

1 Q. **Reference: Labrador Expansion Study, pp. 9-10 (pp. 17-18 pdf); Appendix C, page 4 (p. 162**
2 **pdf)**

3 Preamble:

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5 Section 2.3 describes the exceptions to the application of the Transmission Planning Criteria
6 in Labrador.

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8 Citation:

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10 It is noted that in 2017, equipment operating at 46 kV became the responsibility
11 of the Newfoundland and Labrador System Operator (“NLSO”) and was
12 therefore reclassified from distribution to transmission. The Wabush Substation
13 46 kV transformer power ratings have subsequently been recalculated as per
14 Section 6.1 of *NLSO Standard – Transmission Facilities Rating Guide TP-S-001*.

15

16 a) Please confirm or correct the following statements:

17

18 i) The Labrador East and West systems are not considered part of the Primary
19 Transmission System (PTS), and so the n-1 criterion is not necessarily applied across
20 the board there;

21

22 ii) The Labrador West Local Network (46 kV) is now part of the NLSO’s Transmission
23 System, and a such is subject to different planning criteria than is applied to
24 distribution networks;

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26 iii) The change from distribution to transmission planning criteria has resulted in a
27 derating of 5 MVA at the Wabush Substation;

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29 b) Please describe all other changes in transformer ratings or other criteria that affect
30 system planning in the Labrador West region that are related to the shift to NLSO control
31 and/or the change to transmission planning criteria;

1 c) Please indicate whether any similar changes have occurred with respect to the
2 Labrador East region and, if so, provide details.

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5 A. a) Please see responses below:

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7 i) It is confirmed that the Labrador East and West systems are not considered part of
8 the Primary Transmission System, and as a result, the n-1 criterion is not
9 necessarily applied across the board in these areas.

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11 ii) It is confirmed that the Labrador West Local Network (46 kV) is now classified as
12 part the Newfoundland and Labrador Interconnected System, which is the
13 interconnected transmission system in both Newfoundland and Labrador with a
14 rated voltage of 46 kV and above. Ratings for equipment within this jurisdiction are
15 calculated on the basis of “NLSO Standard – Transmission Facilities Rating Guide,
16 TP-S-001,”¹ as opposed to methodologies defined in distribution planning
17 standards.

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19 iii) The change in methodology has resulted in a 4.9 MVA reduction in firm
20 transformer capacity at the Wabush Substation.

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22 b) In addition to the ratings of the 46 kV power transformers, ratings of 46 kV
23 transmission lines were revisited and calculated in accordance with “NLSO Standard –
24 Transmission Facilities Rating Guide, TP-S-001” using an assumed 50°C operating
25 temperature.

26

27 Table 1 provides a comparison of the calculated steady state thermal ratings of the 46 kV
28 transmission lines, with and without the revised assumptions.

¹ Newfoundland and Labrador System Operator (“NLSO”).

Table 1: Comparison of Transmission and Distribution Calculated Conductor Ratings

46 kV Transmission Line	Transmission Planning Winter Rating (MVA)	Distribution Planning Winter Rating (MVA)
L32 Sections 1 and 2	59.4	72.0
L40 Section 1	42.6	51.5
L33 and L40 Section 2	60.2	72.9
L36	36.7	44.4

- 1 c) No changes have occurred with respect to the Labrador East region.