

1 **Q. Please identify and demonstrate what considerations and subsequent actions have**
2 **been taken by Newfoundland Power to control and/or reduce capital expenditures**
3 **while maintaining reliable service?**
4

5 **A. A. General**
6

7 Newfoundland Power controls its capital expenditures in a manner that results in power
8 being delivered to customers at *the lowest possible cost consistent with reliable service*,
9 as required by the provincial power policy.¹
10

11 Complying with the provincial power policy requires the Company to balance the
12 reliability of service experienced by customers and the cost of providing that service.
13 Achieving this balance is consistent with meeting customers' service expectations.²
14

15 Newfoundland Power balances cost and reliability through a focus on the *overall* costs
16 borne by customers through customer rates. This necessarily requires exercising control
17 over the cost of providing service, including the Company's annual capital expenditures.
18

19 Newfoundland Power exercises control over its annual capital expenditures by:
20 (i) targeting stability and predictability in its annual capital budgeting and capital
21 planning; and (ii) ensuring individual capital projects are consistent with the least-cost
22 delivery of reliable service to customers. The appropriateness of the Company's
23 approach was validated through a comprehensive assessment in 2014 by the Board's
24 consultant, The Liberty Consulting Group ("Liberty").
25

26 All expenditures outlined in Newfoundland Power's *2020 Capital Budget Application* are
27 consistent with these principles.
28

29 **B. Stable and Predictable Capital Expenditures**
30

31 Rate stability and predictability are among the regulatory principles established by the
32 Board.³
33

34 Newfoundland Power targets stability and predictability in its annual capital budgeting.
35 The 5-year capital plan filed with the Company's annual capital budget applications is a
36 primary mechanism through which this stability and predictability is achieved.⁴

¹ See Section 3(b)(iii) of the *Electrical Power Control Act, 1994*.

² Quarterly customer satisfaction surveys consistently indicate the 2 most important issues to Newfoundland Power's customers are reliability and price.

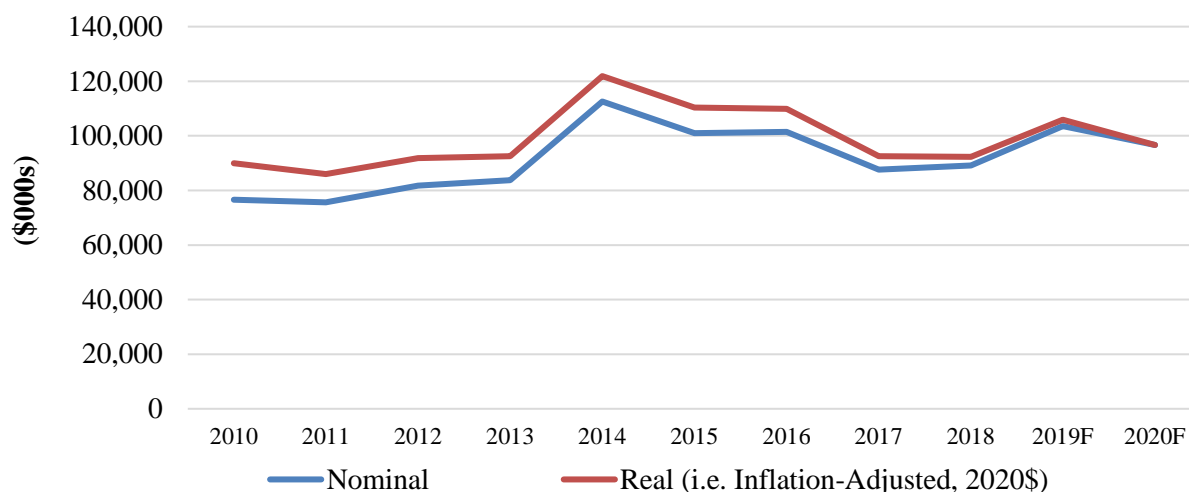
³ See, for example, Order No. P.U. 19 (2003), pages 15-16.

⁴ In Order No. P.U. 35 (2003), the Board required that Newfoundland Power file a 5-year capital plan as part of its annual capital budget applications. While the Board does not specifically approve the 5-year capital plan, the Board indicated that it provides a mechanism for maintaining the stability and predictability of the capital budget and capital works program.

1 Newfoundland Power’s total annual capital expenditures over the last decade provide a
 2 reasonable view of the stability the Company has achieved to date.

3
 4 Figure 1 provides Newfoundland Power’s capital expenditures over the 10-year period
 5 2010 to 2019 and proposed capital expenditures for 2020.⁵

**Figure 1:
 Total Annual Capital Expenditures
 (2010 - 2020F)**



6 Newfoundland Power’s annual capital expenditures have been reasonably stable over this
 7 period. On an inflation-adjusted basis, capital expenditures increased by approximately
 8 0.7% per year between 2010 and 2020.

