Q. **Reference: Reliability and Resource Adequacy Study 2022 Update, Volume I, Attachment 2.**

a) Summarize the scope and results of all Daymark, Hydro, or other Nalcor/Hydro experts addressing the design bases, conformity of as-built to design, weather-related design assumptions versus actual conditions experienced, and other factors bearing on performance reliability obtained in northern Europe and how they compare with the same factors regarding the LIL.

b) Describe Hydro's views on how northern Europe data bears on assessing reliability of the LIL, and specifically how consideration of that data has affected planning considerations here.

c) Given experience to date with respect to the LIL, state and describe how Hydro considers it is most likely to perform in comparison to the European group analyzed (e.g., first quartile, fourth quartile, median, average).

A. **a)** A review of design bases, conformity of as-built to design, and weather-related design assumptions versus actual conditions experienced was not performed for HVdc systems in northern Europe. Given the significant uncertainty regarding the reliability implications of the Labrador-Island Link's ("LIL") overhead transmission structures and software at this time, direct comparisons are not possible and further review of European HVdc systems would not allow for improved precision in Newfoundland and Labrador Hydro's ("Hydro") perspectives on LIL performance expectations.

However, the high-level review of European HVdc system performance data has provided improved insight to Hydro in other ways. Specifically, Hydro has noted the appreciable variations in the reliability of these systems and the various modes of failure that can widely impact performance metrics. Based on this data and the uncertainties described herein, it is Hydro's perspective that the unavailability of the LIL would best be represented as a range up to 10% at this time.

b) Hydro does not have a view on how northern Europe data bears on assessing reliability of the LIL, other than it provides considerations for HVdc outage and unavailability rates that

other utilities or other energy industry participants have experienced. Absent any long-term operational experience with the LIL post-commissioning, the upper and lower bipole limits that Hydro assumed provide a range of values that were used to assess the impact on system reliability, recognizing that the upper bipole limit assumed is reasonable in comparison to other HVdc paths.

c) Absent any long-term operational experience with the LIL post-commissioning, Hydro does not have the appropriate data available to perform a comparison against other utilities or other energy industry participants.