

June 16, 2020

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 2020

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/sk

Encl.

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

Newfoundland Power
Gerard M. Hayes
Regulatory Email

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

Industrial Customer Group
Paul L. Coxworthy, Stewart McKelvey
Denis J. Fleming, Cox & Palmer

Dean A. Porter, Poole Althouse

Praxair Canada Inc.
Sheryl E. Nisenbaum

Teck Resources Limited
Shawn Kinsella



Monthly Energy Supply Report for the Island Interconnected System for May 2020

June 16, 2020



A report to the Board of Commissioners of Public Utilities

Contents

1.0	Introduction	1
2.0	System Hydrology	1
3.0	Purchases and Production by Plant	4
4.0	Thermal Production and Imports.....	4
5.0	Unit Deratings	4

List of Appendices

Appendix A: Generation 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 May 2020.

2.0 System Hydrology

Reservoir inflows in May 2020 were approximately 51% above the month’s historical average. Inflows in 2020 have been 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	2020 (GWh)	2019 (GWh)	20-Year Average (GWh)	Minimum Storage Limit (GWh)	Maximum Operating Level (GWh)	Maximum Operating Level (%)
May 31, 2020	1,814	1,583	2,122	1,685	2,586	70%

15 The aggregate reservoir storage level on May 31, 2020 was 1,814 GWh; 30% below the seasonal
16 maximum operating level and 8% above the minimum storage limit.¹ The current storage level is shown
17 in Figure 1 in relation to the 20-year average storage level for the end of May of 2,122 GWh. At the end
18 of May 2019 the aggregate storage level was 1,583 GWh.

19 A rain event that began on May 2, 2020, in combination with warmer temperatures, triggered the
20 freshet to begin in the Bay d’Espoir watershed. High inflows persisted in that area until the second to
21 third week in May 2020. Observation has shown that all snow was melted from the Bay d’Espoir area by
22 the middle to end of May 2020.

23 Storage at Hinds Lake began to improve mid-May 2020 when an increase in temperature triggered snow
24 melt. Snowpack in the higher elevations of the Hinds Lake area would have persisted longer; however, it
25 is likely that most of the snow has now melted from the Hinds Lake area.

26 Snow melt did not begin in the Cat Arm area until late May 2020 when the temperatures significantly
27 increased, with much snow remaining in the higher elevations at the end of the month. A rain event
28 began on May 31, 2020 that significantly increased storage levels in all reservoirs, especially at Cat Arm,
29 largely due to the amount of snow remaining in the watershed.

30 Figure 1 plots the 2019 and 2020 storage levels, maximum operating level storage, and the 20-year
31 average aggregate storage for comparison. Hydro has established minimum storage limits to April 30,
32 2021 in consideration of potential delays in the availability of the Labrador-Island Link (“LIL”) to deliver
33 energy to the Island Interconnected System. This will help ensure sufficient storage to reliably serve
34 customers should the LIL continue to be delayed beyond the fall of 2020.

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 (“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.

