

1 Q. **Reference: Midgard Consulting March 28, 2023 Report - Southern Labrador Communities –**
2 **Integrated Resource Plan**

3 Table 35, page 84 of 103, shows that Midgard’s Scenario H (Hydro’s Alternative 4:
4 Interconnection to Labrador Interconnected system) as being ranked last among the various
5 scenarios and sub-variants that Midgard analysed over a 25-year study period.

6 a) How long a study period would be required in order for Midgard’s Scenario H to be
7 ranked first? Please provide the analysis and highlight any significant cost or savings
8 milestones over the life of the study period.

9 b) In the event that it is determined that Midgard’s Scenario H could never be ranked first
10 irrespective of timeframe, please detail the primary reasons.

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13 A. *This response has been provided by Midgard Consulting Inc. (“Midgard”).*

14 a) Midgard considered the extension of the planning period to an unlimited period to favour
15 long-life assets to be inappropriate because other foundational inputs, such as load forecast,
16 fuel cost, changes in technologies, etc. become less certain. Midgard acknowledged that
17 long-life assets can be disadvantaged when assessed within the context of shorter relative
18 planning periods. For that reason, the Midgard “Southern Labrador Communities -
19 Integrated Resource Plan” (“Midgard IRP”)¹ assumed a 60-year depreciable life for the
20 Labrador Interconnected System transmission in its modelling. This was captured in the
21 model as a capital benefit of \$273 million in year 2049 to allow for the further useful life of
22 that asset. In order for Scenario H to rank first, that terminal value would have to be
23 modelled as \$617 million capital benefit in 2049, or more than the capital cost of the
24 transmission line itself. Therefore, no extension of the study period would render Scenario H
25 least cost on a net present cost basis.

¹ “Southern Labrador Communities - Integrated Resource Plan,” Midgard Consulting Inc., March 28, 2023.

- 1 **b)** Scenario H is driven by the large capital costs of providing a transmission line. This scenario
2 cannot rank first regardless of the timeline unless the capital costs of all of the other
3 scenarios increase to be comparable to the cost of the transmission line. The cost of
4 maintenance (and replacement) further drive the net present cost regardless of the timeline
5 proposed, particularly since maintenance costs are generally expressed as a percentage of
6 the costs of the assets that are being maintained, so higher value assets have higher
7 maintenance costs.