Q. (Reference Application Schedule B, pages 18 and 19 of 98) What would be the impact on the cost of the PCB Bushing Phase-out (Pooled) project if the remainder of the project were delayed and completed in 2024 consistent with Government regulations? What efficiencies have been gained since the project was initiated in 2017?

A. Government of Canada PCB Regulations (SOR/2008-273) require that substation transformer bushings, breakers and instrument transformers with PCB concentrations of greater than 50 ppm be removed from service by the end of 2025. The Company submitted its plan to comply with these regulations in its *2012 Capital Budget Application*.[1]

At year-end 2020, there will be 15 substations with PCBs that must be removed prior to year-end 2025.[2] Delaying this work for completion in 2024 or 2025 would: (i) increase project costs; (ii) increase risks of long-duration customer outages; and (iii) increase project execution risks.

Increased project costs are driven by the elimination of existing efficiencies. Newfoundland Power has achieved efficiencies by aligning the removal of PCBs with other required substation projects. For example, the removal of PCBs has been completed in conjunction with *Substation Refurbishment and Modernization* projects. This creates efficiencies in project management, staff mobilization and the deployment of portable substations. Completing all required PCB removals in a single year would eliminate opportunities to align the removal of PCBs with other substation work. This, in turn, increases project costs.[3]

The increased risk of customer outages is driven by the availability of portable substations. For 8 of the 15 remaining substations, the installation of a portable substation would be required to avoid long-duration customer outages.[4] Removing PCBs from these 8 substations in a single year would reduce the availability of portable substations to complete other capital projects and to respond to unplanned equipment failures.[5] This, in turn, increases the risk of long-duration customer outages.

With respect to increased project execution risks, PCBs have been identified as harmful to the environment. Continuing to leave them in the system longer than necessary

[1] See report *2.3 2012 PCB Removal Strategy* filed with Newfoundland Power's *2012 Capital Budget Application*.

[2] These substations include 29 pieces of equipment with PCBs that must be removed.

[3] For example, the typical cost of installing a portable substation is approximately $50,000 per installation. Following the current phase-out plan, the removal of PCBs will be coordinated with other substation work in 6 of 8 cases. This coordination alone reduces costs to customers by approximately $300,000 ($50,000 x 6 = $300,000).

[4] The time required to replace power transformer bushings under a planned outage would exceed a day and is deemed unacceptable. For these 8 substations, it is not possible to transfer customer load to an adjacent substation to avoid customer outages. Portable substation installations are therefore required.

[5] For example, in 2020 Newfoundland Power experienced the failure of a power transformer at its Bonavista Substation. A portable substation was deployed for approximately 10 months to minimize customer outages.

increases the risk of release. Additionally, delaying all remaining work to 2025 would present risks that execution delays could result in non-compliance with Federal Government regulations.

Based on this assessment, delaying the removal of PCBs in order to complete all work in a single year would be inconsistent with delivery of reliable service to customers at least cost.