9
 10 Capital expenditures proposed for 2020 are consistent with average annual expenditures
 11 over the last 5 years.⁶

12
 13 This stability is indicative of the control Newfoundland Power exercises over its annual
 14 capital expenditures.

15
 16 Specific actions routinely taken by the Company to control its capital expenditures
 17 include, as examples: (i) developing and executing long-term strategies that align with

⁵ Inflation-adjusted based on 2020 dollars using the GDP Deflator for Canada. Capital expenditures for 2019 are forecast based on the 2019 Capital Expenditure Status Report filed with the Board in July 2019.

⁶ Newfoundland Power’s 2020 Capital Budget Application proposes expenditures totaling approximately \$96.6 million. Over the 5-year period 2015 to 2019, capital expenditures averaged \$96.5 million per year.

1 good utility practice;⁷ (ii) evaluating alternatives to select the least-cost option for a
2 particular capital project;⁸ (iii) using well established economic analyses to justify
3 expenditures aimed at improving the Company's operating efficiency;⁹ (iv) targeting
4 capital expenditures in areas that provide the most benefits to customers;¹⁰ and (v)
5 investing in the life extension of electrical system assets that continue to provide value to
6 customers.¹¹

7 8 **C. Maintaining Reliable Service Delivery**

9
10 Newfoundland Power's approach to controlling its capital expenditures has resulted in
11 the delivery of reliable service to customers.

12
13 The reliability experienced by customers is principally a reflection of the condition of the
14 electrical system. Maintaining system condition requires routine capital investments.

15
16 All capital investments in the electrical system proposed by Newfoundland Power are
17 assessed by the Company to ensure they are consistent with least-cost, reliable service
18 delivery. The customer benefits of this approach are observed in the Company's overall
19 reliability and cost performance.

⁷ Long-term strategies that continue to be implemented by Newfoundland Power include, as examples: (i) the *Substation Refurbishment and Modernization Plan* (see the *2020 Capital Budget Application, Report 2.1 2020 Substation Refurbishment and Modernization*); (ii) the *Transmission Line Rebuild Strategy* (see the *2020 Capital Budget Application, Report 3.1 2020 Transmission Line Rebuild*); and (iii) the *Vault Refurbishment and Modernization Plan* (see the *2020 Capital Budget Application, Report 4.4 Vault Refurbishment and Modernization*). These strategies were reviewed by Liberty in 2014. For information on Liberty's conclusions, see Section E of this response.

⁸ See, as examples, the *2020 Capital Budget Application: (i) Report 5.1 Stephenville Area Office Building Refurbishment, Section 3.0 Assessment of Alternatives*; and (ii) *Report 5.2 Whitbourne District Building Refurbishment, Section 3.0 Assessment of Alternatives*, wherein Newfoundland Power assessed alternatives for addressing the condition of certain general property assets.

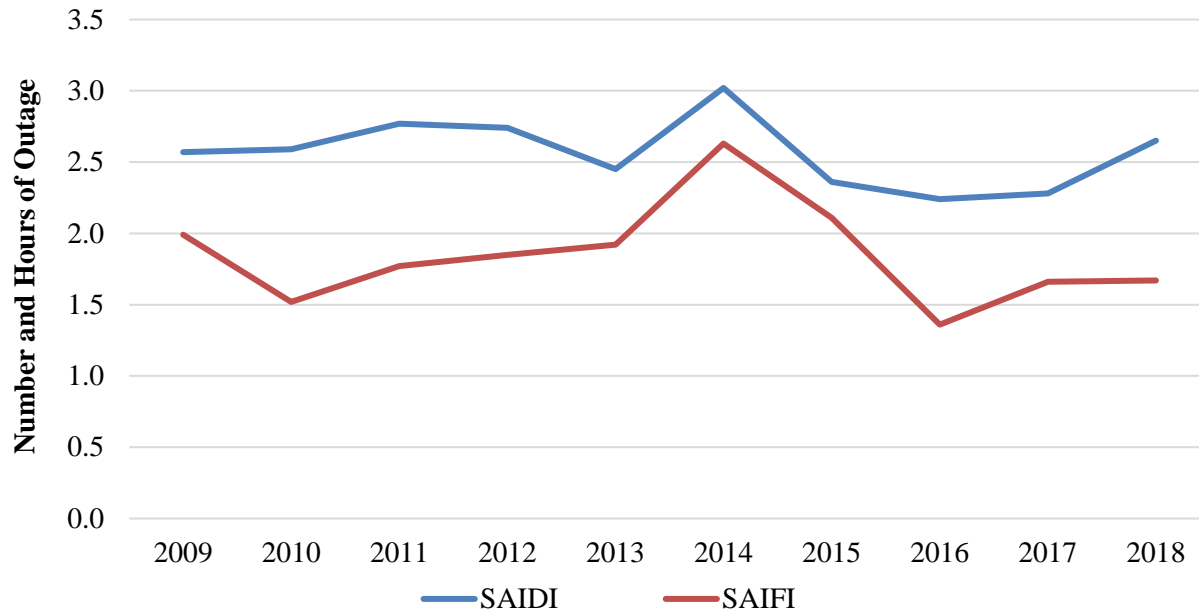
⁹ See, as examples, the *2020 Capital Budget Application, Report 6.1 2020 Application Enhancements*, Appendices A and B, wherein Newfoundland Power completed Net Present Value analyses to ensure proposed capital expenditures in information systems were least-cost for customers.

