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July 17, 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 June 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**

A handwritten signature in blue ink, appearing to read "Shirley A. Walsh", written over a horizontal line.

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

Encl.

ecc: **Board of Commissioners of Public Utilities**

Jacqui Glynn  
PUB Official Email

**Newfoundland Power**

Gerard M. Hayes  
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**Teck Resources Limited**

Shawn Kinsella



# Monthly Energy Supply Report for the Island Interconnected System for June 2020

July 17, 2020

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 June 2020.

## 2.0 System Hydrology

Reservoir inflows in June 2020 were approximately 28% above the month’s historical average. Inflows in 2020 have been 4% above average 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 (%)
June 30, 2020	2,041	1,886	2,149	1,666	2,588	79%

The aggregate reservoir storage level on June 30, 2020 was 2,041 GWh; 21% below the seasonal maximum operating level and 23% above the minimum storage limit.<sup>1</sup> The current storage level is shown

<sup>1</sup> 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.

17 in Figure 1 in relation to the 20-year average storage level for the end of June of 2,149 GWh. At the end  
18 of June 2019 the aggregate storage level was 1,886 GWh.

19 Significant rainfall in conjunction with inflows resulting from the melt of remaining snowpack during the  
20 first half of June attributed to high inflows which persisted into the third week of June. Hydro engaged  
21 Nalcor Energy Marketing (“NEM”) to export energy on its behalf to aid in the mitigation of spill pursuant  
22 to the Pilot Agreement for the Optimization of Hydraulic Resources. Exporting in the overnight hours  
23 when system load is light allowed for sustained maximization of the plants and the utilization of water  
24 (energy) that would otherwise have been spilled. In June NEM was able to export 11.1 GWh of energy  
25 on Hydro’s behalf that would have otherwise been spilled.

26 Spilling began at the Cat Arm Plant on June 13, 2020 and continued until June 25, 2020. In total, 13 GWh  
27 was spilled from the Cat Arm reservoir. During this period the Long Pond reservoir had also approached  
28 its maximum operating level (“MOL”). As part of the strategy to manage high levels in this reservoir, the  
29 Upper Salmon (“USL”) Generating Station was shut to reduce the flow of water into Long Pond. The  
30 reduction in USL generation also allowed for higher generation at the Bay d’Espoir plant. Both measures  
31 helped to keep the Long Pond reservoir below its MOL and spill was avoided. In order to manage the  
32 USL reservoirs while the USL unit was shut, a small amount of bypass through the North Salmon Spillway  
33 was required. Note that, in the event of bypass through the North Salmon Spillway, the water is not lost  
34 from the system, but rather diverted to the Long Pond reservoir in a reduced and controlled manner for  
35 generation at the Bay d’Espoir Generating Station at a later time. A total of 2 GWh was bypassed  
36 through the North Salmon Spillway during this period.

37 On June 30, 2020 the Granite Canal Plant was derated from 40 MW to 36 MW while the water level was  
38 below the normal low supply level in preparation for its planned annual outage. The unit was taken  
39 offline for its planned annual outage on July 5, 2020.

40 Figure 1 plots the 2019 and 2020 storage levels, maximum operating level storage, and the 20-year  
41 average aggregate storage for comparison.

