

- 1 Q. Hydro's correspondence dated October 5, 2023, Attachment 1, Midgard Consulting Inc's Report,
2 page 19 of 74, Table 5 lists the capital cost of replacing each of the diesel generating stations.
3 Midgard confirmed that "the costs are in line with its own observations of the market and notes
4 that these costs are in many cases significantly higher than projected in the model generated in
5 late 2022 for the IRP."
- 6 a) Please describe the process by which Hydro's updated costs were vetted by Midgard in
7 arriving at the conclusion that the costs are in line with its own observations (e.g., a
8 survey of vendors, review of recent tenders for similar work, etc.).
- 9 b) In response to PUB-NLH-054, Hydro stated that the cost of the regional diesel plant was
10 estimated at \$49 million. Table 5 lists the updated cost of the regional diesel plant as
11 \$49 million. Please confirm that the cost of the regional diesel plant has not increased
12 from the estimate provided in late 2022 for the IRP. If not confirmed, please explain.
- 13 c) Original Application dated July 16, 2023, Attachment 1, page 33, Table 7. The capital
14 cost of replacing the Charlottetown diesel generating station ("DGS") is listed as \$21.4
15 million. Please confirm the capital cost estimate that was used by Midgard for the
16 Charlottetown DGS replacement in its March 28, 2023 Southern Labrador Communities -
17 Integrated Resource Plan report and explain the reasons for any changes to that
18 estimate in comparison to the Midgard's updated estimate of \$40.4 million shown in
19 Table 5.
- 20 d) Original Application dated July 16, 2023, Attachment 1, page 33, Table 7. The capital
21 cost of replacing the Mary's Harbour DGS is listed as \$18.9 million. The spreadsheet
22 (worksheet Option A_H, cell P11) included in Hydro's response to PUB-NLH-081
23 indicates a capital cost of just under \$24 million for the replacement of the Mary's
24 Harbour DGS. Please confirm or clarify the capital cost estimate that was used by
25 Midgard for the Mary's Harbour DGS replacement in its March 28, 2023 Southern
26 Labrador Communities - Integrated Resource Plan report and explain the reasons for
27 any changes to that estimate in comparison to the Midgard's updated estimate of \$37.4
28 million shown in Table 5.
- 29 e) Original Application dated July 16, 2023, Attachment 1, page 33, Table 7. The capital
30 cost of replacing the Port Hope Simpson DGS is listed as \$17.0 million. The spreadsheet

1 (worksheet Option A_H, cell P16) included in Hydro’s response to PUB-NLH-081
2 indicates a capital cost of just under \$20 million for the replacement of the Port Hope
3 Simpson DGS. Please confirm or clarify the capital cost estimate that was used by
4 Midgard for the Mary’s Harbour DGS replacement in its March 28, 2023 Southern
5 Labrador Communities - Integrated Resource Plan report and explain the reasons for
6 any changes to that estimate in comparison to the Midgard’s updated estimate of \$37.3
7 million shown in Table 5.

8 **f)** Original Application dated July 16, 2023, Attachment 1, page 33, Table 7. The capital
9 cost of replacing the St. Lewis DGS is listed as \$14.2 million. The spreadsheet (worksheet
10 Option A_H, cell P26) included in Hydro’s response to PUB-NLH-081 indicates a capital
11 cost of just under \$16 million for the replacement of the Port Hope Simpson DGS. Please
12 confirm or clarify the capital cost estimate that was used by Midgard for the Mary’s
13 Harbour DGS replacement in its March 28, 2023 Southern Labrador Communities -
14 Integrated Resource Plan report and explain the reasons for any changes to that
15 estimate in comparison to the Midgard’s updated estimate of \$36.5 million shown in
16 Table 5.

17 **g)** Please explain why the costs associated with the construction of the regional DGS
18 appear to have not increased in comparison to the cost estimate previously supplied in
19 Midgard’s late 2022 IRP analyses whereas the construction costs associated with the
20 individual community diesel generating stations appear to have increased significantly.

21
22
23 A. **a)** *This response has been provided by Midgard Consulting Inc. (“Midgard”).*

24 Newfoundland and Labrador Hydro (“Hydro”) provided Midgard with detailed cost
25 estimates, which were examined to determine if the overall configuration was
26 appropriate— with reasonable takeoffs for quantities, areas, and volumes based on
27 Midgard’s experience with similar diesel generating stations in other jurisdictions. Unit rates
28 were reviewed and questions on unit rates (such as gravel costs) were answered by Hydro in
29 line with recent projects in immediate proximity to the planned projects. Several

1 components were cross-checked with existing suppliers, with costs within the bounds of the
2 estimate and generally within 10%. Midgard also evaluated the costs of some longer lead-
3 time components— particularly gensets, transformers, and switchgear— to determine if the
4 percentage escalation was in line with the changes in costs between the earlier estimates
5 (largely from 2019–2020) and the Class 4 estimates (2023). These numbers were further
6 validated by the U.S. Bureau of Labor Statistics sector information, which was used to
7 determine the likelihood that the results shown in the sensitivity analysis could occur
8 (Section 7) and is discussed in detail in Section 7.2 of “Southern Labrador Communities –
9 Integrated Resource Plan – Response to Newfoundland and Labrador Board of
10 Commissioners of Public Utilities Information Request Issued August 1, 2023” (“Midgard
11 Report”).¹

