

1 Q. **Reference: Long-term Supply Plan for Southern Labrador – Revision 2, Schedule 2, page 12,**
2 **lines 3 to 7.**

3 While the scope change from N-2 to N-1 redundancy results in one less unit
4 required for the regional diesel generating station, an additional unit is required
5 for the immediate connection of all communities, which was originally planned
6 for Phase 2. As a result, Hydro will maintain the initial design plan for the
7 regional diesel generating station with six engine bays, to ensure sufficient
8 footprint to accommodate future load growth, and to allow for N-2 redundancy
9 if deemed necessary.

10 a) Given the additional unit required for the immediate connection of all communities and
11 the construction of six engine bays, please explain the difference between the proposed
12 configuration and an N-2 design.

13 b) Please outline the future circumstances which, in Hydro’s opinion, may require N-2
14 redundancy.

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17 A. a) Newfoundland and Labrador Hydro’s (“Hydro”) proposed configuration provides the
18 footprint and engine bay to accommodate a sixth unit but it does not account for the
19 purchase and installation of a sixth unit or its ancillary equipment, which would be required
20 for an N-2 design. While the sixth engine bay does account for some marginal incremental
21 cost in the proposed configuration, the cost of retroactively accommodating a sixth unit
22 would be significantly greater than providing physical space for the unit during original
23 construction.

24 b) N-2 redundancy may be required in the event that actual reliability is materially worse than
25 that calculated and presented in RP-TN-012.¹ Hydro originally proposed the Regional Plant
26 option with an N-2 configuration, which was calculated to provide lower Expected Unserved

¹ “Long-Term Supply for Southern Labrador – Revision 2,” Newfoundland and Labrador Hydro, rev. October 5, 2023 (originally filed July 16, 2021), sch. 1, att. 1, app. C, p. 4, Table 3.

1 Energy (“EUE”)² than the existing southern Labrador systems, on an all-cause basis. In
2 Midgard Consulting Inc.’s (“Midgard”) Southern Labrador Communities - Integrated
3 Resource Plan,³ filed with the Board of Commissioners of Public Utilities on March 31, 2023,⁴
4 Midgard recommended that the Regional Plant be designed for N-1, which would result in
5 marginally greater EUE than the existing configuration, on the basis that mobile generation
6 may be utilized to supplement firm generation in the event of a fixed-unit failure. Hydro
7 accepted this recommendation and revised its application, which now includes the Regional
8 Plant option designed to an N-1 configuration; however, Hydro believes that the marginal
9 incremental cost associated with providing physical space for a sixth unit is prudent, given
10 its recent experience with mobile units and their diminished reliability, as well as supply
11 chain challenges in securing reliable mobile diesel generation. Should all-cause EUE
12 associated with the N-1 configuration be greater than anticipated, Hydro could deploy a
13 sixth unit to reduce all-cause EUE. Hydro also notes that provision for a future sixth unit may
14 also be utilized to accommodate greater than anticipated load growth, particularly in the
15 event of increased industrial load, such as mining.

² EUE is the aggregate amount by which demand exceeds available supply to the customer as a result of planned or unplanned outages.

³ “Southern Labrador Communities - Integrated Resource Plan,” Midgard Consulting Inc., March 28, 2023.

⁴ Long-Term Supply of Southern Labrador – Phase 1 – Midgard Consulting Inc. Report,” Newfoundland and Labrador Hydro, March 31, 2023, att. 1.