newfoundland 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
www.nlh.nl.ca

August 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 July 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/sk

Encl.

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

Newfoundland Power
Dominic J. Foley
Lindsay S.A. Hollett
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
Bernard M. Coffey, Q.C.

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

Praxair Canada Inc.
Sheryl E. Nisenbaum
Peter Strong

Teck Resources Limited
Shawn Kinsella

Monthly Energy Supply Report for the Island Interconnected System for July 2021

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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 July 2021.

2.0 System Hydrology

Reservoir inflows in July 2021 were approximately 76% of the month's historical average. Inflows in 2021 decreased slightly to 85% 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-Jul-2021	1,773	1,780	2,001	898	2,519	70

The aggregate reservoir storage level on July 31, 2021 was 1,773 GWh, which is 30% below the seasonal maximum operating level and 97% above the minimum storage limit.[1] The current storage level is shown

[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.

in Figure 1 in relation to the 20-year average storage level for the end of July of 2,001 GWh. At the end of July 2020, the aggregate storage level was 1,780 GWh.

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.

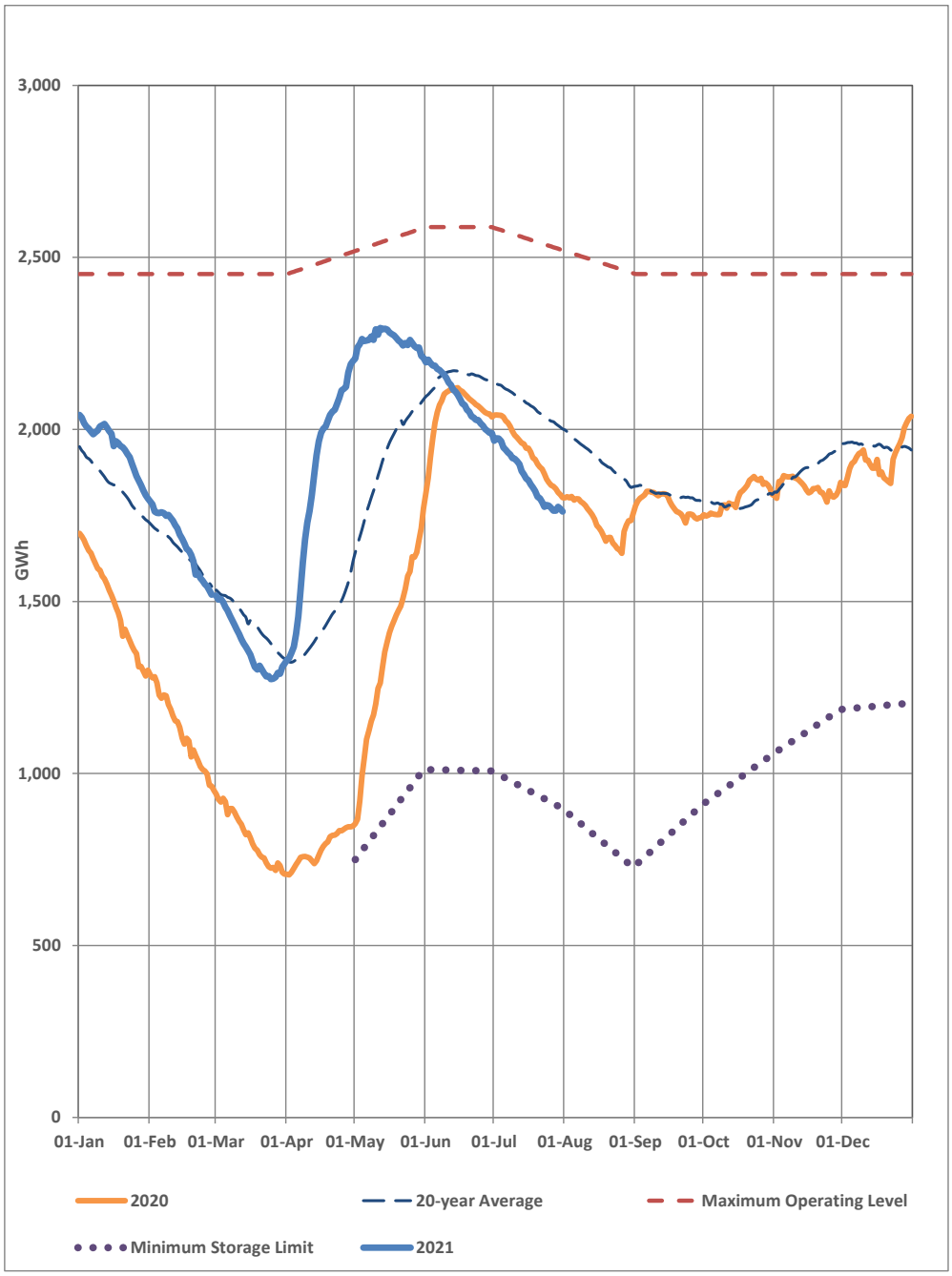

Figure 1: Total System Energy Storage

3.0 Production and Purchases

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

4.0 Thermal Production and Imports

Units 1, 2, and 3 at the Holyrood Thermal Generating Station ("Holyrood TGS") were not required to generate during the month of July 2021. Total Holyrood TGS production was 0.0 GWh.

