

1 Q. Further to the responses to PUB-NLH-482 and PUB-NLH-487, please explain the
2 statement that the tripping of a monopolar scheme will be rare, and statistically will
3 not occur more often than every 3 years.

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6 A. Hydro's responses to PUB-NLH-482 or PUB-NLH-487 do not suggest that the
7 tripping of a monopolar scheme will be rare, and statistically will not occur more
8 often than every three years. PUB-NLH-482 and PUB-NLH-487 deal specifically with
9 the Labrador-Island HVdc Link (LIL), which is a bipolar scheme and not a monopolar
10 scheme as suggested by PUB-NLH-528. Cigre data for two terminal, one converter
11 per pole schemes suggests pole outage rates in excess of bipole outage rates.
12 Statistics such as these have been an integral part of Hydro's decision to require
13 that the LIL be a bipolar scheme. Further, given the outage rates at the pole level,
14 Hydro has been insistent that the LIL have overload capability in each pole to
15 ensure pole outages do not have an adverse impact on the supply to the Island
16 Interconnected System.

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18 PUB-NLH-482 and PUB-NLH-487 pose the question as to the performance of the LIL,
19 a bipolar scheme, when operating in a monopolar mode. The nature of the
20 questions is to remove the inherent reliability provided to the Island Interconnected
21 System with the LIL in its normal operating bipolar state and consider system
22 impacts of the monopolar mode of operation. Hydro has stated that it completes
23 its analysis of the power system for single element contingencies. Its analysis of the
24 impacts of loss of one pole of a bipolar system is consistent with this approach and
25 supported by the NERC transmission planning standards. Analysis of the LIL in
26 monopolar mode implies an N-1 starting point, and as such, loss of the second pole
27 (i.e., LIL as a monopole) provides the impact of an N-1-1 event. Therefore, the

1 responses to PUB-NLH-482 and PUB-NLH-487 cannot be used to prepare a
2 statement suggesting that the tripping of a monopolar scheme will be rare, and
3 statistically will not occur more often than every three years.

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5 Hydro's response to PUB-NLH-513 provides further clarity on Hydro's position with
6 respect to the outage rate of moving from bipolar mode to monopolar mode to loss
7 of second pole.