Q. Preamble: In its report on the Muskrat Falls inquiry, MHI wrote, concerning the overhead HVDC transmission lines on the Island:

> Considering the directions given in the IEC Standard, the voltage level of the Labrador-Island Link HVdc transmission line, the importance of this HVdc transmission line, and the local historical data gathered by Nalcor during the investigation of the Avalon Peninsula upgrade project, at a minimum the 320 kV HVdc line should be designed to a return period of 1:150 years when an alternate supply is available. Nalcor should also give consideration to an even higher reliability level return period in the remote alpine regions[41]. MHI recommends that the HVdc transmission line be designed to a 1:500- year return period for the Island power system without an alternate supply. MHI considers this a major issue and recommends that Nalcor adhere to these criteria laid out in the IEC Standard for the HVdc transmission line design. Design for less than 1:150 year return period is contrary to best practices carried out by utilities in Canada, and does not reflect current industry practices which follow IEC 60826:2003. (MHI, v. 1, p. 62) (underlining added)

Has the design of the HVDC overhead lines on the Island been upgraded to a 1:500 year return period? If not, why not?

A. Subsequent to MHI's initial review of the HVdc transmission line design (from which the above noted quotes in the question are taken), Nalcor made changes to upgrade designs and provide increased reliability particularly in the Long Range Mountains and other regions in Labrador subject to extreme wind and icing conditions. In its second report prepared in October 2012, *Review of the Muskrat Falls and Labrador Island HVdc Link and the Isolated Island Options*, MHI completed a thorough assessment of Nalcor's updated work and made the following

observations: "[i]t is MHI's opinion Nalcor undertook appropriate due diligence selecting the weather loads for transmission Line" and "[t]he climatic loadings for each line section are approximately equivalent to the climatic loadings calculated assuming Canadian Standards Association (CSA) 1:500 year return period."