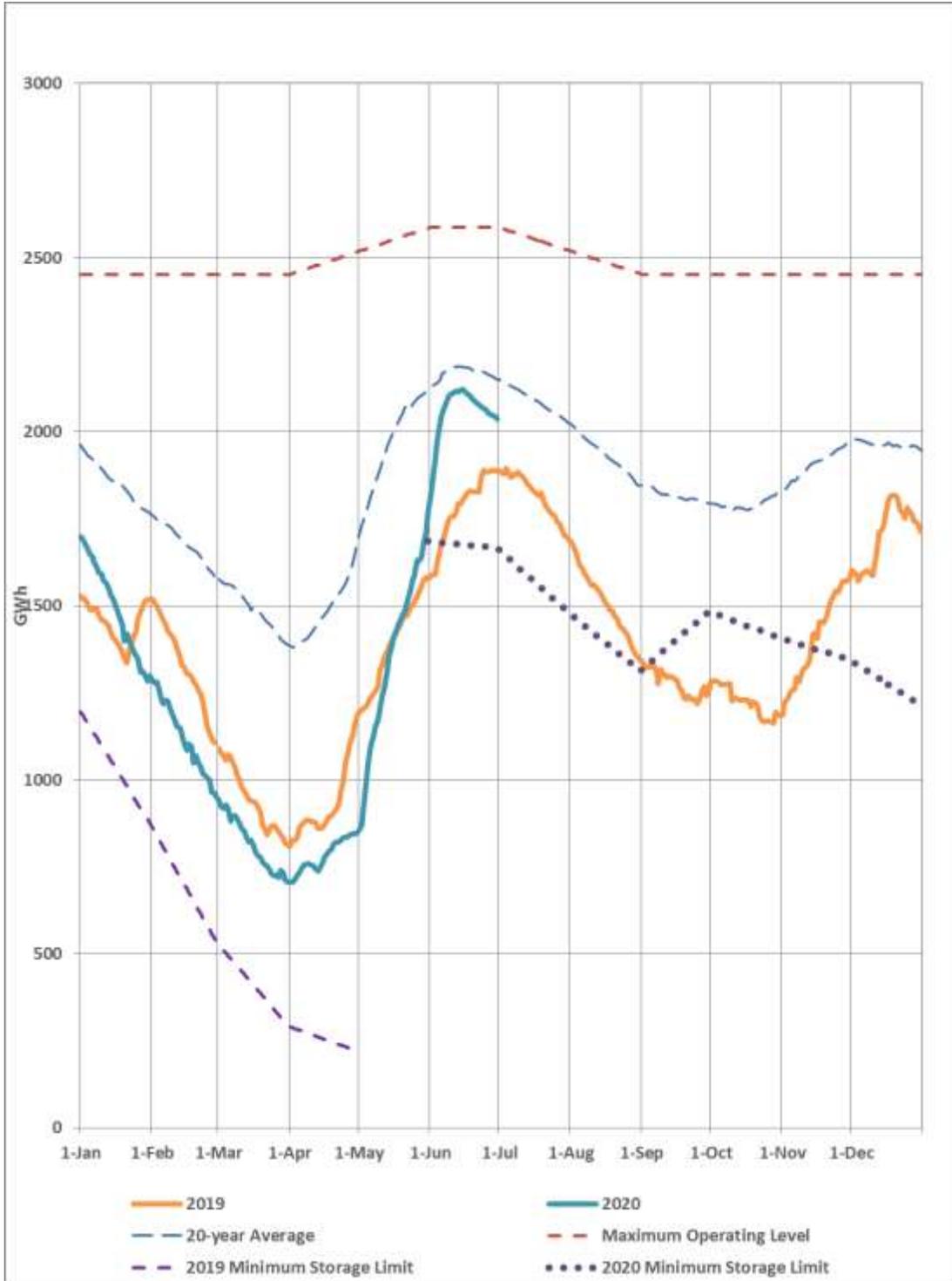


Figure 1: Total System Energy Storage for 2020

### 42 **3.0 Purchases and Production by Plant**

43 Production during June 2020 by plant and unit, both hydraulic and thermal, is provided in Appendix A.

44 Quantities of purchases and imports are also provided in Appendix A.

### 45 **4.0 Thermal Production and Imports**

46 Unit 2 at the Holyrood Thermal Generating Station (“Holyrood TGS”) generated at minimum as required  
47 to facilitate testing activities at Soldier’s Pond in June 2020.

48 Holyrood TGS Unit 1 was not operated in June 2020. Holyrood TGS Unit 2 was operated for 97.3 hours to  
49 facilitate system testing. Holyrood Unit 3 was operated in synchronous condense mode for 720 hours  
50 during the month of June for system requirements. Total Holyrood TGS generation was 4.8 GWh.

51 Standby units were operated during the month for system operating limit requirements and for testing  
52 purposes. Total standby generation during the month was 0.2 GWh.

53 Imports on the Maritime Link did not occur in June 2020. Small quantities of ponding exports occurred;  
54 reducing the ponded balance to -0.5 GWh. There was no energy imported over the LIL in June 2020 due  
55 to the continued outage.

### 56 **5.0 Unit Deratings**

57 Holyrood TGS Unit 1 remained on cold standby status until June 11, 2020 when the unit was taken out  
58 of service for its planned annual outage for the remainder of the month.

