

1 Q. **Re: PUB-NLH-217**

2 Citation (p. 9):

3 In the unlikely event of a sustained bipole outage during peak, the existing system with  
4 a continued 60 MW interruptible arrangement, Hydro will have sufficient installed  
5 capacity to supply full load until at least 2025.

6 In the unlikely event of a sustained bipole outage, would Hydro have sufficient  
7 energy resources to supply full load throughout the winter, when energy available  
8 from the Island hydro system is limited? In support of your answer, please provide  
9 a spreadsheet showing month-by-month energy availability from each resource  
10 owned by or available to Hydro, and its monthly energy requirements through  
11 2025.

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16 In the unlikely event of a sustained bipole outage on the Labrador-Island Link (LIL),  
17 Hydro would have sufficient energy resources to replace the energy supplied over  
18 the LIL and thus supply full load throughout the year.

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20 Table 1 shows the maximum energy that the island system is expected to receive  
21 over the LIL in the 2018 to 2025 period by month (28 to 31 days). The result shows  
22 that there is more than sufficient energy capability from other non-hydraulic  
23 sources to replace the energy that would have come from the LIL, in case of a  
24 bipole outage for any month from 2018 to 2025. As shown in the table, these other  
25 sources will not be required to operate at high capacity factors, thus indicating  
26 additional reserves are there if required.

Table 2 shows the potential additional generation available from Hydro's major hydro-electric plants should it be needed to replace energy that would have come from the LIL. This additional energy is the difference between the average expected generation during that period and the maximum capability of those units.

Table 2 demonstrates that in any month Hydro would have additional hydroelectric capacity and energy to put towards replacing energy supplied over the LIL.

The analysis above demonstrates that, in the unlikely event of a sustained bipole outage, Hydro would have sufficient energy resources to supply full load throughout the winter and throughout the year.

**Table 1**  
**Supply of Additional Energy Requirements (Not including hydroelectric)**

	LIL Energy Use on Island, Maximum 2018 - 2025 GWh	Energy to Be Replaced GWh	Theoretical Maximum from Thermal and ML GWh	Combined Capacity Factor Required
January	297	297	431	69%
February	265	265	389	68%
March	292	292	431	68%
April	256	256	417	61%
May	174	174	431	40%
June	144	144	417	35%
July	163	163	431	38%
August	161	161	431	37%
September	150	150	417	36%
October	170	170	431	39%
November	158	158	417	38%
December	252	252	431	59%

**Table 2****Potential Additional NL Hydro Hydro-Electric Capability In Any Given Month****Values are monthly averages, from 50 hydrologic scenarios of the period Jan 2018 to Dec 2025**

	Hinds Lake	Cat Arm	Granite	Upper Salmon	Bay	NL Hydro System Monthly
	GWh	GWh	Canal GWh	GWh	d'Espoir GWh	Total GWh
January	14	25	3	8	130	180
February	20	33	6	14	160	230
March	22	31	6	14	190	260
April	30	40	9	22	250	350
May	31	34	6	17	260	350
June	34	36	14	18	260	360
July	53	50	20	25	290	440
August	56	51	22	28	300	460
September	52	49	18	32	290	440
October	34	43	11	25	250	360
November	20	33	7	14	180	250
December	17	28	5	8	140	200

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