

1 Q. **Re: Labrador Expansion Study, p. 31-32 (pdf); Network Addition Policy, page 8**
2 **(pdf)**

3 Citation 1 (Expansion Study):

4 5.2 Long-Term Supply to Labrador West

5 5.2.1 Transmission System Capacity Upgrades

6 The analysis provided in Appendix B includes a description of the system additions
7 that would be required to increase transmission system capacity in western
8 Labrador to meet the peak baseline forecast of 383 MW.

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10 The upgrades include the commissioning of the third synchronous condenser at
11 Wabush Terminal Station,²³ the installation of an additional 23 MVAR of shunt
12 compensation, and replacement of transformers T4 and T5 with 125 MVA units.
13 These upgrade will increase system capacity to meet the baseline peak load
14 forecast of 383 MW.

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16 The estimated capital cost of this project is approximated to be \$15.0 million.²⁴

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18 Citation 2 (Transmission Expansion Study, page 39 pdf):

19 7.2 Labrador West

20 The existing 230 kV transmission system has a non-firm winter capacity of 350 MW
21 and is adequate only if supply to industrial customers is restricted. System additions
22 that would be required to meet the unrestricted baseline load forecast of 383 MW
23 are described in 5.2.1. Hydro has conducted further analysis to determine the least-
24 cost options incremental loading scenarios given a significant potential for
25 incremental load in Labrador West. This comprehensive analysis is provided in
26 Appendix B. Table 11 provides a summary of the preferred alternatives.

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Table 11: Preferred Alternative for Incremental Lab West Load Levels

Lab West Load (MW)	Least-Cost Option	Description of Alternative	Capital Cost (\$ million)
> 383	Alternative 5	<ul style="list-style-type: none"> Commissioning of SC3 Replacement of T4, T5, and T6 with 125 MVA units for loss of largest transformer Replacement of four, 46 kV circuit breakers due to exceeding fault level Installation of 72 MVARs of reactive compensation (needed for loss of SC#3) Thermal Upgrade of L23/L24 to 75°C conductor temperature 	31.66
> 434	Alternative 17	<ul style="list-style-type: none"> Construction of 50 km of 315 kV transmission line from Bloom Lake, ("BLK") to Flora Lake ("FLK") and 5 km of 230 kV from FLK to WAB. BLK 315 kV and WAB 230 kV Line Terminations Construction of new 315/230/46 kV terminal station at FLK Installation of four 40.2 MVAR capacitor banks on FLK 230 kV Bus Commission synchronous condenser SC3 Upgrade of 14, 46 kV breakers with 2000 A, 31.5 kA breakers 25 km of new 46 kV distribution lines plus upgrades to existing distribution lines 	153.15

1 Citation 3 (Network Addition Policy):

Table 1
Derivation of Expansion Costs per kW

Region	Capacity kW	Description	2019 Capital Investment (\$000)	Direct Investment \$ per kW
Labrador East	21,000	Transformer Upgrades at HV-GB	5,000	238
	37,000	Transformer Upgrades at HV-GB and MF Terminal Station	15,000	405
	100,000	Construct second line from MF to HV-GB	50,000	500
Labrador West	33,000	Wabush T5 Upgrades and 230 kV uprating	16,500	500
Sub-Total	191,000		86,500	453
O&M ³				12
Total				465

- 2 a) Please confirm that the single expansion project identified for Labrador West in
3 the Network Addition Policy (Citation 3) is identical to the one identified in the
4 citation from the Transmission Expansion Study (Citation 1).
- 5 b) Please explain why the two projects identified in Table 11 of the Transmission
6 Expansion Study, required if Lab West loads increase beyond 383 MW, were not
7 included in the derivation of expansion costs in the Network Addition Policy.

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1 c) Please provide an update for the status of the Labrador West Transmission
2 Project (LWTP), a \$330 M, 220-km transmission line between Churchill Falls and
3 Labrador West, and explain why this project is not included in the options
4 reviewed in the Labrador Transmission Expansion Study.

5 d) Is Option 17, described on p. 76 as “a new 315 kV line from Bloom Lake to Flora
6 Lake with 46 kV Connection from Flora Lake”, at a cost of \$153 M, a
7 replacement for the LWTP? Please explain.

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10 A. Questions relating to the “Labrador Interconnection System Transmission Expansion
11 Study” and the “Network Additions Policy,” filed by Newfoundland and Labrador
12 Hydro on October 31, 2018 and December 14, 2018 respectively, are not relevant
13 for this proceeding. The Board of Commissioners of Public Utilities has indicated by
14 letter dated November 20, 2018 and email dated December 20, 2018, both of which
15 were received by all intervenors, that a separate process will be established in
16 relation to those two filings.