59 Holyrood TGS Unit 2 remained in hot standby status until June 3, 2020 when the unit was placed back  
60 online to support system short circuit levels in order to facilitate testing activities associated with  
61 transformer relays at Soldier’s Pond. While bringing the unit online, a hydraulic fluid leak developed that  
62 required a 14 hour outage to repair. On June 5, 2020 the low load feedwater control valve developed a  
63 packing leak, which required a 28 hour outage to repair. On June 7, 2020 there was a repeat failure of  
64 the low load control valve packing, and both fuel oil heaters developed leaks. The unit was on forced  
65 outage from June 7, 2020 until June 13, 2020 to rebuild the low load control valve and to clean and  
66 repair the fuel oil heaters. After completion of the work the unit remained on cold standby from June  
67 13, 2020 to June 28, 2020 as the unit was not required to be online to meet system requirements. On  
68 June 28, 2020 the unit was returned to service with full load capability to continue facilitating testing  
69 activities at Soldier’s Pond until July 4, 2020 when the unit was no longer required.

70 Holyrood TGS Unit 3 was online in synchronous condenser mode for the month of June 2020.

71 The Stephenville Gas Turbine remained available at full capacity for the entire month of June 2020 with  
72 the exception of a planned outage from June 3, 2020 to June 5, 2020 to complete fuel system  
73 maintenance.

74 The Hardwoods Gas Turbine was available at full capacity for the majority of June 2020 with the  
75 exception of a planned outage on June 2, 2020 to complete repairs to the control systems back up  
76 power supply. There was a second planned outage from June 7, 2020 to June 13, 2020 to complete  
77 semi-annual preventative maintenance. On June 24, 2020 the unit was taken offline for a forced outage  
78 resulting from a damaged expansion joint on the exhaust stack. The unit was returned to service at 50%  
79 capacity on June 25, 2020 and full capability on June 26, 2020, when repairs were completed on the  
80 expansion joint.



## Appendix A

### Generation Production and Purchases

**Generation Production and Purchases from June 1 to June 30, 2020<sup>2</sup>**

	<u>Generation (GWh)</u>	<u>Year to Date (GWh)</u>
<b>Hydro Generation (Hydro)</b>		
Bay d'Espoir Plant		
Unit 1	0.0	210.9
Unit 2	24.9	234.1
Unit 3	25.5	201.5
Unit 4	4.8	69.3
Unit 5	18.0	92.0
Unit 6	21.0	113.5
Unit 7	50.3	480.6
<b>Subtotal Bay d'Espoir Plant</b>	<b>144.5</b>	<b>1,401.9</b>
Upper Salmon Plant	23.9	294.5
Granite Canal Plant	20.0	128.4
Hinds Lake Plant	31.6	187.1
Cat Arm Plant		
Unit 1	41.9	202.3
Unit 2	43.3	223.5
<b>Subtotal Cat Arm Plant</b>	<b>85.2</b>	<b>425.8</b>
Paradise River	3.2	20.0
Star Lake Plant	7.9	70.3
Rattle Brook Plant	2.0	5.9
Nalcor Exploits Plants	49.3	310.0
Mini Hydro	0.0	0.0
<b>Total Hydro Generation</b>	<b>367.5</b>	<b>2,843.9</b>
<b>Thermal Generation (Hydro)</b>		
Holyrood TGS		
Unit 1	0.0	251.7
Unit 2	4.8	299.6
Unit 3	0.0	199.0
<b>Subtotal Holyrood TGS Units</b>	<b>4.8</b>	<b>750.3</b>
Holyrood Gas Turbine and Diesels	0.1	2.5
Hardwoods Gas Turbine	0.1	0.2
Stephenville Gas Turbine	0.0	0.4
Other Thermal	0.0	0.1
<b>Total Thermal Generation</b>	<b>5.0</b>	<b>753.6</b>
<b>Purchases</b>		
Requested Newfoundland Power and Vale	0.1	0.1
Corner Brook Pulp and Paper		
Capacity Assistance	0.0	0.0
Firm Energy PPA	0.0	0.0
Secondary	2.5	19.2
Co-Generation	3.7	27.4
<b>Subtotal Corner Brook Pulp and Paper</b>	<b>6.1</b>	<b>46.6</b>
Wind Purchases	10.0	91.1
Maritime Link Imports <sup>3</sup>	0.0	179.8
New World Dairy	0.2	1.1
Labrador-Island Link Imports <sup>4</sup>	0.0	0.0
<b>Total Purchases</b>	<b>16.4</b>	<b>318.7</b>
<b>Total<sup>5</sup></b>	<b>388.9</b>	<b>3,916.2</b>

<sup>2</sup> Gross generation.

<sup>3</sup> Includes energy flows as a result of purchases and inadvertent energy.

<sup>4</sup> Includes purchases as a result of testing activity.

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