



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

March 17, 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: Ms. Cheryl Blundon  
Director Corporate Services & Board Secretary

Dear Ms. Blundon:

**Re: Monthly Energy Supply Report for the Island Interconnected System for February 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**

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

Encl.

ecc:

**Board of Commissioners of Public Utilities**  
Jacqui H. Glynn  
PUB Official Email

**Praxair Canada Inc.**  
Sheryl E. Nisenbaum  
Peter Strong

**Teck Resources Limited**  
Shawn Kinsella

**Consumer Advocate**  
Dennis M. Browne, QC, Browne Fitzgerald Morgan & Avis  
Stephen F. Fitzgerald, Browne Fitzgerald Morgan & Avis  
Sarah G. Fitzgerald, Browne Fitzgerald Morgan & Avis  
Bernice Bailey, Browne Fitzgerald Morgan & Avis  
Bernard M. Coffey, QC

**Newfoundland Power Inc.**  
Dominic J. Foley  
Lindsay S.A. Hollett  
Regulatory Email

**Island Industrial Customer Group**  
Paul L. Coxworthy, Stewart McKelvey  
Denis J. Fleming, Cox & Palmer  
Dean A. Porter, Poole Althouse



# **Monthly Energy Supply Report for the Island Interconnected System for February 2022**

**March 17, 2022**

**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 .....	3
4.0	Thermal Production and Imports.....	4
5.0	Unit Deratings .....	4

## **List of Appendices**

Appendix A: Production and Purchases

**1 1.0 Introduction**

2 On February 8, 2016, the Board of Commissioners of Public Utilities (“Board”) requested Newfoundland  
3 and Labrador Hydro (“Hydro”) file a biweekly report containing, but not limited to, the following:

- 4 1) System Hydrology Report, as contained in Hydro's Quarterly report;
- 5 2) The thermal plant operated in support of hydrology;
- 6 3) Production by plant/unit; and
- 7 4) Details of any current or anticipated long-term derating.

8 In July 2016, the Board indicated that a monthly report would thereafter be sufficient. This report  
9 provides data for February 2022.

**10 2.0 System Hydrology**

11 Reservoir inflows in February 2022 were approximately 150% above the month’s historical average.  
12 Inflows in 2022 are 299% of the year-to-date historical average.

13 Table 1 summarizes the aggregate storage position of Hydro’s reservoirs at the end of the reporting  
14 period.

**Table 1: System Hydrology Storage Levels**

<b>Date</b>	<b>2022 (GWh)</b>	<b>2021 (GWh)</b>	<b>20-Year Average (GWh)</b>	<b>Minimum Storage Limit (GWh)</b>	<b>Maximum Operating Level (GWh)</b>	<b>Percentage of Maximum Operating Level (%)</b>
28-Feb-2022	2,195	1,517	1,548	530	2,452	90

15 The aggregate reservoir storage level on February 28, 2022 was 2,195 GWh, which is 10% below the  
16 seasonal maximum operating level and 314% above the minimum storage limit.<sup>1</sup> The current storage

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<sup>1</sup> 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.

1 level is shown in Figure 1 in relation to the 20-year average storage level for the end of February 2022 of  
2 1,548 GWh. At the end of February 2021, the aggregate storage level was 1,517 GWh.

3 The first snow survey of 2022 was completed in mid-February 2022. The survey indicated that, for the  
4 system as a whole, snow water equivalent was approximately 60% of average and equivalent energy  
5 was approximately 55% of average. Based on the available snowpack data, the snowpack was  
6 approximately 50.4 mm of snow water equivalent at the Bay d’Espoir Hydroelectric Generating Facility  
7 (“Bay d’Espoir”),<sup>2</sup> approximately 114.0 mm at the Hinds Lake Hydroelectric Generating Station (“Hinds  
8 Lake”), and approximately 177.0 mm at the Cat Arm Hydroelectric Generating Station. Following the  
9 snow survey, two rain events occurred that brought up to 120 mm of rainfall to the Bay d’Espoir  
10 watershed. The combination of mild temperatures, rain, and strong winds lead to significant snowmelt  
11 and total energy in storage increased by a total of approximately 180 GWh following these two events.  
12 Visual observation in the field during the last week of February 2022 indicated that the Long Pond and  
13 Upper Salmon watersheds had no snow remaining, the Meelpaeg watershed had approximately 20% of  
14 snow remaining in wooded areas only. Snow was observed in the Victoria watershed.

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

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<sup>2</sup> The snowpack value at the Bay d’Espoir location represents a weighted total.

