Q. **Reference: Application Volume 1, 2022 Capital Budget Application – Holyrood Thermal Generating Station Overview – Future Operation and Capital Expenditure Requirements**

Figure 2 shows that capital expenditures on Holyrood Unit 3 for operation in synchronous condenser mode are forecast to be about $31.8 million over the next 5 years.

a) Are forecast operation and maintenance costs for unit 3 synchronous condenser operation expected to average about $1.2 million annually (Appendix B)?

b) What other options are available to provide this service going forward and how do they compare to Unit 3 costs? Please file all available economic assessments of alternatives for meeting synchronous condenser needs that are expected to be met by Holyrood Unit 3.

A. a) The estimated system equipment maintenance ("SEM") expenditures, which are expected to average about $1.2 million annually, can be found in Appendix B to the Holyrood Thermal Generating Station[1] Overview – Future Operation and Capital Expenditure Requirements ("Holyrood TGS Overview Report").[2] SEM expenditures do not include salaries, capital work, and other smaller items such as office supplies, transportation, and insurance.

As stated in the Holyrood TGS Overview Report, the SEM expenditures for 2023 were based on the budgeted expenses for these items.[3] The budget was developed based on the operating forecast for winter 2021–2022 and winter 2022–2023, which was one generating unit operating for 2021–2022 winter and no generating units operating for 2022–2023 winter.

[1] Holyrood Thermal Generating Station ("Holyrood TGS").
[2] "2022 Capital Budget Application," Newfoundland and Labrador Hydro, rev. September 17, 2021 (originally filed August 2, 2021), vol. I, sch. 3, app. B.
[3] "2022 Capital Budget Application," Newfoundland and Labrador Hydro, rev. September 17, 2021 (originally filed August 2, 2021), vol. I, sch. 3, at p. 12.

b) Other options, including the purchase of additional synchronous condensers or additional gas turbines, could be capable of providing the synchronous condenser capability forecast to be supplied by Unit 3 at the Holyrood. However, given the capital costs associated with the construction of these additional assets in combination with the required sustaining capital and the operating expenses associated with the additional facilities, the continued operation of the Holyrood TGS Unit 3 remains the least-cost alternative for customers. If, in future, additional gas turbines are required to be constructed on the Island Interconnected System or newer technology options emerge that can provide low-cost synchronous condense capabilities, Hydro would consider the synchronous condenser capability and cost of operations associated with the proposed units as compared to system requirements and determine if continued operation of Unit 3 remains the least-cost option to meet system reliability requirements. Given the capital costs associated with the construction of incremental assets, as detailed in Hydro's "Reliability and Resource Adequacy Study,"[4] no further economic assessments of alternatives to the continued operation of the Holyrood TGS Unit 3 as a synchronous condenser have been undertaken.

[4] "Reliability and Resource Adequacy Study," Newfoundland and Labrador Hydro, rev. September 6, 2019 (originally filed November 16, 2018).