¹⁰ See for example, the *2020 Capital Budget Application, Report 4.1 Distribution Reliability Initiative* wherein Newfoundland Power targets capital expenditures on its worst-performing feeders where the reliability experienced by customers is significantly below the Company's average.

¹¹ See, as examples, the *2020 Capital Budget Application: (i) Report 1.2 Ratting Brook Hydro Plant Unit 2 Turbine – Generator Refurbishment, Appendix A*; (ii) *Report 1.3 Petty Harbour Hydro Plant Refurbishment, Appendix B*; and (iii) *Report 1.4 Topsail Hydro Plant Penstock Replacement, Appendix B*, wherein Newfoundland Power completed economic evaluations to ensure continued investment in the life extension of generation assets continues to provide value to customers.

1 Figure 2 provides the duration (“SAIDI”) and frequency (“SAIFI”) of outages
 2 experienced by Newfoundland Power’s customers under normal operating conditions
 3 over the 10-year period 2009 to 2018.¹²

**Figure 2:
 Reliability Performance
 Normal Operating Conditions
 (2009 - 2018)**



4 The reliability experienced by Newfoundland Power’s customers has been reasonably
 5 consistent over the last decade under normal operating conditions. The frequency of
 6 customer outages has ranged from 1.4 to 2.6 outages per year. The duration of customer
 7 outages has ranged from 2.2 to 3.0 hours.

8
 9 This performance is comparable to the Canadian average in terms of outage frequency
 10 and better than the Canadian average in terms of outage duration.¹³

11
 12 Newfoundland Power’s controlled approach to capital expenditures is a primary means
 13 through which this reliability performance has been achieved.

¹² Figure 2 excludes customer outages due to significant events and loss of supply from Newfoundland and Labrador Hydro.

¹³ For Canadian Electricity Association (“CEA”) Region 2 utilities, the frequency of customer outages ranged from 1.9 to 2.5 outages per year from 2009 to 2018, which is comparable to Newfoundland Power. The duration of customer outages ranged from 4.0 to 6.5 hours, which, in both cases, is higher than that of Newfoundland Power.

1 **D. Balancing Cost and Reliability**

2
3 The reliability experienced by Newfoundland Power’s customers over the last 10 years
4 represents a material improvement in service quality when compared to reliability levels
5 2 decades ago.

6
7 Information previously provided to the Board showed that, from 1997 to 2017,
8 Newfoundland Power achieved a 39% improvement in the reliability experienced by
9 customers. Over the same period, the Company’s contribution to customer rates
10 decreased by 24% on an inflation-adjusted basis.¹⁴

11
12 This performance, in Newfoundland Power’s view, is consistent with the least-cost
13 delivery of reliable service to customers. The Company has achieved this performance
14 through a focus on operating efficiencies and the *overall* costs borne by customers.

15
16 In some cases, achieving operating efficiencies and cost savings for customers requires
17 targeted capital investments. As a practical example, Newfoundland Power has deployed
18 Automated Meter Reading (“AMR”) meters throughout its service territory. Capital
19 investments were completed to automate virtually all customer meters by the end of
20 2017. This initiative allowed the Company to reduce meter reading costs by
21 approximately 65%, or \$1.8 million, between 2012 and 2017. Current customer rates
22 reflect these cost savings.¹⁵

23
24 Newfoundland Power’s *2020 Capital Budget Application* includes capital projects that
25 will further improve its operating efficiency. For example, the Company has proposed
26 \$756,000 in capital expenditures to continue automating its distribution system through
27 the installation of downline reclosers. These devices are recognized as providing both
28 reliability and efficiency benefits to customers through the more effective deployment of
29 line crews.¹⁶

30
31 Capital projects, such as the installation of AMR meters and downline reclosers, have
32 contributed to Newfoundland Power’s operating cost per customer being 7% lower in

¹⁴ In response to Request for Information PUB-NP-073 filed as part of Newfoundland Power’s *2019/2020 General Rate Application*, the Company indicated that, between 1997 and 2017, it achieved a 39% improvement in service reliability at a reduced cost to customers of 24% on an inflation-adjusted basis.

