

1 Q. **Reference: Assessment of Labrador Island Transmission Link (LIL) Reliability in Consideration**
2 **of Climatological Loads, March 10, 2021 (Haldar Report) by Dr. Asim Haldar, Ph.D., P. Eng.**

3 In letters dated April 30, 2021 and July 30, 2021 Hydro provided its plan and update on the plan
4 to address recommendations in the Haldar Report. Please provide an update on the plan and
5 the current status of Hydro’s work to address the recommendations.

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8 A. Newfoundland and Labrador Hydro (“Hydro”) previously identified four areas (Activities 1–4) for
9 which additional analysis would be completed, as outlined in Table 1. The analysis for each is
10 complete and the interpretation of the results is underway. Through its previous
11 correspondence, Hydro had also noted three additional areas of consideration (i.e., Progressive
12 Tower Analysis, Extreme Event Correlation, and Event Tree Analysis). As noted in Table 1, the
13 analysis related to the Extreme Event Correlation (Activity 5) has also been completed.
14 Compilation and interpretation of the results of the analyses completed is currently underway.
15 Hydro anticipates submitting the results of its work to the Board of Commissioners of Public
16 Utilities in Q4 2021.

Table 1: Additional Considerations – LIL Reliability Assessment

Activity	Description	Status
1 Unbalanced Ice	Analysis to consider specified load case for unbalanced ice loading for the Labrador section of the Labrador-Island Link (“LIL”).	
2 Wind Speed Up	Complete terrain models for the entire LIL to determine if there are any potential hot spots with respect to wind speed up as a result of the sloping terrain that have not been previously identified.	
3 Pole Conductor Size	Analysis of critical towers in various segments of the LIL to determine how the pole conductor size will impact reliability and offset other issues such as unbalanced loading and wind speed up effects.	Analysis complete for all items. Interpretation of results underway.
4 Combined Wind and Ice	Analysis to understand the effects of using the high range of combined wind and ice factors on the Labrador section of the LIL.	
5 Extreme Event Correlation	Analysis to consider correlation of extreme events between remote regions. PUB-NLH-198 provides commentary with respect to this area of consideration.	

1 As the interpretation of the results with respect to items 1–5 in Table 1 is ongoing, Hydro is not
 2 able to offer commentary on its position with respect to the remaining two areas of
 3 consideration previously identified and included below – Progressive Tower Analysis and Event
 4 Tree Analysis.

- 5 ● Progressive Tower Analysis – this activity is dependent on the results of activities 1–4
 6 outlined in Table 1. This analysis involves evaluating critical segments of the LIL under a
 7 more detailed ultimate limit state scenario based on the above findings. This analysis will
 8 only be completed if throughout the review of the cumulative effects, it is determined that
 9 the towers become the governing factor instead of the cable system.
- 10 ● Event Tree Analysis – investigation of the effects of surpassing the damage limit state
 11 scenario which is not suspected to result in an extended outage and therefore should not
 12 influence Hydro’s system planning requirements. Consideration is being given to the

- 1 operational impacts and methods of risk mitigation; these will be addressed as part of the
- 2 follow on considerations and work related to the failure investigation reports and updates
- 3 to the LIL emergency response plan.
- 4 Hydro's position with respect to these items will be included in its Q4 2021 report.