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HAND DELIVERED

August 6, 2019

Board of Commissioners
of Public Utilities
P.O. Box 21040
120 Torbay Road
St. John's, NL A1A 5B2

Attention: G. Cheryl Blundon
Director of Corporate Services
and Board Secretary

Ladies & Gentlemen:

Re: Rate Mitigation Options and Impacts Reference

A. Introduction

On June 5, 2019, Nalcor Energy filed its response to Information Request PUB-Nalcor-219, which asked:

“Please provide a quantitative analysis of Newfoundland Hydro’s observations regarding Newfoundland Hydro versus Newfoundland Power capital trajectory for investments in: (a) distribution, and (b) 138 and 66kV radial lines feeding distribution facilities.”

In providing its observations, Newfoundland and Labrador Hydro (“Hydro”) appears to have misapprehended Newfoundland Power Inc.’s (“Newfoundland Power” or the “Company”) capital programs and related capital expenditures.

This response aims to provide clarity to the Newfoundland and Labrador Board of Commissioners of Public Utilities (the “Board”) on certain broad observations raised by Hydro. It does not, however, provide a response to each individual point raised by Hydro.

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B. Newfoundland Power's Response

i. General

The reliability experienced by customers is principally a reflection of the general condition of the electrical system. Newfoundland Power invests in its electrical system to ensure the least-cost delivery of reliable service to customers, as required by the provincial power policy.¹

In response to Information Request PUB-NP-100, Newfoundland Power provided information to the Board on: (i) the Company's historical capital expenditures for distribution, transmission and substations over the period 2009 to 2018; and (ii) forecast capital expenditures for the same asset classes over the period 2019 to 2024.

Newfoundland Power's response to Information Request PUB-NP-100 detailed the primary drivers of the Company's capital investments both historically and on a forecast basis. The response also highlighted the historical improvement in reliability the Company achieved at a reduced cost to customers.

Overall, the response showed that: *"Newfoundland Power's historical and forecast capital expenditures are consistent with stable and predictable expenditures, good utility practice, and the delivery of reliable service to customers at least cost."*²

As detailed information has already been provided to the Board on Newfoundland Power's capital expenditures and overall performance, the remainder of this correspondence focuses on observations made by Hydro relating to Newfoundland Power's: (i) distribution capital expenditures; and (ii) transmission capital expenditures.

ii. Distribution Capital Expenditures

Hydro's observations regarding Newfoundland Power's distribution capital expenditures primarily relate to expenditures required to provide reliable service to customers, including Newfoundland Power's Distribution Reliability Initiative ("DRI").

¹ Section 3(b)(iii) of the *Electrical Power Control Act, 1994* requires that power be delivered to customers in the province at the lowest possible cost consistent with reliable service.

² See response to Information Request PUB-NP-100, page 6, lines 11 to 13.

Regarding Newfoundland Power's DRI, Hydro observed:

*“By targeting distribution feeders whose performance is worse than the company average, Newfoundland Power appears to target continued reduction in the frequency and duration of customer outages.”*³

This observation is incorrect from multiple perspectives.

First, Newfoundland Power's DRI does not target distribution feeders based on their performance being *below average*. Rather, the DRI targets feeders where the reliability experienced by customers is the *worst*.⁴

Newfoundland Power's DRI involves: (i) annually assessing the reliability performance of each feeder based on standard industry metrics; (ii) determining the cause of reliability issues for the 15 worst-performing feeders for each metric; and (iii) completing engineering assessments, where appropriate, to determine whether targeted capital expenditures on a feeder would improve reliability for customers in a particular area. This program is consistent with good utility practice and allows Newfoundland Power to focus on areas where the reliability experienced by customers is the *worst*.⁵

Second, Newfoundland Power's DRI does not target a continued improvement in the Company's *overall* reliability performance. Rather, the DRI focuses on ensuring an adequate level of reliability is experienced by customers in *specific* areas.

