than this planned outage, the unit was online and available for full load for the entire month of March 2025.

Unit 3 was de-rated to 130 MW at the beginning of March 2025 due to the failure of the north condensate extraction pump and motor, which had occurred on February 22, 2025.[10] On March 1, 2025, Unit 3 tripped on drum level as a result of a failed drum level transmitter. The transmitter was fixed and the unit returned to service on March 2, 2025. On March 18, 2025, the unit was taken offline on a planned outage to switch the south condensate extraction pump motor to the newly rebuilt north pump. On March 20, 2025, the unit was available for 130 MW but was not returned to service because it was no longer required to support system requirements. Unit 3 remained offline but available until March 30, 2025 which was the beginning of the planned annual outage.

The Hardwoods GT was available for the full month of March 2025 apart from a one-day planned outage on March 19, 2025 for logic and equipment verification to facilitate capital project execution during the summer of 2025.

[10] Hydro originally reported this derating as beginning on March 4, 2025, per the "Supply and Demand Status Report Filed Wednesday, March 5, 2025." Upon the pump failing in February, Hydro believed Unit 3 was still able to operate at full capacity; however, further analysis determined the unit required a slight derating. Hydro reported this derating accordingly.

The Holyrood CT was available for the full month of March 2025, with the exception of a planned outage from March 29 to 30 to allow inspection of the fuel nozzles.

The Stephenville GT was available for the entire month of March 2025, with the exception of a planned outage beginning March 31, 2025,[11] to complete preventative and corrective maintenance activities.

[11] This outage completed in April 2025, and will be included in Hydro's Monthly Energy Supply Report for the Island Interconnected System for April 2025.

Appendix A

Ponding and Spill Transactions

Table A-1: Ponding Transactions

Date	Ponding Imports (MWh)	Ponding Exports (MWh)	Ponding Imports Purchased by Hydro (MWh)	Transfer of Pond Balance to Spill Avoidance (MWh)	Energy Losses to Export (MWh)	Cumulative Ponded Energy (MWh)
Opening Balance						**(4,774)**
Total[1]		-	-	-	-	

Table A-2: Avoided Spill Energy

Date	Avoided Spill Exports (MWh)	Energy Losses to Export (MWh)	Transfer of Pond Balance to Spill Avoidance (MWh)	YTD Avoided Spill Energy (MWh)
Opening Balance	-	-	-	-
Total[2]	-	-	-	-

[1] Total transactions for March 2025.
[2] Total transactions for March 2025.

Appendix B

Production and Purchases

Table B-1: Generation and Purchases (GWh)[1,2]

	Mar-25	YTD Mar 2025
Hydro Generation (Hydro)		
Bay d'Espoir		
Unit 1	41.1	121.6
Unit 2	39.7	110.0
Unit 3	14.0	86.4
Unit 4	4.0	40.1
Unit 5	15.5	44.9
Unit 6	8.5	51.6
Unit 7	78.4	246.5
Subtotal Bay d'Espoir	201.3	701.0
Upper Salmon	58.3	156.1
Granite Canal	23.8	64.6
Hinds Lake	43.5	127.3
Cat Arm		
Unit 1	42.3	119.2
Unit 2	42.3	119.4
Subtotal Cat Arm	84.7	238.7
Paradise River	4.4	9.7
Star Lake	12.3	35.4
Rattle Brook	1.6	3.0
Nalcor Exploits	54.1	159.6
Mini Hydro	0.0	0.0
Total Hydro Generation (Hydro)	**483.9**	**1,495.3**
Thermal Generation (Hydro)		
Holyrood TGS		
Unit 1	46.6	73.0
Unit 2	64.3	161.7
Unit 3	30.7	138.4
Subtotal Holyrood TGS Units	141.7	373.1
Holyrood Gas Turbine and Diesels	0.2	3.2
Hardwoods Gas Turbine	0.0	1.0
Stephenville Gas Turbine	0.0	0.9
Other Thermal	0.0	0.1
Total Thermal Generation (Hydro)	**141.9**	**378.3**
Purchases		
Requested Newfoundland Power and CBPP	0.0	0.1
Capacity Assistance	0.0	0.0
Power Purchase Agreement	0.0	34.4
Secondary	0.0	0.0
Co-Generation	12.4	14.9
Subtotal CBPP	12.4	49.3
Wind Purchases	17.7	55.7
Maritime Link Imports[3]	0.0	0.0
New World Dairy	0.3	0.5
Labrador Island Link Delivery to IIS[4,5]	57.4	353.0
Total Purchases	**87.8**	**458.6**
Total	**713.6**	**2,332.2**

[1] Gross generation.

[2] Actuals reflect rounded values to the nearest tenth of a GWh. Differences between total versus addition of individual components due to rounding.

[3] Includes energy flows as a result of purchases and inadvertent energy.

[4] LIL deliveries to the Island Interconnected System are calculated as LIL imports of 251.1 GWh less Maritime Link exports of 193.8 GWh.

[5] Net energy delivered to the Island Interconnected System is less than the total energy delivery to Hydro under the Muskrat Falls Power Purchase Agreement because of transmission losses on the LIL.