

1 Q. **Reference Avalon Capacity Study:**

2 The TGS study demonstrates that, in the event of a LIL bipole outage, there are  
3 transmission constraints and/or a lack of generation capacity, available in certain scenarios  
4 to meet customer load. Does Hydro continue to be of the opinion that under frequency  
5 load shedding is the solution for such situations? In the response indicate the maximum  
6 period of time Hydro believes load shedding will need to be utilized while the LIL is non-  
7 operational.

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9 A. Under frequency load shedding (employing fast active protective relays) is used to ensure  
10 the transient stability of the transmission system in response to disturbances and is  
11 activated automatically when system frequency drops below particular thresholds.  
12 However, load can be manually curtailed or interrupted when there is a shortfall in  
13 generation capacity, or to avoid thermal overloads or low-voltage conditions on the  
14 transmission system. Newfoundland and Labrador Hydro (“Hydro”) has therefore  
15 interpreted this question to relate to load shedding (or load curtailment) from a steady  
16 state point of view, rather than from a transient perspective.

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18 Since a prolonged outage of the Labrador-Island Link (“LIL”) bipole would be considered a  
19 rare event, as discussed in Hydro’s response to PUB-NLH-072, load curtailment is one of the  
20 technically viable solutions available to mitigate generation capacity shortfalls and  
21 transmission constraints, in the unlikely event they should occur. However, as noted in its  
22 response to PUB-NLH-064, Hydro has not yet made a determination with respect to which  
23 of the identified solutions is preferred. Hydro’s final recommendations will consider the  
24 balance of cost and reliability and will be provided to the Board of Commissioners of Public  
25 Utilities and Parties for discussion.

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27 Calculation of the duration of load curtailment that will be required in the event of a LIL  
28 outage is beyond the scope of the Avalon Capacity Study<sup>1</sup> and will be addressed as part of

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<sup>1</sup> “Solutions to Serve Island Demand During a LIL Bipole Outage,” TransGrid Solutions, May 23, 2019.

1 the “Reliability and Resource Adequacy Study.” However, the conclusion of the Avalon  
2 Capacity Study indicates that, assuming generation capacity is available and depending on  
3 how reliability criteria are applied, the transmission system can be operated such that load  
4 curtailment may not be required due to Avalon transmission system constraints in the  
5 event of a LIL bipole outage.

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7 It is worth noting that the Avalon Capacity Study focuses solely on the transmission  
8 constraints following a prolonged outage of the LIL, and not on the availability of  
9 generation capacity. The results of the Avalon Capacity Study serve as an input to the larger  
10 analysis relating to reliability and resource adequacy.