

1 **Reference: 2024 Capital Budget Overview**

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3 **Q. Appendix B, Table B-2. The explanation for the deferral from 2024 to**
4 **subsequent years for the first four projects in Table B-2 is “to allow further**
5 **engineering assessment”. Please provide further explanation for each project**
6 **as to how it reached the stage of consideration for inclusion in the 2024**
7 **Capital Budget if sufficient engineering had not been completed and what**
8 **specifically for each project requires additional engineering assessment.**
9

10 A. Newfoundland Power’s capital planning process commences each year with an update of
11 the Company’s five-year capital plan. The capital plan provides reasonable predictability
12 of anticipated capital expenditures across all asset classes for the next five years,
13 including the upcoming budget year. In general, Newfoundland Power does not
14 complete detailed engineering condition assessments for potential capital projects in the
15 five-year capital plan beyond those proposed for Board approval in the budget year,
16 including multi-year projects.¹
17

18 The four capital projects listed in Appendix B, Table B-2 that were deferred from 2024 to
19 subsequent years as a result of additional engineering assessment requirements include:
20 (i) *Mobile Plant Substation Refurbishment and Modernization*; (ii) *Lockston Substation*
21 *Refurbishment and Modernization*; (iii) *Tors Cove Hydro Plant Refurbishment*; and
22 (iv) *Mobile Hydro Plant Penstock Refurbishment*.
23

24 Each of the four capital projects were identified for inclusion in previous five-year capital
25 plans.² The most recent annual review of the five-year capital plan in preparation for
26 the *2024 Capital Budget Application* commenced with a review of potential capital
27 projects in the budget year. Through the annual review process, it was determined that
28 the four projects required additional engineering assessment and, as a result, each
29 project was deferred. Further explanation of the additional engineering assessment
30 requirements for each project are included below.
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32 *Mobile Plant Substation Refurbishment and Modernization*

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34 The Mobile Hydro Plant was placed into service in 1951 and has a normal annual
35 production of approximately 40.3 GWh. The plant is currently undergoing a multi-year
36 refurbishment as approved in Newfoundland Power’s *2023 Capital Budget Application*.

¹ The Board has previously recognized its role in assessing proposed capital expenditures based on the best available information. In Board Order No. P.U. 28 (2010) it is stated, “*The Board expects that, in the context of preparing an annual capital budget, projects initially included in a 5-year capital plan would be reassessed in light of the most current information, including asset performance, engineering reviews, and updated forecasts of customer growth. Once a decision has been made by the utility to include a specific project in an annual capital budget the Board’s role is to assess whether the evidence filed supports approval of the project expenditure.*”

² The five-year capital plan filed with Newfoundland Power’s *2021 Capital Budget Application* included the refurbishment of the Tors Cove Hydro Plant in 2024. The five-year capital plan filed with the Company’s *2022 Capital Budget Application* included the refurbishment of the penstock at the Mobile Hydro Plant in 2024. The five-year capital plan filed with the *2023 Capital Budget Application* included the refurbishment of Mobile Plant and Lockston substations in 2024.

1 The current Mobile Hydro Plant ("MOP") Substation is located adjacent to the Mobile
2 Hydro Plant and is located directly between the Southern Shore Highway and Mobile
3 Bay. Upon commencing a detailed engineering assessment, an additional alternative
4 was identified to evaluate if modernizing the substation in its current location or
5 relocating the plant substation equipment to the nearby Mobile ("MOB") Substation
6 would be the least-cost alternative. Included in this analysis would be an evaluation of
7 the land layout and footprint of the two substations to determine what, if any,
8 refurbishment could be accommodated.
9

10 *Lockston Substation Refurbishment and Modernization*

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12 Lockston ("LOK") Substation was built in 1956 as part of the Lockston Hydro Plant
13 development. In 1955, in anticipation of the new hydro plant at Lockston, a
14 46 kV transmission line was constructed connecting the plant to the electricity system at
15 Port Union. Ten years later, the transmission voltage was increased to 66 kV to
16 establish transmission links to Port Blandford and Clarendville. As a result, an additional
17 power transformer was added to the substation to convert 46 kV to the 66 kV
18 transmission voltage. Further engineering assessment is required to determine the
19 economic viability of eliminating the 46 kV transformer, LOK-T2. It has also been
20 identified that the power transformer, LOK-T3, has polychlorinated biphenyl
21 contaminated oil. An engineering and economic analysis of alternatives is required to
22 determine the least-cost approach to completing the refurbishment and modernization
23 of the substation.
24

25 *Tors Cove Hydro Plant Refurbishment*

26
27 The Tors Cove Hydro Plant was placed into service in 1941 and has a normal annual
28 production of approximately 28.7 GWh. There have been a number of major upgrades
29 to the original plant and equipment since commissioning in 1941. Most recently, Tors
30 Cove generator G3 was refurbished in 2017 and a substation refurbishment, including a
31 new power transformer, was completed in 2022.
32

33 The Tors Cove Hydro Plant has obsolete metal clad switchgear. The plant control room
34 is located above the switchgear, complicating its removal and replacement. The project
35 was initially conceived as a replacement of the switchgear and relocation of the control
36 room. Due to physical space limitations within the existing plant footprint, further
37 engineering is required to determine the least-cost approach to replace the existing
38 switchgear and relocation of the control room.
39

40 In addition, generator G1 at Tors Cove Hydro Plant currently lacks sufficient automation
41 to be controlled remotely from Newfoundland Power's System Control Centre. The
42 Company is exploring the possibility of coordinating a protection and controls upgrade to
43 G1 to automate its operation while the plant is out of service for the switchgear

1 upgrade.³ This scope requires the design of a new controls system and an updated
2 water management study for the combined Tors Cove and Rocky Pond hydro systems.
3

4 *Mobile Hydro Plant Penstock Refurbishment*
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6 The Mobile Hydro Plant penstock is 1,568 metres in length. The steel portion of the
7 penstock is 454 metres long and is original to the plant which was placed in service in
8 1951. The remaining 1,114 metres of the penstock is of fiberglass construction and was
9 installed in 1990. The Company has engaged an external consultant to assess the
10 condition of the steel portion of the penstock and to provide a recommendation on the
11 least-cost option for refurbishment.

³ Generator G1 currently provides energy to the system. Automating G1 would enable it to contribute additional capacity to the system when called upon. Updates to the *Reliability and Resource Adequacy Study* as well as the marginal cost report for the Island Interconnected System show that the system is capacity constrained.