

1 Q. **Reference: CA-NLH-077**

2 It is stated “Hydro notes that this program is not justified on the basis of SAIDI and SAIFI  
3 improvements; it is justified based on the feeders’ deteriorated condition. If the refurbishment  
4 work is not completed, the condition of the assets will continue to deteriorate, resulting in  
5 unscheduled power outages. Therefore, this program is proposed to mitigate that risk and  
6 provide reliable service to the customers through preventive maintenance initiatives instead of  
7 corrective maintenance after the fact.”

8 a) Do SAIDI and SAIFI statistics relate to unscheduled power outages?

9 b) Are SAIDI and SAIFI statistics commonly used to reflect service reliability in the industry?

10 c) Are the SAIDI and SAIFI statistics for these feeders over the past 5 years comparable to  
11 Hydro’s system averages?

12 d) Does Hydro believe that one sign of deteriorating infrastructure is deteriorating SAIDI and  
13 SAIFI statistics for customers served by the deteriorating infrastructure?

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16 A. a) Yes, the SAIDI<sup>1</sup> and SAIFI<sup>2</sup> statistics provided in Newfoundland and Labrador Hydro’s  
17 (“Hydro”) response to CA-NLH-077 of this proceeding relate to unscheduled power outages.

18 b) Yes, SAIDI and SAIFI statistics are commonly used to reflect service reliability in the industry.

19 c) Please refer to Table 1, which provides the five-year average reliability data for Bottom  
20 Waters Line 4 (“BWT-L4”), St. Brendan’s Line 1 (“SBN-L1”) as well as Hydro’s average for  
21 comparison.

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<sup>1</sup> System Average Interruption Duration Index (“SAIDI”). SAIDI indicates the System Average Interruption Duration Index for customers served per year, or the average length of time a customer is without power in the respective distribution system per year. This index is calculated excluding loss of supply outages, planned outages, customer requests, and major events.

<sup>2</sup> System Average Interruption Frequency Index (“SAIFI”). SAIFI is the System Average Interruption Frequency Index per year, which indicates the average of sustained interruptions per customer served per year, or the average number of power outages a customer has experienced in the respective distribution system per year. This index is calculated excluding loss of supply outages, planned outages, and customer requests.

**Table 1: Five-Year Average Reliability Data for BWT-L4, SBN-L1 and Hydro’s average (2018–2022)**

<b>Location</b>	<b>SAIDI</b>	<b>SAIFI</b>
SBN-L1	5.43	0.31
BWT-L4	2.22	1.38
<b>Hydro Average</b>	<b>4.41</b>	<b>1.79</b>

1 SBN-L1 is experiencing below average SAIDI performance and above average SAIFI  
2 performance in comparison to Hydro’s average. BWT-L4 reliability performance is above  
3 average in comparison to Hydro’s average for both SAIDI and SAIFI indices. Hydro again  
4 notes that this program is not being proposed as a result of historically poor reliability  
5 performance of the distribution feeders; rather to address deteriorated assets (i.e., poles,  
6 crossarms, transformers, and conductors).

7 **d)** Yes, Hydro believes that the deteriorated infrastructure can lead to unplanned power  
8 outages upon their failure if they are not addressed in a timely manner, which in turn will  
9 negatively affect SAIDI and SAIFI statistics.

10 The components selected for replacement have been identified as being at, or close to, the  
11 end of their useful service lives. The continued deterioration of the components identified  
12 for replacement creates a risk of line component failure. Failure of such components will  
13 negatively affect the reliability performance of the line, potentially resulting in unplanned  
14 power outages to customers. These line components also create safety hazards, specifically  
15 the danger of working on or around deteriorated poles.