

1 **Q. (Application Volume 1, page 1-3) It is stated “The provincial power policy requires**
2 **Newfoundland Power to manage its operations in a manner that results in power being**
3 **delivered to customers at the lowest possible cost consistent with reliable service.”**
4 **Define “reliable service” and all criteria used by NP to determine what constitutes**
5 **reliable service.**

6
7 A. Newfoundland Power defines its current service delivery as reliable.

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9 In 1998, the Board retained a consultant to review and report on the quality of service
10 provided by Newfoundland Power to its customers. The Board’s consultant
11 recommended that the Company seek to improve the service reliability experienced by its
12 customers.¹ At that time, Newfoundland Power’s customers were experiencing an
13 average of 4.5 hours of outage annually.² This compared to a Canadian average of
14 3.1 hours.³

15
16 Newfoundland Power subsequently worked to improve the service reliability experienced
17 by its customers. Over the last decade, the Company’s customers experienced an average
18 of 2.5 hours of outage annually. This represents a 44% improvement over 1990s levels⁴
19 and is better than the current Canadian average of 5.2 hours.⁵

20
21 Newfoundland Power has viewed current levels of service reliability as acceptable for
22 about a decade.⁶ The Company’s customers have indicated a reasonable level of
23 satisfaction with its service delivery over this period.⁷

24
25 Newfoundland Power is now focused on maintaining current levels of service reliability
26 for its customers at the lowest possible cost. The service reliability experienced by
27 customers primarily reflects the general condition of the electrical system and the
28 Company’s response when customer outages occur.

¹ See D.G. Brown, P. Eng., *Report on Newfoundland Light and Power Co., Limited Re Quality of Service and Reliability of Supply*, page v.

² Over the period 1993 to 1997, Newfoundland Power’s System Average Interruption Duration Index (“SAIDI”) was 4.5 hours under normal operating conditions. Normal operating conditions do not include outages related to significant events or loss of supply.

³ Over the period 1993 to 1997, the SAIDI for Canadian Electricity Association (“CEA”) Region 2 utilities was 3.1 hours. CEA Region 2 utilities are those that serve a mix of urban and rural customers and include Newfoundland Power.

⁴ Over the period 2010 to 2019, Newfoundland Power’s SAIDI was 2.5 hours $((4.5 - 2.5) / 4.5 = 44\%)$.

⁵ Over the period 2010 to 2019, the Canadian average SAIDI was 5.2 hours.

⁶ 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), its 2019/2020 *General Rate Application* (see Volume 1, Section 1: Introduction, page 1-3, line 21), and in its 2022/2023 *General Rate Application* (see Volume 2, Section 1: Introduction, page 1-3, line 21).

⁷ Since 2011, customers’ satisfaction with Newfoundland Power’s service delivery has averaged approximately 86%.

1 The Company applies condition-based, cost-based and risk-based criteria to maintain its
2 electrical system. The specific criteria applied varies depending upon the asset and the
3 nature or justification of the required work.
4

5 Condition-based criteria are applied during inspections,⁸ condition assessments,⁹ and
6 engineering reviews.¹⁰ Cost-based criteria are applied in evaluating viable alternatives¹¹
7 and to confirm whether a project, such as extending the service life of a hydro plant, will
8 provide an economic benefit for customers.¹² Risk-based criteria are applied when
9 assessing the probability that an asset will fail and the potential consequences on the
10 service provided to customers.¹³
11

12 The application of these criteria regularly involves the quantification of costs and
13 customer benefits. Projects aimed at reducing costs to customers are accompanied by
14 well established economic analyses. The quantification of customer benefits includes, as
15 examples, the customer minutes of outage avoided through the deployment of emergency
16 thermal generation,¹⁴ hotline work methods,¹⁵ or distribution feeder automation.¹⁶
17

18 Additionally, Newfoundland Power maintains a skilled workforce throughout its service
19 territory to ensure a prompt response to customer outages. The Company deploys its
20 workforce in an efficient manner using a combination of workforce management,
21 operational technologies and electrical system automation.¹⁷

⁸ For example, the *Rebuild Distribution Lines* project included with Newfoundland Power's 2022 Capital Budget Application is inspection-based and forms part of the Company's preventative maintenance program for its distribution system.

⁹ For example, the *Hydro Facilities Rehabilitation* project included with Newfoundland Power's 2022 Capital Budget Application is based on the condition of hydro facilities as assessed during normal operations.

¹⁰ For example, the *Distribution Reliability Initiative* included with Newfoundland Power's 2022 Capital Budget Application includes an analysis of the Company's worst-performing feeders and an engineering review to determine whether capital expenditures will improve the service reliability experienced by customers in those areas.

¹¹ For example, the *Workforce Management System Replacement* project included with Newfoundland Power's 2022 Capital Budget Application assessed 2 alternatives using a net present value analysis.

¹² For example, the *Sandy Brook Plant Penstock Replacement* project included with Newfoundland Power's 2022 Capital Budget Application included an economic analysis to confirm that continued operation of the Sandy Brook Plant, including the proposed penstock replacement, will be least-cost for customers over the longer term.

¹³ For example, the *Transmission Line Rebuild* project included in Newfoundland Power's 2022 Capital Budget Application considers the risk of transmission line failure based on observed deterioration and deficiencies, and the resulting impact on customers.

¹⁴ For example, response to Request for Information CA-NP-025 filed in relation to Newfoundland Power's 2022 Capital Budget Application quantifies the customer benefits of the *Thermal Plant Facility Rehabilitation* project.

¹⁵ For example, response to Request for Information CA-NP-041 filed in relation to Newfoundland Power's 2022 Capital Budget Application quantifies the customer benefits of hotline work methods.

¹⁶ For example, response to Request for Information CA-NP-038 filed in relation to Newfoundland Power's 2022 Capital Budget Application quantifies the customer benefits of the *Distribution Feeder Automation* project.

¹⁷ See the 2022/2023 General Rate Application, Volume 1, Application, Company Evidence and Exhibits, Section 2: Customer Operations, Field Response, page 2-26 et seq.

1 Together, these criteria and the deployment of a skilled workforce allow Newfoundland
2 Power to meet its objective of maintaining reliable service for its customers at the lowest
3 possible cost.

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5 For additional information on how the Company balances the cost and reliability of the
6 service provided to its customers, see response to Request for Information
7 PUB-NP-010.