

1 Q. **Reference: Reliability and Resource Adequacy Study 2022 Update, Volume III, page 26 Table 8.**

2 Describe all the analysis that has been performed regarding modifications needed to improve  
3 Holyrood start-up reliability and ability to run six weeks without tripping offline, provide all  
4 reports of such analyses, and provide a summary of the capital costs of these modifications and  
5 explain whether these potential modifications are included in the capital costs in Table 8.

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8 A. Historically, the Holyrood Thermal Generating Station (“Holyrood TGS”) has been operated as a  
9 base-loaded generation facility; as such, its performance on start-up reliability has not  
10 historically been measured. Modifications to the facility to improve start-up reliability were not  
11 previously considered. During the “HTGS Condition Assessment and Life Extension Study,”<sup>1</sup>  
12 Hatch Ltd. (“Hatch”) considered actions required to improve start-up reliability and  
13 recommended the implementation of a specific training program, the appointment of a  
14 supervisory position responsible to ensure operational readiness, and a test program that would  
15 involve running up the units on a regular basis to ensure people and equipment remain start-up  
16 ready. Hatch did not identify or recommend any capital investments to improve the start-up  
17 reliability of the Holyrood TGS. The capital costs in the “Reliability and Resource Adequacy Study  
18 – 2022 Update”<sup>2</sup> are the capital investments recommended by Hatch to support operation to  
19 2030.<sup>3</sup> They do not include any investment to improve start-up reliability or to reduce start-up  
20 recall times above and beyond asset renewal.

21 When Newfoundland and Labrador Hydro (“Hydro”) experiences a unit trip, it determines the  
22 cause of the trip and then investigates and implements corrective action as required—this may  
23 include modifications to operating or maintenance practices or capital investment. As an  
24 example, in response to multiple boiler tube failures impacting unit reliability, Hydro has

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<sup>1</sup> 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.

<sup>2</sup> “Reliability and Resource Adequacy Study - 2022 Update,” Newfoundland and Labrador Hydro, October 3, 2022, vol. III, p. 26, Table 8.

<sup>3</sup> “HTGS Condition Assessment and Life Extension Study,” Hatch Ltd, March 30, 2022, vol. II, sec. 1.2, p. 9, Table 1-4.

1           implemented an annual Boiler Condition Assessment and Miscellaneous Upgrades Program in  
2           which Hydro engages an external boiler contractor to inspect the boilers and implement  
3           required corrective actions to ensure reliable operation. Hydro has also implemented  
4           modifications where appropriate; for example, Hydro has bypassed variable frequency drives  
5           that have been known to be a large contributor to unit trips and reliability issues.

6           Hydro executes targeted asset renewal-driven capital expenditures to renew aging or failing  
7           assets to maintain reliability at the Holyrood TGS. These renewal-driven expenditures are  
8           included in the capital costs in Table 8.