

1 Q. **Reference Application Rev. 1, Volume 2, Upgrade of Worst Performing Distribution Feeders**

2 a. What does Hydro consider to be acceptable SAIDI, SAIFI and CHI levels for a feeder on
3 its system? Please provide a full explanation of the figures along with benchmarking
4 relative to other Canadian utilities.

5 b. What is the expected gain in reliability following implementation if this project is
6 approved by the Board?

7 c. What is the expected impact on reliability if the Board defers the project by a year?
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10 A.

11 a. Newfoundland and Labrador Hydro (“Hydro”) compares its feeder level reliability data (i.e.,
12 SAIDI,¹ SAIFI² and CHI³) to Hydro’s five-year average. It is recognized that in comparing to its
13 own average there will always be worst-performing feeders; however, a capital project is
14 not always required as a result of the worst-performing feeder analysis. Hydro currently
15 does not have a target for these metrics and the Canadian Electricity Association data is not
16 available in a format to complete a comparison to the indices used in this project.⁴

17 In the Upgrade of Worst Performing Distribution Feeders report, Hydro states

18 The top 25 worst-performing feeders on each list are analyzed to identify the
19 root cause of the poor performance. Where necessary, a feeder assessment is
20 completed; this includes a review of current inspection data, overall system
21 design, work completed on past capital projects, and a site visit to confirm data
22 collected. Once the assessment is completed, Hydro will only propose specific
23 capital work that can improve the reliability of the distribution feeder and is
24 justified by inspection data. For example, if an issue causing poor performance
25 was due to an isolated incident or was recently addressed by other capital work,

¹ System Average Interruption Duration Index (“SAIDI”).

² System Average Interruption Frequency Index (“SAIFI”).

³ Customer Hours of Interruption (“CHI”).

⁴ Hydro has not undertaken a jurisdictional scan to obtain a comparison or to determine whether other utilities have standard reliability index levels for capital project justifications.

1 Hydro will not take any capital upgrade action and the feeder is marked for
2 continued monitoring.⁵

3 Hydro's distribution feeders are prioritized based on five-year average reliability indices.
4 Reliability indices are calculated excluding loss of supply outages, planned outages,
5 customer requests and major events to identify the root cause of the poor performance.
6 These indices are specific to Hydro's distribution system.

7 **b.** Distribution reliability depends on a number of factors. The execution of the work detailed
8 in this proposal is expected to improve the reliability of the FHD-L4 and FHD-L5 feeders from
9 the distribution equipment performance perspective, reduce the number of power outages
10 due to equipment failures, and decrease the number of affected customers for a single
11 power outage for FHD-L5.

12 **c.** Deferral of this project would create a growing backlog of deficiencies that would present an
13 increased risk to distribution system reliability thus potentially impacting customer service
14 and have a negative impact on future costs.

⁵ "2021 Capital Budget Application," Newfoundland and Labrador Hydro, rev 1, August 7, 2020 (originally filed August 4, 2020), vol II, tab 21, at p. 1/22-24 to p. 2/1-5.