

1 Q. **Reference: Volume I, 2020-2024 Capital Plan, page 9, lines 1 to 2**

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3 Gensets in various isolated diesel plants, with a planned project to replace units
4 in Hopedale and St. Brendan's starting in 2021.
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6 Has Hydro recently considered alternatives to connect Isolated Systems, such as those in
7 Hopedale or St. Brendan's, to the Labrador Interconnected or Island Interconnected systems? If
8 yes, please provide details, including any lifecycle cost analysis, of the alternatives considered. If
9 not, why not?

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12 A. Newfoundland and Labrador Hydro ("Hydro") performed a high-level desktop analysis with
13 respect to the interconnection of isolated systems in Labrador in 2016. The estimates from that
14 analysis indicate that the regional interconnection of all isolated communities in northern
15 Labrador would cost approximately \$1.3 billion and that the regional interconnection for all
16 isolated communities in southern Labrador would cost approximately \$800 million. Hydro has
17 not pursued this initiative beyond the development of these preliminary estimates due to the
18 capital cost of interconnection of Isolated Systems. Hydro does not consider interconnection as
19 a viable option when considering engine overhauls or genset replacements.

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21 Preliminary estimates for interconnection included aspects such as new terminal stations and
22 transmission or distribution line extensions. At a screening level, representative costs for these
23 aspects may be approximated at \$5 million for a new terminal station, over \$500,000 per km of
24 new transmission line, and over \$150,000 per km of new distribution line. Interconnections for
25 locations such as St. Brendan's are additionally complicated as the supply and installation of
26 submarine cables must also be considered.

27

28 Hydro gives consideration to the interconnection of an isolated community if diesel
29 replacements or additions were complicated by factors that would result in significant capital
30 costs, such as requirements for plant extensions or refurbishments. In cases where
31 complications render continued isolated capital and operating and maintenance costs

- 1 comparable to screening level cost estimates for interconnections, interconnection alternatives
- 2 would be further developed as a potential lowest cost solution consistent with reliable service.