

1 Q. **Reference: Reliability and Resource Adequacy Study 2022 Update, Volume III, page 25, lines 1-**
2 **4.**

3 List and describe the final discussion and delineation of the modifications that would be needed
4 to improve the Holyrood start-up reliability and its ability to run reliably for six weeks that were
5 considered, and provide the detailed list of modifications along with the expected benefit to
6 reliability and the cost and schedule for the modifications.

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9 A. The modifications identified in the “HTGS Condition Assessment and Life Extension Study,”
10 (“Holyrood Condition Assessment and Life Extension Study”)¹ Hatch Ltd. (“Hatch”) are those that
11 would be required to reduce the recall time of the units. These modifications are not intended
12 to address start-up reliability.

13 To address start-up reliability as a standby generating facility, Hatch has recommended that
14 Newfoundland and Labrador Hydro (“Hydro”) implement a specific training program with a
15 focus on the standby scenarios and expectations for ‘Plant Readiness to Serve Mode’ required
16 for an Emergency Standby Role.² Plant readiness would be the responsibility of an Operational
17 Readiness Supervisor,³ which would be a new position, and start-up reliability would be ensured
18 through completion of test runs.⁴ Such a training program may require capital investment, such
19 as the procurement of an operational simulator that would allow continuous operator training
20 and may improve start-up reliability, as has been suggested by another consultant. As Hydro has
21 recommended that the Holyrood Thermal Generating Station (“Holyrood TGS”) remain base-
22 loaded to ensure availability in the event of a Labrador-Island Link bipole trip, Hydro has not
23 implemented these actions at this time.

¹ The “HTGS Condition Assessment and Life Extension Study,” Hatch Ltd, March 30, 2022—including the Executive Summary, Volume I, and Volume II—were filed as attachments to the “*Reliability and Resource Adequacy Study Review - Assessment to Determine the Potential Long-Term Viability of the Holyrood Thermal Generating Station*,” Newfoundland and Labrador Hydro, March 31, 2022.

² “HTGS Condition Assessment and Life Extension Study,” Hatch Ltd, March 30, 2022, vol. II, sec. 8.

³ “HTGS Condition Assessment and Life Extension Study,” Hatch Ltd, March 30, 2022, vol. II, sec. 5.6.2.1.

⁴ “HTGS Condition Assessment and Life Extension Study,” Hatch Ltd, March 30, 2022, vol. II, sec. 4.7.

1 As aging or failing assets play a greater role in plant reliability than plant design at the Holyrood
2 TGS, Hydro believes that asset renewal is more effective than modifications to improve
3 reliability. Hydro executes targeted capital and maintenance programs to address known
4 reliability risks, such as the Boiler Condition Assessment and Miscellaneous Upgrades program
5 and annual boiler tube inspections, which are aimed at improving boiler reliability in response to
6 multiple boiler tube failures that have resulted in diminished plant reliability. Hydro has also
7 implemented modifications where appropriate; for example, Hydro has bypassed variable
8 frequency drives on the boiler’s forced draft fans, which have been known to be a large
9 contributor to unit trips and reliability issues, particularly during start-ups. Bypass is complete
10 on two of the three units, with the third scheduled for completion in 2023.

11 A listing of asset renewal-driven capital expenditures, along with the estimated cost and
12 recommended timing, is provided in the Holyrood Condition Assessment and Life Extension
13 Study.⁵ Hydro continues to review and refine these capital expenditures, including cost and
14 schedule, for consideration in future capital budget applications, to ensure that the capital
15 investment is prudent and aligned with the expected operating regime of the plant.

⁵ “HTGS Condition Assessment and Life Extension Study,” Hatch Ltd, March 30, 2022, vol. II, app. C.