12 **b)** When comparing to the costs provided in late 2022 and used in the Southern Labrador
13 Communities – Integrated Resource Plan (“Midgard IRP”),² filed with the Board of
14 Commissioners of Public Utilities (“Board”) on March 31, 2023,³ the estimate for the
15 regional diesel generating station increased significantly. Midgard utilized Hydro’s original
16 cost estimates provided in Hydro’s Long-Term Supply Study for Southern Labrador:
17 Economic & Technical Assessment (“Economic & Technical Assessment”),⁴ which included
18 \$27.1 million for the regional diesel generating station to complete the Midgard IRP. The
19 \$49 million provided in Hydro’s response to PUB-NLH-054 of this proceeding was derived
20 from the updated Class 3 estimate, submitted as a part of Revision 1 of Hydro’s application
21 on May 31, 2023, subsequent to the completion of the Midgard IRP. There has been no
22 substantial increase in the cost of the building or equipment since the filing of Revision 1 in
23 May 2023 that would impact the \$49 million estimate. Any increases to the overall project
24 budget since that time are related to the delay in the estimated project completion from
25 2027 to 2028, associated internal personnel and consultant costs, as well as interest and

¹ “Newfoundland and Labrador Hydro – 2021 Capital Budget Supplemental Application Approval of the Construction of Hydro’s Long-term Supply Plan for Southern Labrador – Revision 1 – Safe and Reliable Power Supply to Charlottetown – Reply,” Newfoundland and Labrador Hydro, October 5, 2023, att. 1, sec. 7.2, pp. 36–38 of 74.

² “Southern Labrador Communities – Integrated Resource Plan,” Midgard Consulting Inc., March 28, 2023.

³ “Long-Term Supply for Southern Labrador – Phase 1 – Midgard Consulting Inc. Report,” Newfoundland and Labrador Hydro, March 31, 2023, att. 1.

⁴ “Long-Term Supply for Southern Labrador,” Newfoundland and Labrador Hydro, rev. October 5, 2023 (originally filed July 16, 2021), sch. 1, att. 1.

1 escalation impacts for the project. Midgard developed its model based on the Class 5 capital
2 cost estimates from Table 7 of the Economic & Technical Assessment (escalated to 2023
3 costs) in the development of the Midgard IRP. As indicated in the Midgard IRP, “Class 5 cost
4 estimates are considered to be a suitable level of accuracy for this planning study.”⁵
5 Following the receipt of the Midgard IRP, which confirmed immediate interconnection of
6 the communities of southern Labrador with a regional diesel generating station to be the
7 least-cost alternative, Hydro refreshed its Class 3 estimate for the regional diesel generating
8 station and interconnection, as reflected in Revision 1 of its application. In its
9 correspondence to Hydro dated August 1, 2023,⁶ the Board requested Hydro provide
10 updated Class 4 estimates for a series of alternatives; these updated Class 4 estimates are
11 reflected in Table 5 of the Midgard Report.

12 c) In all cases, Hydro’s 2023 Class 4 estimates used Revision 2 of Hydro’s application⁷ are
13 higher than its 2020 Class 5 estimates (filed in Hydro’s original application in July 2021 and
14 used in the Midgard IRP); these higher costs are attributed to:

- 15 ● Estimate refinement from Class 5 to Class 4, which requires greater project definition
16 and front-end engineering design;
- 17 ● Inflationary pressure, tightened labour markets, and supply chain challenges,
18 experienced globally since the development of the original Class 5 estimates in 2020;
19 and
- 20 ● Changes in the project schedule impacting interest and escalation.

21 Hydro notes that in parts d) to f) of this request for information, the Board has attempted to
22 derive diesel generating station replacement costs from the spreadsheet provided in
23 Hydro’s response to PUB-NLH-081 of this proceeding. PUB-NLH-081, Attachment 1, Tab
24 “Option A_H” reflects the cumulative present value (“CPV”) of discounted future costs,
25 which includes all capital and operating costs associated with each alternative, including fuel

⁵ “Long-Term Supply for Southern Labrador – Phase 1 – Midgard Consulting Inc. Report,” Newfoundland and Labrador Hydro, March 31, 2023, att. 1, p. 76 of 103/17–18.

⁶ “Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Hydro’s Long-term Supply Plan for Southern Labrador - Revision 1 - Safe and Reliable Power Supply to Charlottetown,” Board of Commissioners of Public Utilities, August 1, 2023.

⁷ “Long-Term Supply for Southern Labrador,” Newfoundland and Labrador Hydro, rev. October 5, 2023 (originally filed July 16, 2021).

1 cost; therefore, diesel generating station replacement costs cannot be derived solely from
2 this table by determining the difference in CPV from one year to the next, as appears to
3 have been the case in the figures derived by the Board in this request for information to
4 Hydro.

5 **d)** Please refer to part c) of this response.

6 **e)** Please refer to part c) of this response.

7 **f)** Please refer to part c) of this response.

8 **g)** The cost of the regional diesel generating station has increased significantly when compared
9 to the costs used in late 2022 for the Midgard IRP. Midgard utilized costs from Schedule 1,
10 Attachment 1 of Hydro's original application, filed in July 2021, (escalated to 2023 costs) in
11 the development of the Midgard IRP. Once the Midgard IRP confirmed the regional diesel
12 generating station as the least-cost alternative, Hydro then updated its Class 3 estimate,
13 filed as Revision 1 of the application in May 2023. The estimates for the individual diesel
14 generating stations were not updated at that time, as they were ruled out as least-cost
15 alternatives in the Midgard IRP but were updated to 2023 Class 4 estimates based on the
16 Board's correspondence to Hydro on August 1, 2023. Hydro's response to the Board's
17 request for additional information was filed on October 5, 2023.⁸

⁸ "Newfoundland and Labrador Hydro – 2021 Capital Budget Supplemental Application Approval of the Construction of Hydro's Long-term Supply Plan for Southern Labrador – Revision 1 – Safe and Reliable Power Supply to Charlottetown – Reply," Newfoundland and Labrador Hydro, October 5, 2023.