

- 1 Q. a) What is the total 2022 proposed capital expenditure for Mary’s Harbour?
- 2 b) Please reconcile these expenditures with the proposed expenditures associated with Mary’s
- 3 Harbour in Hydro’s proposed long-term supply plan for southern Labrador.

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- 6 A. The total 2022 proposed expenditure for Mary’s Harbour is \$1,605,200 as detailed in Table 1.

Table 1: Total 2022 Proposed Expenditure for Mary’s Harbour (\$000)

Project	Proposed Expenditure
Additions for Load (2022) – Distribution System – Mary's Harbour Voltage Conversion ¹	550.6
Additions for Load (2022) – Mary's Harbour Service Conductor ²	307.8
Upgrade Fuel Storage Tanks (2022) – Mary's Harbour	499.1
Overhaul Diesel Units (2022) – Various (Mary’s Harbour Portion) ³	247.7
Total	1,605.2

- 7 Table 2 provides an overview of how the costs associated with each of the Mary’s Harbour
- 8 projects are reflected in Hydro’s cost-benefit analysis for its Long-Term Supply for Southern
- 9 Labrador – Phase 1 application.⁴

¹ This is a two-year project with expenditures of \$524,600 in 2023.

² This is a two-year project with expenditures of \$51,300 in 2023.

³ This expenditure reflects only the portion related to the overhaul of a diesel unit in Mary’s Harbour; this expenditure is contained within the Overhaul Diesel Units project which has a total estimated capital spend of \$1,360,500.

⁴ “Long-Term Supply for Southern Labrador – Phase 1,” Newfoundland and Labrador Hydro, July 16, 2021.

**Table 2: Comparison of Project Costs Reflected in the
Long-Term Supply for Southern Labrador – Phase 1 Application (\$000)**

Project	Alternative 1 ⁵	Alternative 2 ⁶	Alternative 3a ⁷	Alternative 3b ⁸
Additions for Load (2022) – Distribution System – Mary's Harbour Voltage Conversion ⁹	-	-	1,142.9	1,142.9
Additions for Load (2022) – Mary's Harbour Service Conductor	-	-	-	-
Upgrade Fuel Storage Tanks (2022) – Mary's Harbour	500.0	500.0	250.0	-
Overhaul Diesel Units (2022) – Various (Mary's Harbour Portion)	-	-	-	-

1 **Additions for Load (2022) – Distribution System – Mary's Harbour Voltage Conversion**

2 This project is being proposed to address voltage concerns following the addition of a new, large
3 customer to the system. Regardless of whether the Long-Term Supply for Southern Labrador –
4 Phase 1 application is approved, the voltage concerns in Mary's Harbour must be addressed.
5 However, the least-cost solution to this alternative may differ based on whether the regional
6 interconnection of the southern Labrador communities proceeds. On the basis that Hydro
7 proceeds with the regional interconnection of the southern Labrador communities, the
8 proposed voltage conversion is the least-cost option, as it will be required as part of Phase 2 of
9 the project to connect Mary's Harbour in 2030.¹⁰ This is reflected in the interconnected options
10 (Alternatives 3a and 3b) of Hydro's cost-benefit analysis for the Long-Term Supply for Southern
11 Labrador – Phase 1 application, as shown in Table 1. Completing the voltage conversion as

⁵ Alternative 1 is for the continued use of mobile generation in Charlottetown with capital upgrades to address some of the known deficiencies with the use of mobile generation in this region. In this scenario, the southern Labrador communities would remain isolated from each other.

⁶ Alternative 2 is for the replacement of the Charlottetown Diesel Generating Station. In this scenario, the southern Labrador communities would remain isolated from each other.

⁷ Alternative 3a is for the phased interconnection of Charlottetown, Port Hope Simpson, Mary's Harbour (Phase 2 – 2030), and St. Lewis (Phase 3 – 2045).

⁸ Alternative 3a is for immediate interconnection of Charlottetown, Port Hope Simpson, Mary's Harbour, and St. Lewis.

⁹ An estimate of \$1.14 million was reflected in Alternatives 3a and 3b for this work. Upon refinement of this estimate as part of the 2022 Capital Budget Application, Hydro concluded that the cost of the voltage conversion would be approximately \$1.08 million. There is no estimate for this work reflected in the scenarios where the southern Labrador communities remain isolated (Alternatives 1 and 2) because without the interconnection, there is no impact to the amount of fault current available and the voltage conversion would not be required.

¹⁰ It will be required to maintain the amount of fault current available on the distribution system following the regional interconnection.

1 proposed in Hydro’s 2022 Capital Budget Application (“CBA”) will remove it from the Phase 2
2 work scope. If the Long-Term Supply for Southern Labrador – Phase 1 application does not
3 receive approval by the Board of Commissioners of Public Utilities, Hydro will reassess its
4 approach to resolving the voltage concerns in Mary’s Harbour and propose the least-cost
5 solution.

6 **Additions for Load (2022) – Mary’s Harbour Service Conductor**

7 The cost of the service conductor upgrade was not included in the southern Labrador cost-
8 benefit analysis because this analysis was largely finalized before Hydro became aware of the
9 need for a service conductor upgrade. This project is required regardless of the long-term plan
10 for southern Labrador.

11 **Upgrade Fuel Storage Tanks (2022) – Mary’s Harbour**

12 In its cost-benefit analysis for the Long-Term Supply for Southern Labrador – Phase 1
13 application, Hydro assumed tank replacement for the isolated alternatives (Alternatives 1 and 2)
14 and inspection for the phased interconnection (Alternative 3a) on the basis that a tank
15 inspection would be the least-cost alternative given the plan to interconnect Mary’s Harbour in
16 2030. However, when the detailed cost-benefit analysis comparing the cost of a tank inspection
17 to the cost of a tank replacement was completed for the 2022 CBA, Hydro determined that the
18 cost of tank inspection was materially higher¹¹ than previously expected and that a tank
19 replacement was the least-cost alternative. Neither replacement nor inspection were reflected
20 in the full interconnection option (Alternative 3b) as the tanks in Mary’s Harbour would not be
21 required.

22 **Overhaul Diesel Units (2022) – Various (Mary’s Harbour Portion)**

23 The cost of the diesel unit overhaul was not included in the southern Labrador cost-benefit
24 analysis because it is required under all four alternatives. Even if Mary’s Harbour were to be
25 interconnected to the southern Labrador interconnection in 2024 (Alternative 3b), the diesel

¹¹ The detailed cost estimate for a tank inspection in Mary’s Harbour developed as part of Hydro’s 2022 CBA was approximately \$700 thousand compared to the high-level cost estimate developed as part of Hydro’s long-term supply plan for southern Labrador of \$250,000.

- 1 unit overhaul would still be required to ensure the unit could operate reliability until the
- 2 interconnection is complete.