

**2018 Capital Budget Application – Muskrat Falls to Happy Valley Interconnection Project**

1 Q. **Re: Letter from NLH to Board dated November 30, 2018, Table 1; 2018 CBA,**  
2 **MFHVI Project, Revision 2, dated January 25, 2018, p. 13 of the pdf**

3 Preamble:

4 The Labrador East load forecast presented in the Transmission Expansion Study and  
5 reproduced as Table 1 is substantially lower than the load forecast presented as  
6 Table 1 on page 10 of the MFHVI project document produced as Tab 13 of the 2018  
7 CBA. This forecast is identified in the Expansion Study as a P90 forecast, released in  
8 July 2018. Compared to the three forecasts shown in Appendix A of that same  
9 document (page 27 of the pdf), the current forecast is substantially higher than the  
10 Fall 2016 forecast, slightly higher than the Spring 2017 forecast, and substantially  
11 lower than the Summer 2017 forecast.

12

13 a) Are the three forecasts in the CBA also P90 forecasts? If not, please specify.

14 b) Please explain in detail the reasons behind these multiple changes in the Lab  
15 East load forecast, and explain in detail reasons for the reduction noted  
16 between the Summer 2017 load forecast and the July 2018 load forecast  
17 presented in Table 1 of the November 30 letter.

18 c) Has the load forecast been updated since July 2018? If so, please present the  
19 most recent Labrador East load forecast.

20 d) Please break down each of these forecasts, year by year, between i) loads  
21 related to cryptocurrency mining activities (“data centres”), ii) loads related to  
22 DND conversion to all-electric boilers and iii) other loads.

23 e) The 2018 Base Coincident Peak, according to Table 1 of the Nov. 30 letter, is  
24 81.7 MW. Please indicate actual peak demand for the years 2016, 2017 and  
25 2018, breaking them down into a) loads related to cryptocurrency mining  
26 activities (“data centres”), and b) other loads.

27 f) Please provide the most recent load forecast, under the hypothesis that all data  
28 centre loads are curtailed for the peak 300 hours.

1 A.

2 a) The three load forecasts presented in Revision 2 of the “Muskrat Falls to Happy  
3 Valley Interconnection” report, Appendix A “Eastern Labrador Transmission  
4 System – Planning Report,” dated January 25, 2018 reflect P50 demand  
5 forecasts for the Labrador East system.

6

7 b) The changes in the Labrador East load forecast are a reflection of including  
8 current information at the time of the preparation of the forecast.

9

10 The load forecast presented as the Fall 2016 Forecast in Revision 2 of the  
11 “Muskrat Falls to Happy Valley Interconnection” report, Appendix A “Eastern  
12 Labrador Transmission System – Planning Report,” reflected the Labrador East  
13 system load requirements not including forecasted power requirements of new  
14 service requests for customers identified as data centres.

15

16 The load forecast presented as the Spring 2017 Forecast Revision 2 of the  
17 “Muskrat Falls to Happy Valley Interconnection” report, Appendix A “Eastern  
18 Labrador Transmission System – Planning Report,” reflected the Labrador East  
19 system load requirements including forecasted power requirements of new  
20 service requests for customers identified as data centres.

21

22 The load forecast presented as the Summer 2017 Forecast in Revision 2 of the  
23 “Muskrat Falls to Happy Valley Interconnection” report, Appendix A “Eastern  
24 Labrador Transmission System – Planning Report,” reflected the Labrador East  
25 system load requirements including forecasted power requirements of new  
26 service requests for customers identified as data centres, as well as a sensitivity  
27 load reflecting forecasted power requirements for the Department of National  
28 Defence (“DND”) central heating plant fuel oil to electric conversion.

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1 The load forecast presented as the July 2018 load forecast in Table 1 of  
2 Newfoundland and Labrador Hydro's ("Hydro") November 30, 2018  
3 correspondence "2018 Capital Budget Application – Muskrat Falls to Happy  
4 Valley Interconnection Update," reflects Hydro's base case load forecast for the  
5 Labrador East system, including forecasted power requirements of new service  
6 requests for customers identified as data centres. The sensitivity load reflecting  
7 the forecasted power requirements for the DND central heating plant fuel oil to  
8 electric conversion was not included in the July 2018 forecast.