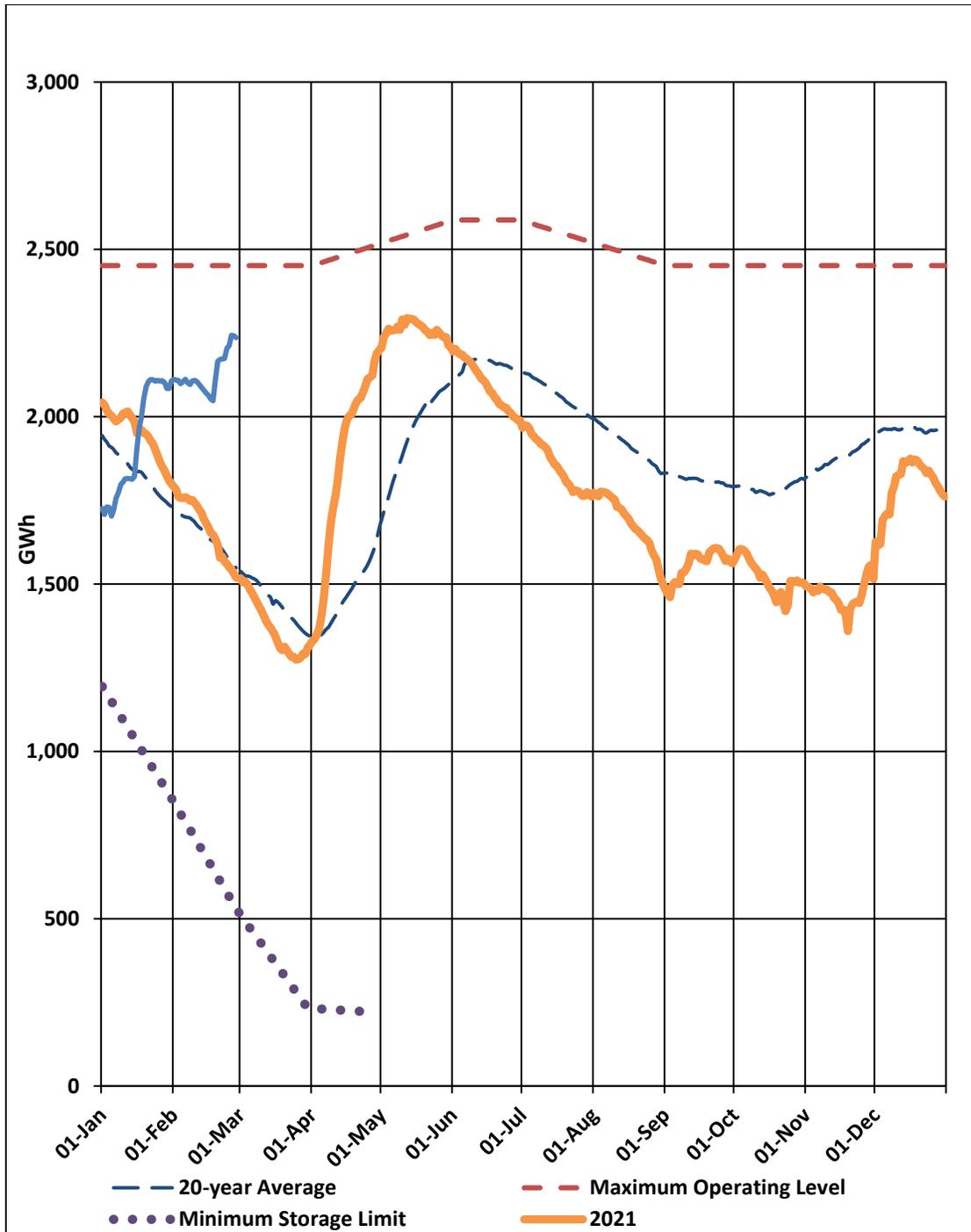


Figure 1: Total System Energy Storage

### 1 3.0 Production and Purchases

- 2 Appendix A provides a breakdown of power purchases, including imports, and production by plant
- 3 during February 2022.

## 4.0 Thermal Production and Imports

Units 1, 2, and 3 at the Holyrood Thermal Generating Station (“Holyrood TGS”) were required to generate during February 2022 for system requirements. Unit 1 was operated for 632 hours, Unit 2 was operated for 672 hours, and Unit 3 was operated for 636 hours. Total energy production from the Holyrood TGS during the month of February 2022 was 149.7 GWh.

Standby units were operated for a total of 9.5 hours during the month to support system requirements and for testing purposes. Total standby production during the month was 0.2 GWh. Standby generation was not required to support reservoir storage.

Testing activities continued on the Labrador-Island Link (“LIL”) in February 2022, resulting in the delivery of 132.3 GWh of energy at Soldiers Pond. Total metered energy over the Maritime Link to Nova Scotia for the month of February 2022 was 112.0 GWh.<sup>3,4</sup> Energy Marketing exported 109.6 GWh<sup>5</sup> associated with the delivery of the Nova Scotia Block and Supplemental Energy.<sup>6</sup> Exports of 1.3 GWh occurred over the Maritime Link associated with ponding activities. The ponded balance at month-end was -7.9 GWh.

