

1 Q. a) If the LIL bipole is subject to a forced outage rate of 10% then how does that affect the
2 estimated all-in marginal cost for the IIS?

3 b) What if the LIL forced outage rate were 15%?
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6 A. a) The all-in marginal costs utilizing a higher forced outage rate have not been modelled at this
7 time. At a high level, Newfoundland and Labrador Hydro (“Hydro”) would expect a small
8 increase in the all-in marginal cost for the Island Interconnected System based on the
9 assumptions that follow.

10 All-in marginal costs consist of three main components:

11 **1. Marginal Cost of Capacity:** The marginal cost of capacity is currently the largest
12 contributor to all-in marginal cost. While additional capacity might be required
13 because of a higher forced outage rate, the marginal cost of capacity would likely
14 remain the same based on the current resource options. With the completion of the
15 Reliability and Resource Adequacy – 2023 Update, it is possible that the marginal
16 resources could be updated and impact the marginal capacity cost.

17 **2. Marginal Cost of Transmission:** The marginal cost of transmission would remain the
18 same based on the current capital investment in transmission for load growth based
19 on the current load forecast. The marginal cost of transmission is updated on an
20 annual basis.

21 **3. Marginal Cost of Energy:** The marginal cost of energy is based on lost export profit
22 as the Island Interconnected System has a surplus of approximately 3.0 TWh of
23 energy that could be exported. A higher forced outage rate does not reduce the
24 amount of surplus energy in the Island Interconnected System. A higher forced
25 outage rate increases the possibility that the Island Interconnected System could
26 have to rely on more expensive thermal generation during a limited number of peak
27 hours in the winter months. The impact on the marginal cost of energy would be
28 dependent on the number of hours of thermal generation that would be required to
29 operate at loads above the minimum required to support system reliability. It is

1 important to note that export market prices can be volatile and an update to reflect
2 market changes would have an impact on the marginal cost of energy.

3 **b)** Please refer to part a) of this response.