Newfoundland Power typically completes capital improvements on between 1 and 3 feeders annually under the DRI. Approximately 10% of the Company's distribution feeders have been included in this program over the past 20 years.⁶ While the DRI significantly improves the reliability experienced by customers in *specific* areas, the scale of the program is such that it does not result in a material improvement to Newfoundland Power's *overall* reliability performance. This is evidenced by the fact that Newfoundland Power's overall reliability performance has remained consistent over the last decade even with implementation of the DRI.⁷

³ See response to Information Request PUB-Nalcor-219, page 5 of 10, lines 12 to 14.

⁴ See Newfoundland Power's 2020 Capital Budget Application, Report 4.1 Distribution Reliability Initiative.

⁵ Programs to address worst-performing feeders are commonplace in the electric utility industry. A survey conducted by the Canadian Electricity Association Service Continuity Committee indicated that 81% of responding utilities identified their worst-performing feeders.

⁶ Of Newfoundland Power's approximately 300 distribution feeders, only 31 have been included in the DRI since 2000.

⁷ Under normal operating conditions (i.e. excluding significant events and loss of supply), Newfoundland Power's SAIDI was 2.57 in 2009 and 2.65 in 2018. The Company's SAIFI was 1.99 in 2009 and 1.67 in 2018.

Third, Newfoundland Power is not seeking to *improve* its overall reliability performance. Rather, the Company is focused on *maintaining* the overall reliability experienced by customers.

The Company has considered existing levels of electrical system reliability to be adequate for about a decade.⁸ Newfoundland Power is therefore focused on *maintaining* an adequate level of reliability for customers. The DRI is consistent with this approach and with meeting customers' service expectations.⁹

Regarding capital investments under Newfoundland Power's DRI, Hydro observed:

*"Newfoundland Power's capital program, in particular its Distribution Reliability Initiative, continues to drive substantial investment in distribution infrastructure despite Newfoundland Power's reliability statistics being significantly better than the CEA average."*¹⁰

This observation is incorrect.

Newfoundland Power's DRI does not drive substantial investment in distribution infrastructure.

The DRI accounts for less than 2% of Newfoundland Power's annual capital expenditures.¹¹ Capital expenditures under the DRI have remained reasonably consistent. Over the 5 year period from 2000 to 2004, capital expenditures averaged approximately \$1.8 million per year. Over the most recent 5 year period from 2015 to 2019, capital expenditures averaged approximately \$1.5 million per year.

⁸ In Newfoundland Power's 2010 General Rate Application, filed on May 28, 2009, 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), 2016/2017 General Rate Application (see *Volume 1 (1st Revision), Section 1: Introduction*, page 1-3, line 11), and 2019/2020 General Rate Application (see *Volume 1, Section 1: Introduction*, page 1-3, line 21).

⁹ Quarterly customer satisfaction surveys indicate the 2 most important issues to Newfoundland Power's customers are reliability and price.

¹⁰ See response to Information Request PUB-Nalcor-219, page 9 of 10, lines 18 to 21.

¹¹ For example, in 2019 Newfoundland Power's total capital expenditures are forecast to be \$103.6 million. Of this, \$1.8 million relates to the DRI ($\$1.8 \text{ million} / \$103.6 \text{ million} = 0.017$, or 1.7%)

Regarding the inclusion of Hydro's distribution assets under Newfoundland Power's DRI, Hydro observed:

*"It appears that if Newfoundland Power took ownership of Hydro's distribution assets, the Distribution Reliability Initiative would result in material capital investment in the distribution assets transferred from Hydro."*¹²

This observation is incorrect.

The basis of Hydro's observation appears to be Hydro's claim that:

*"the reliability performance of 139 of Hydro's 149 distribution feeders exceed Newfoundland Power's company average for SAIDI and SAIFI, and therefore would be candidates for reconstruction, partial reconstruction or refurbishment under their Distribution Reliability Initiative."*¹³

While it would be reasonable to expect that Newfoundland Power's capital expenditures would increase if the Company were required to maintain a higher number of distribution feeders to serve customers, the DRI does *not* target distribution feeders based on their performance being worse than the Company's average, as explained previously.