Standby units were operated during the month for system operating limit requirements and for testing purposes. Standby units were operated for a total of 51.1 hours during the month. Total standby production during the month was 2.1 GWh. Standby generation was not required to support reservoir storage.

In July 2021, exports of 3.4 GWh occurred over the Maritime Link during ponding activities. The ponded balance at month end was -5.2 GWh. Testing activities continued on the Labrador-Island Link in July 2021, resulting in the delivery of 8.6 GWh of energy at Soldiers Pond. Total exports over the Maritime Link for the month of July 2021 were 4.3 GWh.[2]

5.0 Unit Deratings

Holyrood TGS Unit 1 remained on annual maintenance outage for the entire month of July 2021.

Holyrood TGS Unit 2 was on cold standby for the month of July 2021, as it was not required to support system requirements.

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

The Hardwoods Gas Turbine was available at full capacity for the entire month of July 2021[3] with the exception of a planned unit outage from July 5, 2021 to July 6, 2021 to replace bearings on the glycol

[2] Total exports include the provision of emergency and inadvertent energy to Nova Scotia Power Inc. and export activity conducted by Nalcor Energy Marketing including the export of spilled energy on Hydro's behalf.
[3] 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.

cooler fans and an unplanned derating for approximately two hours on July 19, 2021 due to a plugged pressure sensing line on End B.

The Stephenville Gas Turbine was available at full capacity for the entire month of July 2021[4] with the exception of an unplanned derating of the Unit on July 13, 2021 and a planned derating on July 19, 2021, both as a result of an issue with snow doors on End B. On July 13, 2021, the snow doors on End B travelled past their limits and became stuck. Maintenance crews made temporary repairs that evening to make the unit available. On July 19, 2021, a planned maintenance outage was required to make permanent repairs to the snow doors.

The Holyrood Gas Turbine was available at full capacity for the entire month of July 2021[5] with the exception of a planned outage on July 27, 2021 to complete an inspection of the generator terminals to confirm the design of the partial discharge system scheduled for installation during the planned annual maintenance outage in the fall of 2021.

[4] 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.

[5] 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

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Table A-1: Generation and Purchases[1]

	July 1–31, 2021 (GWh)	YTD[2] July 31, 2021 (GWh)
Hydro Generation (Hydro)		
Bay d'Espoir Plant		
Unit 1	41.9	242.2
Unit 2	38.3	251.8
Unit 3	35.0	208.7
Unit 4	16.0	94.3
Unit 5	13.8	132.4
Unit 6	17.1	113.2
Unit 7	35.5	522.1
Subtotal Bay d'Espoir Plant	197.6	1,564.8
Upper Salmon Plant	36.6	343.0
Granite Canal Plant	4.3	131.7
Hinds Lake Plant	21.1	207.9
Cat Arm Plant		
Unit 1	25.9	235.2
Unit 2	25.7	240.2
Subtotal Cat Arm Plant	51.6	475.4
Paradise River	0.7	11.5
Star Lake Plant	12.2	85.1
Rattle Brook Plant	1.3	7.4
Nalcor Exploits Plants	47.3	354.0
Mini Hydro	0.0	0.0
Total Hydro Generation (Hydro)	**372.7**	**3,180.9**
Thermal Generation (Hydro)		
Holyrood TGS		
Unit 1	0.0	206.6
Unit 2	0.0	242.2
Unit 3	0.0	112.6
Subtotal Holyrood TGS Units	0.0	561.4
Holyrood Gas Turbine and Diesels	1.9	7.2
Hardwoods Gas Turbine	0.2	1.0
Stephenville Gas Turbine	0.0	0.3
Other Thermal	0.0	0.0
Total Thermal Generation (Hydro)	**2.1**	**569.9**
Purchases		
Requested Newfoundland Power and Vale	0.0	0.0
CBPP[3]		
Capacity Assistance	0.0	0.0
Firm Energy Power Purchase Agreement	0.0	0.0
Secondary	2.2	13.5
Co-Generation	4.0	30.9
Subtotal CBPP	6.2	44.4
Wind Purchases	12.0	114.8
Maritime Link Imports[4]	0.1	1.1
New World Dairy	0.3	2.0
Labrador-Island Link Imports[5]	8.6	293.5
Total Purchases	**27.1**	**455.8**
Total[6]	**401.9**	**4,206.6**

[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.