Q. Reference: Public Utilities Board Muskrat Falls Review, Nalcor Exhibit 92, *DC1070 Preliminary Meteorological Load Review*, Appendix D, page D-2.
"Topographical effects should be added to the basic meteorological loads taking into account statistical variations within each climatic region, which is individually determined from general climate and geographical features."
Does Nalcor/Hydro agree that topographical amplification factors to be applied to 1:500 year return period climatic loads would be different than the factors applied to 1:50 year return period climatic loads, in order to have a true 1:500 year return period design?

A. No, Hydro does not agree that the topographical amplification factor for a 500-year return period load would be different than for a 50-year return period load. CAN/CSA C22.3 No 60826 states:

> The values given in Figures CA.10 and CA.11 represent point loadings (i.e., the amount of ice thickness that would have been measured in the reference stations during the specified storm event). However, during an icing storm, real or simulated, at a point, it is unlikely that a selected point will see the maximum icing intensity of the particular storm, and there will be other locations where significantly higher icing can occur. Consequently, lines designed for a given service area can require values of maximum ice thickness to be predicted for the area. In the absence of relevant local data, it is recommended that the values of Figures CA.10 and CA.11 be increased by 30% (spatial factor $S_a = 1.3$).

Factors to convert from 50-year return periods to other design return periods are also provided in CAN/CSA C22.3 No. 60826, but the standard does not provide for the application of alternate topography spatial factors.