

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 **pages 88-90.**

4 Dr. Haldar has made a number of recommendations for additional studies and analyses with  
5 respect to the assessment of the probability of failure of the LIL. Explain the priority that, in Dr.  
6 Haldar's opinion, should be given to completing each of the recommended additional analyses.  
7 In the response include whether all are necessary to be completed, in his opinion, to gain a full  
8 understanding of the reliability of the LIL and its probability of failure and which ones are most  
9 likely to have a material impact.

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12 A. *The following response has been provided by Haldar and Associates.*

13 Haldar report identified several "gaps" and eight specific recommendations were made to close  
14 these "gaps". In these eight recommendations, one is on UBI analysis that is considered as  
15 "deterministic" in Haldar Report based on Newfoundland and Labrador Hydro's ("Hydro")  
16 criteria. The three others (Event Tree one, and two on Progressive Collapse on Structures and  
17 foundations) are not being pursued at this stage. The four remaining items that were specifically  
18 identified in the report and may impact Labrador-Island Link ("LIL") reliability directly are: (1)  
19 impact of wind speed-up and identification of these "hot spots"; (2) sensitivity of combined  
20 loads (wind and ice) considering wind speed-up effect and limit loads that LIL can withstand; (3)  
21 impact of revised wind and ice loads due to expected decrease in ice accretion (hence the ice  
22 diameter and load); and (4) the validation of the "hypothesis" of regional independency of four  
23 regions through a high level correlation study of the extreme loads along the LIL line. Hydro at  
24 present is pursuing all these four items and results will be reported once the full assessment has  
25 been made. It is our opinion all these four items need to be completed to provide a quantitative  
26 answer to the baseline values that have been reported in Table 6.2.

1           It was also agreed that once the sensitivity study to these four items is completed, the decision  
2           whether to proceed with some selected analysis of towers/foundation in critical segments will  
3           be done for full progressive collapse analysis.

4           *Newfoundland and Labrador Hydro provides the following additional information.*

5           For the purposes of clarity, Hydro notes that it has previously identified seven areas of  
6           additional consideration as per its correspondence of July 30, 2021.<sup>1</sup> Haldar and Associates  
7           references eight areas of consideration above as it considers the Progressive Tower Analysis to  
8           have two components – one related to towers and one related to foundations – whereas Hydro  
9           categorized this work as one item.

10          Please refer to Hydro’s response to PUB-NLH-202 for further information on the status of each  
11          component of work.

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<sup>1</sup>“Reliability and Resource Adequacy Study Review – Update on Additional Considerations Regarding Labrador-Island Link Reliability Assessment,” Newfoundland and Labrador Hydro, July 30, 2021.