Q. **Reference: CA-NLH-058**

Regarding Overhaul Generator - Unit 3 (2027) Hydro states "...*if an overhaul is not completed at this time, the generator could fail while in operation. Such failure could result in unsafe operating conditions and forced unit outages, resulting in the loss of up to 150 MW for a period of several weeks, up to several months in duration, depending on the magnitude of the failure*."

a) Please provide an order of magnitude for the probability of a failure if the overhaul project does not proceed.

b) If the two other units were operating, would a loss of Unit 3's 150MW capacity cause Hydro to fall short of its reliability target for the IIS? If so, please quantify.

c) Over each of the past two winters, 2024/2025 and 2025/26, (December 1 to March 31), how many hours has Unit 3 operated at more than 100MW?

d) What would be the cost saving over the bridging period if Holyrood Unit 3 were operated solely as a synchronous condenser following the winter of 2026/27?

A. **a)** Newfoundland and Labrador Hydro ("Hydro") has not completed probabilistic analysis on the probability of failure in this scenario. Hatch Ltd. assessed the overhaul frequency in the Life Extension Condition Assessment and 2025 Capital Plan Refresh, in which they stated:

> "The Generator was previously overhauled in 2021. An overhaul is typically completed once every 6 years, and includes all rotating parts, seals, and other mechanical components such as wedges, fan blades, bearings, hydrogen seals, and retaining rings. As such, the next recommended overhauls will be in 2027 and in 2033. This report recommends the next generator inspection and overhauls in 2027 and in 2033..."[1]

b) Under normal operating conditions, Hydro operates two Holyrood Thermal Generating Station ("Holyrood TGS") units at minimum load. Therefore, under normal operating

[1] "Reliability and Resource Adequacy Study Review – Holyrood Thermal Generating Station Capital Plan Refresh," Newfoundland and Labrador Hydro, March 7, 2025, att. 1, p.24.

conditions, assuming the other two units operate reliably through the winter period, Hydro would not anticipate criteria violations. However, under contingency scenarios, such as a forced outage or derating of the other two units, unavailability of Unit 3 would likely result in criteria violations. Over the past five winter seasons, at least one unit at Holyrood has been unavailable approximately 70% of the time, and at least two units were unavailable approximately 10% of the time; it is therefore critical that Hydro plan to have three units available to ensure that two units remain in operation in the event of a unit outage. Hydro is assessing the reliability impacts of various Holyrood TGS retirement scenarios in preparation for the 2026 Near-Term Reliability Report, which will be filed in November 2026.

c) During the winter operating season in 2024–2025, Holyrood TGS Unit 3 was operated at an output greater than 100MW for 168 hours. During the winter operating season of 2025–2026, Holyrood TGS Unit 3 did not operate at an output greater than 100 MW due to outages and unit derating.

Holyrood TGS Unit 3 was removed from service beginning March 30, 2025, to complete planned maintenance and overhaul work. Due to additional findings during the planned work, Unit 3 remained unavailable through 2025, and was not returned to service until February 22, 2026. Following the return to service, the unit was derated to 40MW from February 26 to March 1, 2026 and March 15–16, 2026 and was derated to 50MW from March 16, 2026 until the unit was placed in standby on March 21,2026.

Unavailability of Unit 3 contributed to requests for customer conservation during the Frazil Ice event in January 2026, which brought the Bay d'Espoir facility offline.

d) Hydro does not anticipate that conversion of Unit 3 to synchronous condenser mode following the upcoming Winter season would result in cost savings. Hydro's reliability analysis has consistently demonstrated that Unit 3 cannot be retired until such time that it is displaced by additional generation on the Island Interconnected system. Utilization of Unit 3 exclusively in synchronous condenser mode in advance of the commissioning of new generation would likely result in higher costs in the form of electricity imports and fuel costs associated with stand-by generation such as combustion turbines. Hydro is

currently evaluating a range of system configurations and resource availability scenarios as part of the 2026 Near-Term Reliability Report. Following the conclusions of this analysis, Hydro will assess any potential impacts to its capital plans.