

1 **Q. (Reference Application) What is the overall improvement in productivity stemming**
2 **from the projects included in the 2021 Capital Budget Application? Please identify**
3 **the expected cost savings and provide a rough estimate of the impact on rates.**
4 **Please provide an analysis of the objectives pertaining to SAIDI and SAIFI and the**
5 **improvements anticipated in SAIDI and SAIFI resulting from these expenditures**
6 **and how such an analysis was undertaken.**

7
8 **A. A. Capital Investments and Productivity**

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10 Newfoundland Power's *2021 Capital Budget Application* includes: (i) initiatives that will
11 maintain the productivity of its operations; and (ii) initiatives that will improve the
12 productivity of its operations.

13
14 With respect to initiatives that will maintain the productivity of Newfoundland Power's
15 operations, approximately 50% of proposed 2021 capital expenditures are driven by the
16 replacement of existing plant. These expenditures are required to maintain the condition
17 of the electrical system and provide reliable service to customers. A failure to maintain
18 the Company's electrical system would result in increased equipment failures and
19 customers outages. This would necessitate increased operational expenditures and would
20 be detrimental to the productivity of Newfoundland Power's operations.

21
22 In addition, the proposed replacement of Newfoundland Power's Customer Service
23 System will enable the Company to maintain the productivity of its customer service
24 delivery.¹

25
26 Initiatives in the *2021 Capital Budget Application* that will specifically improve the
27 productivity of the Company's operations include: (i) the *LED Street Lighting*
28 *Replacement Plan*; (ii) the *Distribution Feeder Automation* project; and (iii) the *2021*
29 *Application Enhancements* project.

30
31 The *LED Street Lighting Replacement Plan* proposes to replace the Company's High
32 Pressure Sodium ("HPS") street lights with more reliable LED street lights.² This will
33 contribute to lower costs associated with reduced street light maintenance requirements
34 over a period of 20 years or more.

35
36 The *Distribution Feeder Automation* project will increase automation in the Company's
37 distribution system.³ The increase in automation will include the addition of
38 technologies, such as automated downline reclosers and fault indicators. The deployment
39 of automated distribution equipment will enhance the Company's response to customer
40 outages in all operating conditions, including local and system-wide outages.⁴

¹ See response to Request for Information CA-NP-075.

² See the *2021 Capital Budget Application, Volume 1, LED Street Lighting Replacement Plan*.

³ See the *2021 Capital Budget Application, Volume 1, Schedule B*, pages 57-58 of 98.

⁴ For example, during the severe wind storm that occurred in March 2017, the operation of 20 downline reclosers avoided over 1 million customer outage minutes without the assistance of field crews.

1 Distribution feeder automation is recognized in the electric utility industry as providing
2 both reliability and efficiency benefits for customers.
3

4 The *2021 Application Enhancements* project includes 3 items that will improve the
5 productivity of Newfoundland Power's operations.⁵ These enhancements use technology
6 to reduce or eliminate existing manual processes in the areas of substation maintenance,
7 truck inspections, and human resources management. For a summary of the cost savings
8 resulting from these items, see response to Request for Information CA-NP-125.
9

10 **B. Capital Investment and Customer Costs**

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12 The relationship between Newfoundland Power's capital expenditures and its revenue
13 requirements or customer rates is not a direct one.⁶ As a result, the Company cannot
14 identify expected cost savings and customer rate impacts specific to all of the capital
15 projects included in the *2021 Capital Budget Application*, as requested.⁷
16

17 The Board has previously recognized the complex relationship between capital
18 investments, revenue requirements and customer rates. In Order No. P.U. 40 (2005), the
19 Board stated:
20

21 *"NP undertakes a capital program and incurs capital expenditures each year*
22 *and these expenditures impact the revenue requirement in other ways, in*
23 *addition to depreciation. The portion of capital expenditures incurred for*
24 *example as a result of customer growth will be offset somewhat by higher*
25 *revenues from increased energy sales. Other capital expenditures may impact*
26 *maintenance expenses...these expenses are properly dealt with in the context*
27 *of a general rate application."*⁸
28

29 The Board has also stated that:

30
31 *"From a regulatory perspective, efficient operations, fully justified capital*
32 *expenditures and a low cost capital structure all combine to minimize revenue*
33 *requirement, and hence provide least cost electricity to ratepayers."*⁹
34

⁵ See the *2021 Capital Budget Application, Volume 2, report 6.1 2021 Application Enhancements*.

