

1 Q. Reference: *Probabilistic Based Transmission Reliability Summary Report*, Appendix
2 A, Page 34 of 56.

3 *“In summary, the average failure rate that was used in the previous Nalcor study for*
4 *the LIL is slightly higher than the figures that were estimated based on the CIGRE*
5 *and CEA data, while the average repair time in the Nalcor study is considerably*
6 *lower.”*

7 Please explain why the average repair time in the most recent Nalcor study is
8 considerably lower?

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11 A. The average repair time in the most recent Nalcor study was calculated by SNC
12 Lavalin based on CIGRE statistics produced during the 1990’s. The calculation was
13 performed using reliability performance data for eight specific HVdc systems over
14 their operating history for periods ranging from three to eleven years.

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16 The Teshmont analysis involved an assessment of the reliability parameters
17 provided by Nalcor in comparison to CIGRE and CEA statistics. This comparison is
18 summarized in Table 1.

Table 1 – Comparison of Calculated Repair Times

Source	Reference Statistics	Notes	Average Repair Time per Pole Outage (Hours)
SNC Lavalin Study	CIGRE Data	Eight specific HVdc systems over their operating history for periods ranging from three to eleven years (produced during 1990's)	1.78
Teshmont Study	CIGRE Data	Seven HVdc systems for the period ranging from 2001 to 2010	11.7
		Assuming most outages are single pole outages	23.4
		Excluding Square Butte data	2.9
		Assuming most outages are single pole outages and excluding Square Butte data	5.8
	CEA Data	2007 to 2011 overhead ac lines statistics	36.4

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Teshmont performed its own detailed review of the most recent CIGRE data and calculated reliability parameters on the performance of seven HVdc systems for the period ranging from 2001 to 2010. Due to the differences in the HVdc systems selected for the analysis and the use of data from different years, the SNC Lavalin and Teshmont calculations resulted in different values.

Teshmont performed a secondary investigation of overhead line reliability by comparing the proposed Nalcor values to ac transmission line data from CEA for the period ranging from 2007 to 2011. This analysis also resulted in a higher repair time than the value provided from the SNC Lavalin Study.