Q. **Reference: Volume I, 2020-2024 Capital Plan, page 6, lines 1 to 4.**

> The 50 MW Hardwoods and Stephenville Gas Turbines have required relatively minimal capital expenditure until recent years. There are no capital proposals in the 2020 CBA, or in the five-year plan for these facilities. These facilities will continue to be evaluated as part of the Reliability and Resource Adequacy Study.

In its 2019 Capital Budget Application, Hydro committed to provide an updated long-term Capital Plan for the Hardwoods and Stephenville gas turbines as part of the 2020 Capital Budget Application (2019 Capital Budget Application, 2019 Capital Projects Overview, page 10, lines 3 to 5). In Appendix D of its 2019-2023 Capital Plan, Hydro discusses the possibility of early retirement for the Stephenville and Hardwoods gas turbines in 2021. What is Hydro's current estimate of the remaining service lives of the Stephenville and Hardwoods gas turbines?

A. The Hardwoods and Stephenville Gas Turbines remain fit for service but have obsolescence issues and are approaching end of service life of the gas generators and power turbines. Newfoundland and Labrador Hydro ("Hydro") plans to retire the generating capabilities of both facilities after one year of reliable operation of the Muskrat Falls Hydroelectric Generating Facility. The current estimate for retirement of generating capabilities is 2021, dependent on the completion of the Muskrat Falls project. If extension of generating capability is required it may result in an increase in capital expenditures to ensure continued reliable operation of both facilities.

The estimated service lives of the major components of the Hardwood and Stephenville Gas Turbines are:

- Gas Generators: Obsolete due to a lack of new components for overhaul or repair. The estimated life of current overhauls, or repairs, with refurbished parts is between 2 to 5 years.
- Power Turbine: Obsolete due to a lack of new components for overhaul or repair. A used replacement would be procured in the event of a failure.

- Alternator and Exciter: The alternator and exciter at both facilities are either recently overhauled or new. Therefore, the remaining service life of these components is estimated to be 35 to 40 years.
- Automatic Voltage Regulator ("AVR"): The existing Hardwoods AVR is obsolete and its replacement is scheduled for the end of October 2019. The Stephenville AVR has a remaining service life of 20 years.
- Control System: The majority of the control system for both plants is still supported by the manufacturer. However, the human machine interface ("HMI") is obsolete. The Hardwoods HMI is being replaced at the end October 2019.
- Auxiliaries: Many of the auxiliary systems at both facilities have been recently upgraded and have remaining services lives of up to 20 years.