

1 Q. **Reference: Study, Appendix B, Section 2.1, page 3, lines 20-25**

2 Preamble:

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4 *“- Two, 230 kV transmission lines from Churchill Falls to Wabush, a distance of*

5 *217 km;*

6 *- each transmission line consists of steel structures with a single 636 kcmil,*

7 *26/7, ACSR “GROSBEAK” conductor per phase; and*

8 *- each transmission line has thermal limits of 439 A @ 30°C, 650 A @ 15oC, and*

9 *934 A @ -15°C ambient based upon a 50°C conductor temperature.”*

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11 What is the conductor temperature limit considered in the calculation of the admissible
12 current for thermal limits at different ambient temperatures? Is it related to admissible sag
13 of the overhead conductors or to other factors? Please describe.

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16 A. The conductor temperature limit considered in the calculation of the admissible current for
17 thermal limits at different ambient temperatures is the steady state conductor
18 temperature. For overhead transmission line conductors, the steady state conductor
19 temperature is the maximum operating temperature for maximum conductor sag. As per
20 Newfoundland and Labrador Hydro’s response to IOC-NLH-022, a 50°C conductor
21 temperature is the standard for older Newfoundland and Labrador Hydro transmission
22 lines.