

1 Q. **Reference: CBA, Rev. 1, vol. II, Wabush Substation Upgrades, pages 4-6 (p. 550-552 pdf)**

2 Preamble:

3 Four alternatives and their costs are presented.

4 **a.** Please confirm that these are the same alternatives as were presented in the 2018 TES.  
5 If not, please indicate the differences.

6 **b.** Please provide a table comparing the costs of each of the four alternatives in i) the 2018  
7 TES and ii) the present CBA.

8 **c.** Please confirm that, while the proposed configuration is the least-cost alternative in  
9 both studies, the difference in costs between it and the other alternatives is  
10 considerably lower in the present study than in the 2018 TES.

11 **d.** Please compare the proposed alternative to each of the others taking into account a)  
12 the cost differential, and b) any differences in service benefits.

13 **e.** In particular, please describe any benefits that might be associated with the Flora Lake  
14 Terminal Station alternative, in a scenario where there is substantial industrial load  
15 growth in Labrador West and new supplies are required.

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18 A.

19 **a.** It is confirmed that these are the same alternatives as were presented in the Labrador  
20 Interconnected System Transmission Expansion Study (“2018 TES”).<sup>1</sup>

21 **b.** The costs for the alternatives are presented in Table 1. The updated costs reflect the fact  
22 that more detailed engineering has been performed for the preferred alternative involving

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<sup>1</sup> “Labrador Interconnected System Transmission Expansion Study,” Newfoundland and Labrador Hydro, rev 2, April 3, 2019 (originally filed October 31, 2018).

1           the three transformer configuration. Revised costs now reflect a Class 3 cost estimate as  
2           opposed to Class 5 estimate used in 2018 for screening purposes.

3           As part of the engineering process, the requirement for Supervisory Control and Data  
4           Acquisition upgrades at Wabush Substation was noted as a requirement. The associated cost of  
5           approximately \$690,000 has been added to each of the alternatives.

**Table 1: Costs for Alternatives**

Alternative	2018 TES Class 5 Cost Estimates (\$ million)	2021 CBA <sup>2</sup> Class 3 Cost Estimates <sup>3</sup> (\$ million)
1   Wabush Substation Upgrade – Three Transformer Configuration	8.4	10.5 (class 3)
2   Wabush Terminal Station Addition of 12.5 kV Bus	12.3	13.0 (class 5)
3   Flora Lake Terminal Station Addition of 12.5 kV Bus	13.0	13.7 (class 5)
4   Wabush Substation Upgrade – Two Transformer Configuration	13.4	14.1 (class 5)

6           **c.** It is confirmed that the proposed configuration is the least-cost alternative in both studies  
7           and that the difference in costs between it and the other alternatives is considerably lower  
8           in the present study than in the 2018 TES. This is attributed to the increased level of  
9           engineering that has been performed to refine the cost estimate for the preferred  
10          alternative in preparation for the Capital Budget Application.

11          **d.** The proposed alternative, Wabush Substation Upgrade – Three Transformer Configuration,  
12          is the lowest cost option and includes the addition of a single power transformer to meet  
13          firm capacity requirements as well as reliability upgrades. Alternative 4: Wabush Substation  
14          Upgrade – Two Transformer Configuration, has the highest capital cost due to the  
15          requirement for two new power transformers. Alternative 2: Wabush Terminal Station  
16          Addition of 12.5 kV Bus and Alternative 3: Flora Lake Terminal Station Addition of 12.5 kV

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<sup>2</sup> Capital Budget Application (“CBA”).

<sup>3</sup> Please note that estimated valued for alternatives 2, 3, and 4 were incorrectly stated in the CBA.

1 Bus have higher costs attributed to 12.5 kV infrastructure additions and the construction of  
2 a new terminal station, respectively.

3 All proposed solutions meet all Transmission Planning Criteria, ensure firm capacity to meet  
4 the Baseline Load Forecast, and address reliability deficiencies at Wabush Substation. On  
5 this basis, all alternatives would meet the required level of service for customers.

6 e. The Flora Lake Terminal Station has been identified as potential component of transmission  
7 expansion scenarios for cases involving more than 50 MW of incremental load growth above  
8 the baseline load forecast. When considering supply to distribution customers, benefits  
9 associated with the construction of this station would be dependent on the specific location  
10 and magnitude of customer requests. The proposed transmission system solution is  
11 designed to meet the baseline load forecast at Wabush Substation. A determination of the  
12 requirement for/benefits associated with the establishment of distribution service at Flora  
13 Lake Terminal Station would be determined on the basis of a System Impact Study using  
14 detailed incremental load requests.