

1 Q. **Reference: Program 3 - Terminal Station Renewal Program (2023-2024)**

2 Hydro states on page 2, line 14, that the instrument transformers should be replaced because  
3 the risk of failure is too high for them to remain in service.

4 a) Have these instrument transformers failed in the past and, if so, what failure mechanism  
5 was exhibited?

6 b) If they have not failed how has Hydro determined that it is too risky to leave them in  
7 service?

8 c) Does Hydro need to employ any protection for surrounding equipment should they fail? If  
9 so, please provide details.

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12 A. a) None of the instrument transformers planned for replacement within the Terminal Station  
13 Renewal Program (2023–2024) have failed in the past.

14 b) Newfoundland and Labrador Hydro (“Hydro”) targets the replacement of instrument  
15 transformers at 40 years of age to reduce the risk of in-service failures and minimize service  
16 interruptions. This is in line with the original manufacturer’s recommendations and Hydro’s  
17 experience. All instrument transformers proposed as part of Hydro’s 2023 Capital Budget  
18 Application meet this age criterion. For more information, please refer to the Terminal  
19 Station Asset Management Overview, Version 7.<sup>1</sup>

20 c) Hydro does not employ any protection for surrounding equipment to mitigate against an  
21 instrument transformer catastrophic failure, as these failures are rare. Hydro investigates  
22 such failures and implements mitigation to minimize the risk of future failures. The most  
23 recent catastrophic failure of an instrument transformer was at the Holyrood Terminal  
24 Station in 2010. As a result of this investigation, Hydro updated its specification to not  
25 accept hairpin-type current transformers going forward. Additionally, Hydro updated its

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<sup>1</sup> “2023 Capital Budget Application,” Newfoundland and Labrador Hydro, July 13, 2022, vol. II, prog. 3, att. 1.

- 1 long-term plan to have the same make and model removed from its system in a planned
- 2 approach.