2025 Capital Budget Overview

Q. Appendix B: Deferred, Modified and Advanced Capital Expenditures, Table B-2. For the four capital projects being deferred from 2025 to subsequent years, please provide further explanation for each project as to how it reached the stage of consideration for inclusion in the 2025 Capital Budget if sufficient engineering had not been completed, and what specifically for each project requires additional engineering assessment.

A. The response to Request for Information PUB-NP-015 provides an explanation of how projects are identified for inclusion in the capital budget.

Five projects are listed in Appendix B, Table B-2 as deferred to future years. The four projects deferred for further engineering assessment are: (i) *Grand Falls 4160 V Conversion*; (ii) *Cape Broyle Hydro Plant Refurbishment;* (iii) *Petty Harbour Substation Refurbishment and Modernization;* and (iv) *Rose Blanche Hydro Plant Refurbishment.*

Each of the four capital projects were identified for inclusion in previous five-year capital plans. The most recent annual review of the five-year capital plan, in preparation for the *2025 Capital Budget Application,* commenced with a review of potential capital projects in the budget year. Through the annual review process it was determined that four projects required additional engineering assessment and, as a result, each project was deferred. Further explanation of the additional engineering assessment requirements for each project are included below.

Grand Falls 4160 V Conversion

The *Grand Falls 4160 V Conversion* project involves the conversion of legacy 4160 V to 25 kV feeders in Grand Falls. The 4160 V equipment in Grand Falls substation is nearing end of life and the 4160 V distribution system is nearing capacity.

The majority of the 4160 V distribution system is rear lot construction and was installed in the 1960s. As a result, accessing this infrastructure to perform necessary upgrades will require significant planning. A significant amount of the primary conductors on the system are installed on the same poles in a double circuit configuration. In addition, there are limited locations where the 4160 V load can be transferred to the 25 kV system. Further engineering assessment is necessary to complete a system planning study on the 25 kV system to determine the final configuration of the system and establish a conversion plan. Once the planning study is complete, a detailed engineering and construction plan will be completed to determine the cost estimate and schedule for the project.

Cape Broyle Hydro Plant Refurbishment

The *Cape Broyle Hydro Plant Refurbishment* project involves the refurbishment of the plant to replace obsolete equipment.

Accessing the plant with heavy equipment is difficult due to the plant location. Gaining access to Cape Broyle ("CAB") substation is also challenging as it is located adjacent to the plant. There is very little room to increase the square footage of the plant to accommodate the installation of the new equipment. Further engineering assessment is required to determine the least-cost approach to execute the *Cape Broyle Hydro Plant Refurbishment* project and to determine if a refurbishment and modernization of CAB substation should align with the work in the plant.

Petty Harbour Substation Refurbishment and Modernization

The *Petty Harbour Substation Refurbishment and Modernization* project will involve the refurbishment of the substation to address deteriorated and non-standard equipment in the substation.

The Petty Harbour ("PHR") substation is connected to the electrical system via radial transmission line 3L from the Goulds ("GOU") substation. Transmission line 3L is energized at 33kV, which is a non-standard legacy transmission voltage and is the last transmission line at this voltage in the Newfoundland Power electrical system. PHR has a generation power transformer that connects three hydro generators to the electrical system and also a distribution power transformer that provides service to customers in Petty Harbour - Maddox Cove. PHR-01 is energized at 4.16kV which is a non-standard legacy distribution voltage.

GOU substation provides service to customers in Kilbride, Southlands and the Goulds. Big Pond ("BIG") substation also provides service to customers in the Goulds and the Bay Bulls Big Pond Water Treatment Plant. BIG substation is located in the Public Protected Water Shed Area for the City of St. John's. Both GOU and BIG substations are included in the *Substation Refurbishment and Modernization Plan*[1] as part of the *2025-2029 Capital Plan*. Further engineering assessment is necessary to complete a system planning study of the available alternatives in order to continue to provide least-cost, reliable service to the customers in Kilbride, Southlands, Goulds and Petty Harbour – Maddox Cove while also providing a connection for the PHR substation to the electrical system.

Rose Blanche Hydro Plant Refurbishment

The *Rose Blanche Hydro Plant Refurbishment* project involves the modernization of the governor system as well as addressing identified deficiencies within the hydraulic power unit and the plant electrical system.

This project was initially planned for 2024 as a direct replacement of the governor control system due to the obsolescence of its programmable logic controller. While completing the engineering assessment for this project, deficiencies were identified with the hydraulic power unit and plant electrical system. This project has been deferred to allow engineering assessments associated with the change in project scope.

[1] See Newfoundland Power's *2025 Capital Budget Application,* report *2.1 2025 Substation Refurbishment and Modernization*, page 3, Table 1.