¹⁵ For more information, see Newfoundland Power’s *2019/2020 General Rate Application, Volume 1, Application Company Evidence and Exhibits, Section 2: Customer Operations*, page 2-6, line 15 *et seq.*

¹⁶ In its 2014 report addressing Newfoundland Power, Liberty stated: “Based on the “cold load pick up” issues Newfoundland Power experienced restoring heavy loaded feeders during the January 2014 rotating feeder outages, it identified that installing additional feeder sectionalizing, via fourteen SCADA-controlled downstream automatic circuit reclosers on heavily loaded feeders, would minimize recurrence of that problem. Probably as importantly, these new reclosers should improve both SAIDI and SAIFI metrics for those feeders. The automatic reclosers provide better isolation of faults, more timely restoration of feeders, and more efficient use of line crews.” See Liberty’s *Report on Island Interconnected System to Interconnection with Muskrat Falls addressing Newfoundland Power Inc.*, December 17, 2014, (page 18).

1 2018 than in 2009 on an inflation-adjusted basis.¹⁷ This operating cost performance was
 2 achieved while maintaining reliable service delivery for customers.

3
 4 The positive effect of capital investments on customer rates and service quality is also
 5 observed in Newfoundland Power's new service offering for Light Emitting Diode
 6 ("LED") street and area lighting.¹⁸ While LED fixtures carry a higher capital cost, this
 7 cost is more than offset by operating efficiencies.¹⁹ This yields lower overall rates for
 8 customers in comparison to traditional High Pressure Sodium ("HPS") fixtures, while
 9 providing more reliable lighting.²⁰ Newfoundland Power's 5-year capital plan includes a
 10 multi-year program to replace HPS fixtures with LED technology.²¹

11
 12 These examples are representative of how Newfoundland Power controls its capital
 13 expenditures in a manner that results in the delivery of reliable service to customers on an
 14 *overall* least-cost basis.

15 16 **E. Assessment of Engineered Operations**

17
 18 Following widespread customer outages in January 2014 known as #darkNL, the Board
 19 had Liberty conduct comprehensive reviews of the engineered operations of both
 20 Newfoundland Power and Newfoundland and Labrador Hydro.

21
 22 With respect to Newfoundland Power, Liberty found that:

23
 24 "Newfoundland Power's planning and design of its system, its asset management
 25 practices, its system operations, its outage management and emergency practices
 26 and its customer communications processes all conform to *good utility*
 27 *practices.*"²² [Emphasis added]

28
 29 "Its transmission and distribution systems operate effectively in *ensuring*
 30 *adequate service reliability*. Effective maintenance and capital programs, that
 31 appropriately recognize the age of its assets, have contributed materially to
 32 improved reliability."²³ [Emphasis added]

¹⁷ On an inflation-adjusted basis, based on 2018 dollars, Newfoundland Power's operating cost was \$225/customer in 2018 and \$241/customer in 2009 ((225 - 241) / 241 = -0.07, or -7%).

¹⁸ The introduction of LED street and area lighting for customers was approved by the Board in Order No. P.U. 2 (2019).

¹⁹ For more information, see Newfoundland Power's 2019/2020 General Rate Application, Volume 2, Supporting Materials, Report 7, LED Street Lighting.

²⁰ Current customer rates for LED street and area lighting are between 8% and 39% less for customers in comparison to equivalent rates for HPS fixtures.

²¹ See the 2020 Capital Budget Application, 2020 Capital Plan, page 7.

²² The Liberty Consulting Group, Executive Summary of Report on Island Interconnected System to Interconnection with Muskrat Falls addressing Newfoundland Power Inc., December 17, 2014, page ES-1.

²³ Ibid., page ES-2.

1 “Annual capital strategies include measures... well targeted to the needs of its
2 equipment. Asset management strategies have promoted improved system
3 reliability since 1998, while keeping annual *capital T&D expenditures under*
4 *control.*”²⁴ [Emphasis added]
5

6 Overall, Liberty’s findings indicate that Newfoundland Power’s engineered operations
7 are consistent with good utility practice, permit the delivery of reliable service to
8 customers, and have been effective in keeping annual capital expenditures under control.
9 This, in Newfoundland Power’s view, is consistent with the provincial power policy.

²⁴ Ibid., pages 51-52.