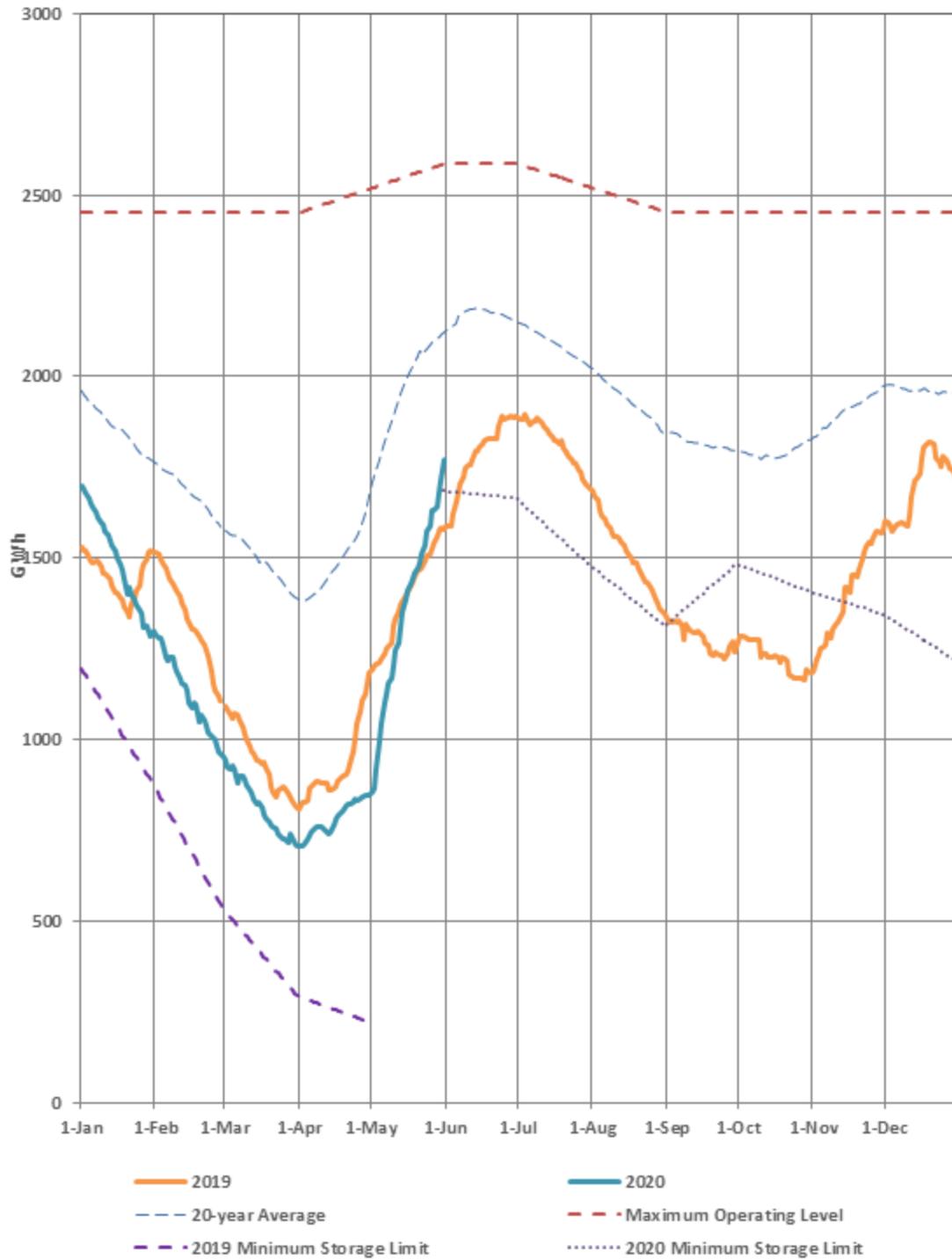


Figure 1: Total System Energy Storage for 2020

35 **3.0 Purchases and Production by Plant**

36 Production during May 2020 by plant and unit, both hydraulic and thermal, is provided in Appendix A.
37 Quantities of purchases and imports are also provided in Appendix A.

38 **4.0 Thermal Production and Imports**

39 Unit 2 at the Holyrood Thermal Generating Station (“Holyrood TGS”) was required to generate at
40 minimum until the end of May 2020 to reliably meet Hydro’s customer demand requirements.

41 In May 2020, Holyrood TGS Unit 1 was operated for 12.5 hours for testing purposes, and Holyrood TGS
42 Unit 2 was operated for 716.5 hours. Holyrood TGS Unit 3 was not operated in May 2020. Total
43 Holyrood TGS generation was 53.3 GWh. Standby units were not operated during the month other than
44 for testing purposes.

45 Imports on the Maritime Link were used in May 2020 for ponding purposes only. Small quantities of
46 exports reduced the ponded balance to 2.4 GWh. Total imported energy over the Maritime Link was 1.0
47 GWh. There was no energy imported over the LIL in May 2020 due to the continued outage.

