

1 Q. **Reference: Project 6 Replace Interconnect Microwave Radios (2025), page 2.**

2 Hydro states that this project will replace the functionality of the interconnect radio system and
3 upgrade available bandwidth by establishing a new fibre-optic transport link between the
4 eastern and western microwave radio systems on fibres contained in the Labrador-Island Link
5 (“LIL”) Optical Ground Wire (“OPGW”) cable.

6 a) Does the use of the LIL OPGW to provide connectivity to terminal stations and
7 generating stations on the Island create a risk to reliability if a structure failure on the
8 LIL damages the OPGW? For example, if the OPGW were damaged by a LIL structure
9 failure along the section of line where the fibres are shared, would critical systems like
10 SCADA data and transmission line protection on the Island Interconnected System be
11 compromised?

12 b) Has Hydro explored fibre optic cable alternatives other than the fibre optic OPGW
13 solution proposed? If yes, please provide details. If not, why not?

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16 A. a) As stated in the project proposal:

17 In the event that a radio on the interconnect system were to fail, either through
18 a failure of the radio itself or as a result of failed support equipment, Hydro’s
19 transport network would be impacted. In the case of the interconnect radio
20 system, this would cause a loss of connectivity between the Eastern and
21 Western microwave systems, resulting in a loss of primary connectivity. Some
22 traffic would revert to backup circuits and teleprotection would revert to single-
23 link operation.¹

24 An Optional Ground Wire (“OPGW”) failure along the interconnect replacement section
25 would have the same impact as a microwave failure at any of the interconnect sites. Both
26 would lead to the scenario described above, where some traffic would revert to its backup
27 circuits, and teleprotection would revert to single-link operation. Replacing the interconnect

¹ “2025 Capital Budget Application,” Newfoundland and Labrador Hydro, July 16, 2024, sch. 7, proj. 6, p. 2/17–21.

1 radio system using the OPGW will result in no change to network operation during a fault of
2 the OPGW fibre with respect to a fault on the interconnect radio.

3 **b)** No, Newfoundland and Labrador Hydro (“Hydro”) has not explored fibre optic cable
4 alternatives other than the fibre optic OPGW solution, as Hydro has not identified any viable
5 alternatives to facilitate a least-cost evaluation. While Hydro acknowledges that there has
6 been OPGW downtime associated with localized tower peak failure during icing events
7 throughout the early operation of the Labrador-Island Link (“LIL”), Hydro has investigated or
8 is in the process of investigating the root cause of each component failure and has
9 committed to the evaluation of engineering design solutions to address unbalanced ice
10 loading on the LIL tower structures.