

1 **Q. (Reference Application Schedule B, Street Lighting – LED Replacement Program,**
 2 **page 34 of 99) For the Street Lighting - LED Replacement Program the cost savings**
 3 **to customers have been quantified. Has Newfoundland Power “quantified” the**
 4 **customer savings deriving from any of the other projects in the 2022 Capital Budget**
 5 **Application? If so, please provide a list of these projects and the quantified customer**
 6 **savings deriving from each of the projects.**

7
 8 A. Yes, Newfoundland Power has quantified the customer savings deriving from other
 9 projects contained in the *2022 Capital Budget Application*.

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 11 The *Capital Budget Application Guidelines* require the Company to demonstrate tangible
 12 customer benefits for capital expenditures that are justified based on the positive impact
 13 the project will have on its operations (i.e. “justifiable” expenditures).¹ Newfoundland
 14 Power conducts net-present value (“NPV”) analyses for justifiable capital expenditures
 15 that are intended to achieve cost savings for customers.

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 17 Three projects contained in the *2022 Capital Budget Application* are considered
 18 justifiable.² Each of these projects includes an NPV analysis quantifying the cost savings
 19 for customers. In addition to the *LED Street Lighting Replacement* project, these are the:

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 21 (i) *2022 Application Enhancements* project. A summary of the quantified customer
 22 savings resulting from this project is provided in response to Request for
 23 Information CA-NP-087.

24
 25 (ii) *Electric Vehicle Charging Network* project. This project is part of a portfolio of
 26 planned customer electrification programs. An NPV analysis determined that
 27 electrification programs will provide a rate mitigating benefit for customers of
 28 approximately 0.5¢/kWh by 2034.³ This equates to \$100 in reduced electricity
 29 charges that year for an average residential customer with electric heating.⁴

¹ See the *Capital Budget Application Guidelines*, page 6.

² See the *2022 Capital Budget Application, 2022 Capital Plan, Attachment A*, page A-2.

³ An NPV analysis assessed the net revenue impact of increased energy sales through customer electrification programs to 2034. The net revenue impact was then divided by projected Company energy sales, including energy sales from electrification, to determine an indicative customer rate impact. Planned electrification programs will provide additional net revenue of approximately \$123 million over the period 2021 to 2034. On an NPV basis, this equates to approximately \$62 million in additional net revenue over this period. See Newfoundland Power’s *2021 Electrification, Conservation and Demand Management Application, Volume 1, Evidence*, pages 18 to 19.

⁴ The average annual usage of an all-electric residential customer was 17,412 kWh in 2019 ((17,412 kWh x 0.5¢/kWh) * 1.15 HST = \$100).

1 Newfoundland Power also conducts NPV analyses when there are multiple viable
2 alternatives for completing a capital project in order to determine which alternative would
3 be least cost for customers. For the 2022 *Capital Budget Application*, NPV analyses
4 were completed to evaluate alternatives for the:

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- 6 (i) *Workforce Management System Replacement* project. The NPV analysis
7 determined that replacing the system would reduce costs to customers by
8 approximately \$499,000 over 7 years in comparison to implementing manual
9 workforce management processes.⁵
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- 11 (ii) *2022 Substation Refurbishment and Modernization* project. The NPV analysis
12 determined that upgrading the deteriorated 4.16 kV infrastructure at Humber
13 Substation to 12.5 kV would reduce costs to customers by approximately
14 \$1.6 million over 20 years in comparison to a like-for-like replacement.⁶
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- 16 (iii) *St. John's Teleprotection System Replacement* project. The NPV analysis
17 determined that constructing Company-owned fibre optic cables would reduce costs
18 to customers by approximately \$33,000 over 25 years in comparison to leasing fibre
19 capacity.⁷
- 20

21 Additionally, Newfoundland Power completed an economic analysis as part of the *Sandy*
22 *Brook Plant Penstock Replacement* project to quantify the customer benefits of
23 continuing to operate the plant. The analysis shows that the net benefit of the plant
24 production is 10.21¢/kWh for fully dispatchable and 7.04 ¢/kWh for a run of river plant.
25 The levelized cost of production is 3.22¢/kWh. This indicates that continued operation of
26 the Plant is economically justified and least cost for customers.⁸

⁵ See the 2022 *Capital Budget Application, Report 7.3 Workforce Management System Replacement, Appendix A*, page 9.

⁶ See the 2022 *Capital Budget Application, Report 2.1 Substation Refurbishment and Modernization, Appendix B*, page B-11.

⁷ See the 2022 *Capital Budget Application, Report 6.1 St. John's Teleprotection System Replacement*, page 7.

⁸ See the 2022 *Capital Budget Application, Report 1.2 Sandy Brook Plant Penstock Replacement*, page 9.