Q. **Reference: Attachment 1- Long-Term Supply for Southern Labrador - Economic and Technical Assessment**

Did Hydro complete a sensitivity analysis considering advancement of the replacement schedule for Mary's Harbour and St. Lewis (e.g., due to a fire or genset failure) or, alternatively, delay of the replacement schedule for Mary's Harbour and St. Lewis (i.e., in the event that they remain operational beyond 2030 and 2045)? If yes, please provide details. If no, please provide the rationale for not doing so.

A. This sensitivity analysis considering advancement of the replacement schedule for Mary's Harbour and St. Lewis was not specifically performed as, mathematically, it would further favor the interconnected alternatives. This is because the large capital investment associated with replacing a diesel generating station earlier than anticipated would increase the cumulative present worth ("CPW") for the alternatives in which the individual, community-based isolated diesel generating station replacements are scheduled (Alternatives 1[1] and 2[2]).

As the Class 3 capital cost estimate for the two alternatives for interconnection (Alternatives 3a[3] and 3b[4]) determined them to be equivalent from a net present value perspective,[5] it is possible that the advancement of the replacement schedule for Mary's Harbour and St. Lewis could make full interconnection (Alternative 3b) a more favorable option from a net present value perspective. However, as noted in Newfoundland and Labrador Hydro's ("Hydro") application,[6]

[1] Alternative 1 requires upgrades to the existing mobile generating units in 2023 to address existing deficiencies, as well as the replacement of diesel generating stations in Mary's Harbour in 2030, Port Hope Simpson in 2035, and St. Lewis in 2045.
[2] Alternative 2 requires replacement of diesel generating stations in Charlottetown in 2024, Mary's Harbour in 2030, Port Hope Simpson in 2035, and St. Lewis in 2045.
[3] Alternative 3a is for the phased interconnection of the southern Labrador communities with Phase 1 interconnecting Charlottetown to a regional diesel generating station located in Port Hope Simpson in 2024, Phase 2 interconnecting Mary's Harbour in 2030, and Phase 3 interconnecting St. Lewis in 2045.
[4] Alternative 3b is for the interconnection of all four southern Labrador communities at the same time with estimated completion in 2024.
[5] "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, p. 10, table 2.
[6] "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, p. 10/13–20.

full interconnection has a higher execution risk when compared to phased interconnection. This is because a phased approach to interconnection will allow Hydro to revise its economic analysis following completion of Phase 1 and assess changes in load forecasts in its evaluation of the timing and scope of future phases, as required. Additionally, the phased approach to interconnection also balances the short-term revenue requirement impacts with the long-term reduction of revenue requirements expected from interconnection of the southern Labrador communities.

The deferral of diesel plant replacements would be comparable to Case 10 in Hydro's sensitivity analysis.[7] This case states that there would have to be at least an 80% reduction in capital costs of future diesel plants or a greater than 20-year deferral of planned diesel generating station replacements for Alternative 1 to be the preferred option.

Based on the above, it can be concluded that either the advancement or practical deferral of diesel plant replacements would result in an interconnected solution being more economically favorable than the continued operation of individual community-based isolated diesel systems.

[7] "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, p. 10/8–20.