

1 Q. **Reference: Schedule 5 2024 Capital Expenditures Overview, pages 14.**

2 Hydro has determined that the planned 1,067 kW, 1,200 rpm genset was larger than required
3 and a genset sized between 700 kW and 850 kW at 1,800 rpm is sufficient. Please describe how
4 Hydro determined that the smaller genset was adequate and how the smaller genset will still
5 allow for the necessary contingencies under various operating conditions to be met.

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8 A. Newfoundland and Labrador Hydro's ("Hydro") original capital budget proposal for this
9 program¹ included the evaluation of four alternative genset sizes (545 kW, 725 kW, 945 kW and
10 1,067 kW) to replace the existing 545 kW Unit 2053 at the Hopedale Diesel Generating Station.
11 All four of these genset sizes would satisfy the firm capacity criteria for Hopedale. The largest of
12 the four units was originally selected as the least-cost alternative based on the cumulative net
13 present value analysis which considered total life cycle costs.

14 Following approval of the program,² Hydro tendered for the procurement of the new 1,067 kW
15 genset, and the bid price was approximately \$300,000 more than the original budget estimate.
16 This prompted Hydro to re-evaluate the least-cost alternative for this project. An updated
17 analysis concluded that a genset between 700 kW and 850 kW at 1,800 rpm is now the least-
18 cost alternative by a significant margin. Hydro tendered for the procurement of this smaller
19 genset and a new 780 kW genset has been ordered.

20 As per the most recent Labrador Isolated Load Forecast completed in spring 2024, the gross
21 peak load in Hopedale is forecast to grow to 1,529 kW in 2033. Upon replacement of Unit 2053
22 with the 780 kW genset, the firm capacity in Hopedale will become 1,797 kW, allowing Hydro to
23 meet its firm capacity requirements for the forecast period.³

¹ "2023 Capital Budget Application," Newfoundland and Labrador Hydro, July 13, 2022, vol. II, prog. 5.

² Board Order No. P.U. 2(2023).

³ Four units will be installed at capacities 569 kW, 448 kW, 780 kW, and 1,076 kW. The firm capacity assumes the unavailability of the largest unit (569 kW + 448 kW + 780 kW + 1,076 kW – 1,076 kW = 1,797).