Q. What is the approximate cost estimate increase to design the overland HVDC line to a 1-in-100 year return period?

A. Table CA.2 of CAN/CSA-C22.3 No. 60828:06 reproduced below indicates that an increase from 50 to 100 year return period would increase design wind speeds by approximately 7% and glaze ice thickness by approximately 10%.

CAN/CSA-C22.3 No. 60826:06 *Design criteria of overhead transmission lines*

Table CA.2
Factor α to modify the 50-year-return period weather variable to any other return period T
(See Clause CA.3.)

Return period (years)	Weather variable	
	α_w (wind speed)	α_i (ice thickness)
25	0.95	0.95
50	1.0	1.0
100	1.07	1.10
150	1.10	1.15
200	1.14	1.20
400	1.18	1.25
500	1.20	1.30

This change is expected to increase the cost of the overland HVdc line by approximately $100 million. This estimate is based on an initial view of the proportion of the cost of the overhead line structures in the Labrador – Island Link estimate and a scaling of that cost.