

1 Q. **Reference: Volume II, Distribution System Upgrades (2020 – 2021) – Various, Tab 10, page 1,**
2 **lines 7 to 10**

3
4 Hydro uses Customer Hours of Interruption (“CHI”), System Average
5 Interruption Frequency Index (“SAIFI”), and System Average Interruption
6 Duration Index (“SAIDI”) to identify poor reliability performing feeders, known
7 as “Worst Performing Feeders.”
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9 Is Hydro aware of any other Canadian utilities that use CHI to identify its worst performing
10 feeders? If yes, please provide a list of those utilities.
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13 A. Newfoundland and Labrador Hydro (“Hydro”) has not conducted any surveys regarding
14 reliability indices usage among other Canadian utilities.
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17 A survey conducted by the Canadian Electricity Association Service Continuity Committee has
18 been published in a working group whitepaper “Worst Performing Feeders” (“Paper”).¹ The
19 survey indicates that 81% of respondent utilities identified worst performing feeders. Of this
20 group, over 65% used only one method to identify worst performing feeders. The Paper states:
21 “the majority of utilities worldwide look at the SAIDI and SAIFI (including SAIFI-Momentary)
22 values per feeder (or FAIDI and FAIFI) and identify the worse performing feeders based on the
23 worse values.”

24

25 The Paper also states:

26

27 One of the drawbacks of selecting feeders based on the FAIDI/FAIFI method is
28 that it looks at the feeder level indices and ignores the impact the feeder has on
29 overall system reliability indices; directing resources on these feeders will not
30 significantly improve the system level statistics.

31

32 The WPF feeder method based on outage duration, number of customers
impacted and the total number of outages (including the momentary outages)

¹ Service Continuity Committee: A New Measures Working Group Whitepaper, “Worst Performing Feeders,” Canadian Electricity Association.

1 ranks the feeder based on the overall impact to the system statistics and can lead
2 to ignoring smaller feeders with chronic issues. It is proposed that a blended
3 approach be adopted when selecting the Worst Performing Feeders.
4

5 CHI² ranks the feeder based on the impact the feeder reliability has on overall corporate
6 reliability indices; executing capital upgrades on these feeders will improve the corporate level
7 statistic. For that reason, Hydro uses CHI, in conjunction with SAIDI³ and SAIFI,⁴ to rank the
8 feeders for capital investment.

² Customer Hours of Interruption (“CHI”).

³ System Average Interruption Duration Index (“SAIDI”).

⁴ System Average Interruption Frequency Index (“SAIFI”).