

1 Q. Reference: (<http://www.powerinourhands.ca/pdf/MHI.pdf>) *Manitoba Hydro*
2 *International: Review of the Muskrat Falls and Labrador Island HVdc Link and the*
3 *Isolated Island Options*, October 2012, page 44.
4 *“From extensive meteorological research, Nalcor determined that the transmission*
5 *line would require 11 unique weather zones, with a number of subzones, to*
6 *adequately model the ice-and-wind loading on line structures.”*

7 Was the statistical independence of ice occurrence in the various weather zones of
8 the Labrador-Island HVdc Link considered in establishing the design ice loads? For
9 example, in determining the design return period, did Hydro consider that a
10 weather event in the Long Range Mountains would be independent of a weather
11 event on the Avalon Peninsula? If so, please provide the calculations of return
12 period of loads taking into account the statistical independence of the various
13 weather zones in the design of the Labrador-Island HVdc Link.

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16 A. No method for addressing the statistical independence of weather zones is
17 provided in applicable CSA or IEC standards. The guidance provided in the
18 applicable standard has been implemented by:

- 19 • Considering relevant operational experience;
- 20 • Undertaking research to inform design decisions in areas where only limited
21 information is available;
- 22 • Establishing conservative design criteria where accessibility is limited in
23 order to develop a robust line design;
- 24 • Testing the as-designed line to assess its capability; and
- 25 • Ensuring the link meets more severe loading criteria in key areas such as the
26 Avalon Peninsula and the Long Range Mountains.

1 The Long Range Mountains and glaze zones have independent mechanisms for
2 developing extreme loads, as demonstrated in the response to NP-NLH-004, and
3 the line is designed to withstand extreme events in each of these respective areas.

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5 Furthermore, the Island generation resources and the Maritime Link are not
6 dependent on the rime ice area in the Long Range Mountains.