9

10 Excluding load impacts associated with new service requests for customers  
11 identified as data centres and DND's central heating plant, the other Happy  
12 Valley system load requirements were reviewed and updated between the  
13 Spring 2017 Forecast and Summer 2017 Forecast and between the Summer  
14 2017 Forecast and July 2018 Forecast.

15

16 For further information on the forecasted load detail, refer to Hydro's response  
17 to LAB-NLH-035(d).

18

19 c) The load forecast for the Labrador East system was last updated in July 2018.  
20 The regular planning cycle for Hydro's rural systems load forecasts is annually  
21 during the spring/early summer time frame.

22

23 d) Please refer to Table 1 which provides the available forecasted load detail. Note  
24 that the forecasted load related to data centres reflects the loads Hydro is able  
25 to identify as new service requests for data processing equipment, which were  
26 explicitly accounted for in the forecast methodology. Hydro cannot verify if all  
27 such load is related to cryptocurrency mining. Also, it is noted that the

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- 1 forecasted load for the “other” component for the July 2018 load forecast  
 2 reflects the forecasted P50 demand requirements.

**Table 1: Load Forecast (MW)**

Year	Spring 2017 Forecast			Summer 2017			July 2018		
	Data Centre	DND	Other <sup>1</sup>	Data Centre	DND	Other	Data Centre	DND	Other
2017	7.5	0	72.3	7.2	0	72.7	-	-	-
2018	7.5	0	72.6	7.2	0	73.4	6.3	0	72.4
2019	7.5	0	73.0	7.2	0	74.2	7.2	0	73.1
2020	7.5	0	73.3	7.2	12.2	74.6	7.2	0	73.3
2021	7.5	0	73.6	7.2	12.2	75.2	7.2	0	73.6
2022	7.5	0	74.0	7.2	12.2	75.5	7.2	0	73.8
2023	7.5	0	74.4	7.2	12.2	76.0	7.2	0	74.1
2024	7.5	0	74.7	7.2	12.2	76.5	7.2	0	74.7
2025	7.5	0	75.1	7.2	12.2	77.0	7.2	0	75.2
2026	7.5	0	75.5	7.2	12.2	77.5	7.2	0	75.7
2027	7.5	0	75.9	7.2	12.2	78.0	7.2	0	76.2
2028	7.5	0	76.2	7.2	12.2	78.5	7.2	0	76.7
2029	7.5	0	76.5	7.2	12.2	78.9	7.2	0	77.3
2030	7.5	0	76.9	7.2	12.2	79.4	7.2	0	77.8
2031	7.5	0	77.2	7.2	12.2	79.9	7.2	0	78.3
2032	7.5	0	77.5	7.2	12.2	80.3	7.2	0	78.8
2033	7.5	0	77.8	7.2	12.2	80.7	7.2	0	79.4
2034	7.5	0	78.1	7.2	12.2	81.2	7.2	0	79.9
2035	7.5	0	78.4	7.2	12.2	81.6	7.2	0	80.4
2036	7.5	0	78.7	7.2	12.2	82.0	7.2	0	80.9
2037	7.5	0	79.0	7.2	12.2	82.4	7.2	0	81.5
2038	7.5	0	79.3	7.2	12.2	82.9	7.2	0	82.0
2039	7.5	0	79.6	7.2	12.2	83.3	7.2	0	82.5
2040	7.5	0	79.9	7.2	12.2	83.8	7.2	0	83.1
2041	7.5	0	80.2	7.2	12.2	84.2	7.2	0	83.6
2042	7.5	0	80.5	7.2	12.2	84.7	7.2	0	84.1
2043	-	-	-	-	-	-	7.2	0	84.6

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<sup>1</sup> Fall 2016 Forecast.

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- 1 e) The demand level by day or by time of day is not recorded by retail customer  
2 meters and, therefore, the requested system peak demand detail on an actual  
3 basis cannot be provided.  
4
- 5 f) Please refer to LAB-NLH-035(d) and (e) with respect to the response to the load  
6 forecast explicitly for data centres. The connected data centre customers are  
7 currently classified as General Service customers and pay the same rate as any  
8 other business in the region with the same load requirements. Hydro does not  
9 have the right to arbitrarily treat data centre customers differently from other  
10 customers.