

1 Q. **Reference: Study, page 9 - Transmission Planning Criteria TP-S-007 NLSO Standard**

2 [www.oasis.oati.com/woa/docs/NLSO/NLSOdocs/TP-S-](http://www.oasis.oati.com/woa/docs/NLSO/NLSOdocs/TP-S-)

3 [007\\_Transmission\\_Planning\\_Criteria\\_UPDATED\\_05112018.pdf](http://www.oasis.oati.com/woa/docs/NLSO/NLSOdocs/TP-S-007_Transmission_Planning_Criteria_UPDATED_05112018.pdf)

4

5 According to NLSO Standard TP-S-007, thermal overload of transmission lines is calculated  
6 for ambient temperature of 30°C in summer, while low. Low temperature capacity is  
7 calculated for ambient temperature of -15°C in winter. Are these criteria based on historical  
8 data? Please indicate frequency of occurrence and duration of such temperatures.

9

10

11 A. Overhead conductor ratings are calculated to ensure that the conductors do not sag below  
12 the minimum ground clearance. Assumptions relating to ambient temperature are not  
13 based on a statistical assessment of historic data. Rather, they are conservatively set in  
14 consideration of temperature variations that may be experienced within a season or along  
15 a transmission corridor. Newfoundland and Labrador Hydro has therefore specified that  
16 ambient temperature assumptions of 30°C in summer and -15°C in winter are  
17 representative for transmission planning purposes, irrespective of the frequency of  
18 occurrence and duration of such temperatures.

19

20 Operationally, Newfoundland and Labrador Hydro calculates overhead conductor ratings  
21 for ambient temperature ranges from -30°C to 30°C in 5°C steps. These ratings are the basis  
22 of system operating limits and allow for transmission system limits to be dynamically  
23 determined during emergencies.