

Generation

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3 **Q. NLH-NP-006 Reference: "2024 Capital Budget Application," Newfoundland**
4 **Power Inc., June 22, 2023, Supporting Materials, Generation: 4.1, sec. 5.0, p.**
5 **14.**

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7 **A lifecycle cost analysis has determined that continued operation**
8 **of the Lookout Brook Plant will provide an economic benefit to**
9 **customers over the longer term and that the risk of the Plant**
10 **becoming stranded is very low. The analysis compared the cost**
11 **of continued operation of the Plant to the cost of replacement**
12 **production.**

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14 **The life cycle cost analysis for this project was completed for the 5.6 MW**
15 **Lookout Brook Plant. Please provide the results of the life cycle cost analysis**
16 **and the corresponding net economic benefit when only the lost production of**
17 **the 2.4 MW LBK-G3 unit is considered.**

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19 A. Newfoundland Power's lifecycle analysis for the *Lookout Brook Hydro Plant*
20 *Refurbishment* project, and other similar projects, is based on normal production from
21 the plant. The Lookout Brook hydro plant is designed and operated in a manner to
22 maximize production from the available water that flows through the Lookout Brook
23 hydro reservoir.¹

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25 The effect of removing Lookout Brook hydro plant generating unit G3 from service
26 would be a reduction in capacity of 2.7 MW and a reduction in energy production from
27 the plant due to spillage from the Lookout Brook reservoir.² Any lifecycle analysis that
28 involves removing generating unit G3 from service would require a detailed estimate of
29 normal production and spillage that would result from the removal of 2.7 MW of
30 generating capacity from the Lookout Brook hydro plant. Since the Lookout Brook hydro
31 plant is designed in a manner to maximize production from generating units G3 and G4,
32 the Company has not completed a detailed hydrology study that would eliminate roughly
33 half of the plant's capacity and cause spillage.

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35 The lifecycle analysis completed in support of the *Lookout Brook Hydro Plant*
36 *Refurbishment* project shows continuing benefits to customers while maximizing
37 production from the plant as it was designed. From a net present value perspective,
38 continued operation of the plant provides net savings to customers of approximately
39 \$10.2 million to \$14.4 million. Continued operation of the plant also shows benefits to

¹ The Lookout Brook hydro plant has a maximum winter demand capacity of 5.6 MW. This consists of 2.7 MW of capacity from generating unit G3 and 2.9 MW of capacity from generating unit G4. Normal production from the plant with both G3 and G4 in operation throughout the year is 31.5 GWh.

² Spillage would occur since generating unit G4 would be incapable of accommodating all of the water that would otherwise have been used by generating unit G3 during periods of high inflows and high storage levels. A detailed hydrology study would be required to determine the amount of spillage that would result from removing G3 from service.

Requests for Information

- 1 customers across all five scenarios detailed in the lifecycle cost analysis provided in
2 support of the project.³

³ See Newfoundland Power's *2024 Capital Budget Application*, report 4.1 *Lookout Brook Hydro Plant Refurbishment*, Appendix A: Lifecycle Cost Analysis of the Lookout Brook Hydro Plant, page A7, Table A-4.