

1 Q. **Reference: Application, Upgrade of Worst-performing Distribution Feeders (2023-2024)**

2 a) Does Hydro consider FHD-L1 SAIFI and CHI performance of 1.9 and 1864, respectively, as  
3 poor relative to its average feeder performance of 1.68 and 1188, respectively? Are such  
4 levels of performance not somewhat normal on the distribution system?

5 b) Does the fact that FHD-L1 results in subsequent outages to dependant feeders FHD-L4, FHD-  
6 L5, and FHD-L6 imply that FHD-L1 is not a feeder, bur rather a distribution supply line?

7 c) Did Hydro consider back-up supply alternatives that are environmentally friendly?

8 d) Why were sections of this feeder built with ACSR given the corrosion problem?

9 e) How many complaints about reliability has Hydro received in recent years from customers  
10 served by this feeder?

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13 A. a) The program proposing the upgrade of Farewell Head Line 1 (“FHD-L1”)<sup>1</sup> is not proposed as  
14 a result of its SAIFI<sup>2</sup> and CHI<sup>3</sup> performance. FHD-L1 is included as one of Newfoundland and  
15 Labrador Hydro’s (“Hydro”) worst-performing feeders primarily from a SAIDI<sup>4</sup> perspective,  
16 with SAIFI and CHI values also being above the Hydro average.

17 The SAIDI of FHD-L1 is 10.65, which is more than 2.5 times the Hydro average. FHD-L1 has  
18 been prioritized based on SAIDI and the proposed project has been justified based on asset  
19 condition assessment.

20 b) FHD-L1 supplies power to FHD-L4,<sup>5</sup> FHD-L5,<sup>6</sup> and FHD-L6<sup>7</sup> via the Fogo Substation. In  
21 addition, FHD-L1 also supplies power to approximately 243 customers, including 1 fish plant.  
22 Therefore, FHD-L1 is identified as a distribution feeder.

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<sup>1</sup> “2023 Capital Budget Application,” Newfoundland and Labrador Hydro, July 13, 2022, vol. II, prog. 14.

<sup>2</sup> System Average Interruption Frequency Index (“SAIFI”).

<sup>3</sup> Customer Hours of Interruption (“CHI”).

<sup>4</sup> System Average Interruption Duration Index (“SAIDI”).

<sup>5</sup> Farewell Head Line 4 (“FHD-L4”).

<sup>6</sup> Farewell Head Line 5 (“FHD-L5”).

<sup>7</sup> Farewell Head Line 6 (“FHD-L6”).

1           **c)** A feeder assessment identified that the reliability experienced by the customers serviced by  
2           feeder FHD-L1 was impacted by equipment failures, such as corroded switches, insulator  
3           failures, and broken conductor incidents. Backup supply alternatives would not address  
4           these deficiencies; therefore, it would not be a suitable alternative to address the poor  
5           reliability issues.

6           For additional information on Hydro’s assessment of non-wires alternatives and distributed  
7           energy resources, please refer to Hydro’s response to CA-NLH-092 of this proceeding.

8           **d)** Part of the FHD-L1 feeder was originally constructed in the 1960s and was connected to the  
9           grid through a submarine cable system in 1988. At the time of line construction, the ACSR<sup>8</sup>  
10          corrosion problem was unknown; it was a standard conductor used to build FHD-L1.

11          **e)** Hydro does not capture or track data related to customer complaints about reliability by  
12          feeder. Customer contact tracking does not include the overall level of reliability of service.

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<sup>8</sup> Aluminium conductor steel-reinforced cable (“ACSR”).