## 5.0 Unit Deratings

Holyrood TGS Unit 1 was online with full capability at the beginning of February 2022. On February 17, 2022, the unit was taken offline for a planned outage to replace worn generator brushes. The work was completed on February 17, 2022, as scheduled. The unit remained offline until February 19, 2022, as it was not required by the Newfoundland and Labrador System Operator (“NLSO”) to support system loading. On February 19, 2022, the unit returned to service with full capability.

Holyrood TGS Unit 2 was online with full capability<sup>7</sup> for the entire month of February 2022.

Holyrood TGS Unit 3 was returned to service at full capability on February 2, 2022 after completion of a planned maintenance outage. The unit was online with full capability for the remainder of February 2022.

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<sup>3</sup> 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.

<sup>4</sup> Physical delivery of the Nova Scotia Block will only occur when the LIL is online and able to transfer power.

<sup>5</sup> Due to power system operations, metered quantities may not match commercially transacted volumes.

<sup>6</sup> Nova Scotia Block and Supplemental Energy quantities are reflected at the point of commercial transaction.

<sup>7</sup> 150 MW, as noted in the “Monthly Energy Supply Report for the Island Interconnected System for January 2022,” Newfoundland and Labrador Hydro, February 17, 2022, s. 5.0, at p. 4.

- 1 The Hardwoods, Stephenville, and Holyrood Gas Turbines were available at full capacity for the entire
- 2 month of February 2022 with the exception of a planned outage at the Holyrood Gas Turbine on
- 3 February 3, 2022, to complete corrective maintenance.<sup>8</sup>

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<sup>8</sup> Due to limitations inherent in the design of combustion turbines, the output of combustion turbines may be reduced in the event that ambient temperatures exceed the threshold required for full rated output. This threshold is dependent on the design of each turbine.



# **Appendix A**

## **Production and Purchases**

Table A-1: Generation and Purchases<sup>1</sup>

	February 1–28, 2022 (GWh)	YTD <sup>2</sup> February 28, 2022 (GWh)
<b>Hydro Generation (Hydro)</b>		
Bay d'Espoir		
Unit 1	39.8	83.3
Unit 2	39.6	83.0
Unit 3	33.2	73.2
Unit 4	27.1	54.4
Unit 5	25.9	54.4
Unit 6	36.8	64.9
Unit 7	85.7	177.1
Subtotal Bay d'Espoir	288.1	590.3
Upper Salmon	43.4	97.4
Granite Canal	19.4	45.3
Hinds Lake	42.7	88.2
Cat Arm		
Unit 1	27.3	60.9
Unit 2	29.4	62.8
Subtotal Cat Arm	56.7	123.7
Paradise River	5.2	10.2
Star Lake	10.6	21.7
Rattle Brook	0.6	2.0
Nalcor Exploits	51.9	97.9
Mini Hydro	0.0	0.0
<b>Total Hydro Generation (Hydro)</b>	<b>518.6</b>	<b>1,076.6</b>
<b>Thermal Generation (Hydro)</b>		
Holyrood TGS		
Unit 1	49.8	106.6
Unit 2	52.8	88.5
Unit 3	47.1	99.6
Subtotal Holyrood TGS Units	149.7	294.7
Holyrood Gas Turbine and Diesels	0.0	0.1
Hardwoods Gas Turbine	0.1	0.1
Stephenville Gas Turbine	0.1	0.1
Other Thermal	0.0	0.1
<b>Total Thermal Generation (Hydro)</b>	<b>149.9</b>	<b>295.2</b>
<b>Purchases</b>		
Requested Newfoundland Power and Vale CBPP <sup>3</sup>	0.0	0.0
Capacity Assistance	0.0	0.0
Firm Energy Power Purchase Agreement	0.0	0.0
Secondary	4.5	6.2
Co-Generation	4.4	8.5
Subtotal CBPP	8.9	14.7
Wind Purchases	18.2	36.4
Maritime Link Imports <sup>4</sup>	0.0	0.0
New World Dairy	0.2	0.5
LIL Imports <sup>5</sup>	132.3	294.6
<b>Total Purchases</b>	<b>159.6</b>	<b>346.3</b>
<b>Total<sup>6</sup></b>	<b>828.2</b>	<b>1,718.0</b>

<sup>1</sup> Gross generation.

<sup>2</sup> Year-to-date (“YTD”).

<sup>3</sup> Corner Brook Pulp and Paper Limited (“CBPP”).

<sup>4</sup> Includes energy flows as a result of purchases and inadvertent energy.

<sup>5</sup> Includes purchases as result of testing activity as well as deliveries that are then exported over the Maritime Link.

<sup>6</sup> Actuals reflect rounded values to the nearest tenth of a GWh. Differences between total vs. addition of individual components due to rounding.