48 **5.0 Unit Deratings**

49 Holyrood TGS Unit 1 was placed on hot standby on May 1, 2020 with a recall time of 8 hours as the unit
50 was no longer required to be online to meet system requirements. On May 9, 2020 the status was
51 moved to cold standby. Start-up testing was completed on May 27, 2020 and the unit was run up to
52 50MW as part of this testing. The unit was then returned to cold standby status.

53 Holyrood TGS Unit 2 was operating and available at full capacity through May 2020. On May 30, 2020
54 the unit was taken off-line and placed on hot standby with a recall time of eight hours as the unit was no
55 longer required to be online to meet system requirements.

56 Holyrood TGS Unit 3 was on planned annual outage for the month of May 2020. On May 24, 2020 the
57 synchronous condenser was placed on line and it ran uninterrupted for the remainder of the month.

58 The Stephenville Gas Turbine remained available at full capacity for the entire month of May 2020 with
59 the exception of a planned six hour outage on May 13, 2020 to replace a motor in the unit’s cooling
60 system and a planned outage from May 24, 2020 to May 30, 2020 to complete semi-annual preventive
61 maintenance.

62 The Hardwoods Gas Turbine was available at full capacity throughout May 2020 with the exception of a
63 planned outage on May 27, 2020 to complete semi-annual preventive maintenance. The unit was
64 available at 50% capacity due to planned maintenance outages on May 28, 2020 and May 29, 2020 to
65 complete preventive maintenance on End A and End B respectively.

Appendix A

Generation Production and Purchases

Monthly Energy Supply Report for the Island Interconnected System for May 2020
Appendix A: Generation Production and Purchases

Generation Production and Purchases from May 1 to May 31, 2020²

	<u>Generation (GWh)</u>	<u>Year to Date (GWh)</u>
Hydro Generation (Hydro)		
Bay d'Espoir Plant		
Unit 1	41.4	210.9
Unit 2	40.8	209.2
Unit 3	25.1	176.0
Unit 4	5.5	64.5
Unit 5	0.5	74.0
Unit 6	12.6	92.5
Unit 7	68.9	430.3
Subtotal Bay d'Espoir Plant	194.8	1,257.4
Upper Salmon Plant	40.8	270.6
Granite Canal Plant	27.3	108.4
Hinds Lake Plant	19.9	155.6
Cat Arm Plant		
Unit 1	30.2	160.4
Unit 2	34.6	180.2
Subtotal Cat Arm Plant	64.8	340.6
Paradise River	4.5	16.8
Star Lake Plant	12.2	62.4
Rattle Brook Plant	2.6	3.9
Nalcor Exploits Plants	57.9	260.7
Mini Hydro	0.0	0.0
Total Hydro Generation	424.7	2,476.4
Thermal Generation (Hydro)		
Holyrood TGS		
Unit 1	1.6	251.7
Unit 2	51.7	294.8
Unit 3	0.0	199.0
Subtotal Holyrood TGS Units	53.3	745.5
Holyrood Gas Turbine and Diesels	0.0	2.4
Hardwoods Gas Turbine	0.0	0.1
Stephenville Gas Turbine	0.0	0.4
Other Thermal	0.0	0.1
Total Thermal Generation	53.3	748.6
Purchases		
Requested Newfoundland Power and Vale	0.0	0.0
Corner Brook Pulp and Paper		
Capacity Assistance	0.0	0.0
Firm Energy PPA	0.0	0.0
Secondary	2.9	16.7
Co-Generation	5.1	23.7
Subtotal Corner Brook Pulp and Paper	8.0	40.4
Wind Purchases	17.8	81.2
Maritime Link Imports ³	1.0	179.8
New World Dairy	0.2	0.8
Labrador-Island Link Imports ⁴	0.0	0.0
Total Purchases	27.0	302.2
Total⁵	505.0	3,527.2

² Gross generation.

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

⁴ Includes purchases as a result of testing activity.

⁵ Actuals reflect rounded values to the nearest tenth of a GWh. Differences between total vs. addition of individual components due to rounding.