⁶ See the *2021 Capital Budget Application, Volume 1, 2021 Capital Plan, Section 2.3 Capital Investment and Customer Costs*, for a discussion on the relationship between the Company's capital investments, revenue requirements and customer rates.

⁷ Some capital projects provide specific operating cost savings, as outlined in part A of this response. For example, the proposed *LED Street Lighting Replacement Plan* included in the 2021 capital budget is forecast to reduce operating costs in 2021 by approximately \$2 million on a *pro forma* basis. See the *2021 Capital Budget Application, Volume 1, LED Street Lighting Replacement Plan, Attachment B, page B-5*. However, the long-term effect that fully justified capital expenditures have on minimizing aggregate costs and thus revenue requirements and customer rates cannot be specifically identified by project.

⁸ See Order No. P.U. 40 (2005), page 13.

⁹ See Order No. P.U. 7 (2002-2003), page 31.

1 Newfoundland Power shares the Board’s view that fully justified capital expenditures are
2 part and parcel of delivering least-cost service to customers.
3

4 To more broadly assess the long-term impact of Newfoundland Power’s operations on
5 customer costs, the Company analyzed its contribution to customer rates over the last 2
6 decades.¹⁰ Since 2000, the Company’s contribution to average customer rates decreased
7 by 20% on an inflation-adjusted basis.¹¹
8

9 Newfoundland Power observes that its approach to capital planning tends to minimize
10 overall costs to customers over the longer term. This is consistent with the least-cost
11 delivery of reliable service to customers.
12

13 C. Capital Investment and Reliability Outcomes

14 Newfoundland Power is focused on maintaining current overall levels of service
15 reliability for customers.¹² The duration and frequency of customer outages has
16 remained reasonably consistent since 2009. The duration of customer outages (“SAIDI”)
17 has ranged from approximately 2.2 to 3.0 hours per year under normal operating
18 conditions. The frequency of customer outages (“SAIFI”) has ranged from
19 approximately 1.4 to 2.6 outages per year.¹³
20
21

22 Newfoundland Power’s *Distribution Reliability Initiative* is the only project in the
23 Company’s *2021 Capital Budget Application* that is specifically targeted at *improving*
24 customer reliability on the basis of SAIDI and SAIFI.¹⁴ It aims to improve reliability for
25 customers served by the Company’s worst-performing feeders, where customers
26 experience service reliability significantly below the Company average. Capital
27 expenditures proposed for 2021 under this initiative were previously approved by the
28 Board in Order No. P.U. 35 (2018).
29

30 Newfoundland Power observes that the Company’s approach to capital planning has
31 maintained current overall levels of service reliability for customers over the last decade.
32 Quarterly surveys indicate customers are currently satisfied with the reliability of
33 Newfoundland Power’s service delivery.¹⁵

¹⁰ See the *2021 Capital Budget Application, Volume 1, 2021 Capital Plan, Section 2.3.3 Customer Rates Perspective*.

¹¹ See the *2021 Capital Budget Application, Volume 1, 2021 Capital Plan, Section 2.3.3 Customer Rates Perspective, Table 4*.

¹² In Newfoundland Power’s *2010 General Rate Application*, the Company stated it considered then current levels of service reliability to be satisfactory (see Volume 1 (1st Revision), Section 2: Customer Operations, Page 2-8, Line 6). Similarly, the Company has characterized its electrical system performance as reliable in its *2013/2014 General Rate Application* (see Volume 1, Section 1: Introduction, Page 1-3, Line 10), its *2016/2017 General Rate Application* (see Volume 1 (1st Revision), Section 1: Introduction, Page 1-3, Line 11), and its *2019/2020 General Rate Application* (see Volume 1, Section 1: Introduction, Page 1-3, Line 21).

¹³ See the *2021 Capital Budget Application, Volume 1, 2021 Capital Plan, Section 2.2.2 Customer Service Outcomes*.

¹⁴ See *2021 Capital Budget Application, Volume 1, report 4.1 Distribution Reliability Initiative* for the analysis undertaken for the *2021 Distribution Reliability Initiative* project.

¹⁵ Newfoundland Power’s average customer satisfaction was 86% in 2019.