

- 1 Q. On page 70 of Exhibit 101, Section 5.2.1, Security of Supply and Reliability, it states
2 *"Nalcor has investigated the level of exposure and unserved energy due to*
3 *transmission failures in both alternatives. Based on the Nalcor analysis, in the worst*
4 *case scenarios (transmission failures occurring in the worst two week window in*
5 *terms of system load and available generation) both alternatives yield unsupplied*
6 *energy of less than 1 percent of the annual energy forecast which represents*
7 *increased security of supply and reliability as compared to the current situation.*
8 *Further, with inclusion of the Maritime Link to the Interconnected Island alternative,*
9 *the security of supply and reliability for this alternative will be substantially*
10 *improved. "* Please provide a copy of Nalcor's analysis and describe in detail what
11 process Navigant followed to confirm the results of Nalcor's analysis. As a result of
12 Nalcor's analysis, what was the percent unsupplied energy under the "current
13 situation" and for each of the Interconnected Island and Isolated Island options?
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- 16 A. The Technical Note Labrador – Island HVdc Link and Island Interconnected System
17 Reliability filed as Exhibit 106 provides the analysis performed by Nalcor with
18 respect to the level of exposure and unserved energy due to transmission line
19 failures. Navigant reviewed a draft of this document as part of its independent
20 review of the Muskrat Falls DG2 decision.
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- 22 Exhibit 106 Table 5 summarizes the percent unsupplied energy for the worst two
23 week window in terms of system load and available generation.
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- 25 For the current situation loss of TL202 and TL206 in 2012 would result in 79,969
26 MWh of unsupplied energy for a two week repair window. This represents 1.02% of
27 the 2012 annual energy forecast.

1 For the Interconnected Island option without the Maritime Link the loss of the
2 Labrador – Island Link in 2017 would result in 14,384 MWh of unsupplied energy for
3 a two week repair window. This represents 0.16% of the 2017 annual energy
4 forecast. Analysis indicates that the level of unsupplied energy will reach 93,744
5 MWh in 2036 for loss of the Labrador – Island Link. This represents 0.92% of the
6 2036 annual energy forecast. Beyond 2036 the level of unsupplied energy is
7 reduced as new capacity sources are added to the Interconnected Island option (i.e.
8 170 MW CCCT in 2037 and future CTs).

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10 For the Isolated Island option the analysis indicates a decline in unsupplied energy
11 levels for the loss of TL202 and TL206 when compared to the current system given
12 the addition of transmission to the Avalon Peninsula and on Island generating
13 capacity. Assuming the addition of the new 230 kV transmission line between Bay
14 d’Espoir and Western Avalon in the Isolated Island option, the loss of TL202 and
15 TL206 in 2017 would result in 13,435 MWh of unsupplied energy for a two week
16 repair window. This represents 0.16% of the 2017 annual load forecast.

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18 Tables 6 and 7 of Exhibit 106 summarizes the impact that the addition of 50 MW
19 CTs can have on the level of unsupplied energy for the Interconnected Island option
20 and the Interconnected Island with Maritime Link option respectively.

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22 Navigant has reviewed the methodology presented in Exhibit 106 and agrees with
23 the conclusions presented.