If Newfoundland Power were to assume ownership of Hydro's distribution assets, these assets would be reviewed annually as part of the Company's DRI along with Newfoundland Power's existing feeders. As with its current practices, the Company would determine through this review process whether targeted capital investments on the worst-performing feeders would benefit customers.

Regarding Newfoundland Power's approach to reliability management, Hydro observed:

*"[D]espite Newfoundland Power's reliability performance exceeding the Canadian average over the past 10 years, Newfoundland Power's reliability-related capital expenditures have trended upward."*¹⁴

This observation is incorrect.

¹² See response to Information Request PUB-Nalcor-219, page 9 of 10, line 21, to page 10 of 10, line 2.

¹³ See response to Information Request PUB-Nalcor-219, page 6 of 10, lines 2 to 5.

¹⁴ See response to Information Request PUB-Nalcor-219, page 5 of 10, lines 4 to 7.

Newfoundland Power considers reliability-related capital expenditures on its distribution system to include its DRI and Rebuild Distribution Lines capital projects.¹⁵

While capital expenditures under these programs were reduced in 2010 due to capital work related to storm damage, expenditures under these programs have been reasonably consistent over the last 2 decades.¹⁶ As points of comparison, total capital expenditures under these programs averaged \$4.9 million annually from 2000 to 2004 and \$5.3 million annually from 2015 to 2019. On an inflation-adjusted basis, capital expenditures under these programs are *lower* now than 2 decades ago.¹⁷

iii. Transmission Capital Expenditures

Regarding Newfoundland Power's overall transmission capital expenditures, Hydro observes:

“Newfoundland Power’s capital expenditures on 69 kV and 138 kV transmission lines materially exceeded that of Hydro on a historical basis.”¹⁸

Hydro's observations do not account for the differences between the transmission lines owned and operated by each utility.

The need to rebuild or reinforce a transmission line is often driven by deterioration that occurs over time and changes which occur in national standards. The aging of transmission lines is therefore a reasonable indicator of potential risks and the need for capital investment to mitigate those risks.

¹⁵ The *Rebuild Distribution Lines* project involves the replacement of deteriorated distribution structures and electrical equipment that have been previously identified through the ongoing preventative maintenance program or engineering reviews. Projects completed under this program consist of either the complete rebuilding of deteriorated distribution line sections or the selective replacement of various line components. In providing its observations on Newfoundland Power's distribution capital expenditures related to reliability, Hydro has included Newfoundland Power's Reconstruction capital project. However, unlike the DRI and Rebuild Distribution Lines capital projects, Reconstruction includes non-reliability-related capital expenditures. Reconstruction is comprised of small unplanned projects recognized during follow-up to operational problems, including power interruptions and customer trouble calls, such as the replacement of poles damaged in vehicle accidents.

¹⁶ In Order Nos. P.U. 17 (2010) and P.U. 35 (2010), the Board approved supplemental expenditures of approximately \$4.2 million relating to the March 2010 ice storm and \$1.9 million relating to Hurricane Igor, respectively.

¹⁷ On an inflation-adjusted basis total capital expenditures under these programs averaged \$7.4 million annually from 2000 to 2004 and \$5.5 million annually from 2015 to 2019.

¹⁸ See response to Information Request PUB-Nalcor-219, page 7 of 10, lines 8 to 10.

The majority of transmission lines that have been reconstructed under Newfoundland Power's *Transmission Line Rebuild Strategy* have been in service longer than Hydro's oldest lines.¹⁹ When comparing transmission lines of similar age, Newfoundland Power's total transmission capital expenditures are actually *less* than those of Hydro.²⁰

Regarding Newfoundland Power's rebuilding of transmission line 363L, versus Hydro's "life extension" of transmission line TL224, Hydro observes:

*"Hydro believes this example provides a useful comparison of Hydro and Newfoundland Power's transmission asset renewal strategies."*²¹

Hydro's observations do not account for the differences between transmission lines 363L and TL224, particularly as they relate to the reliability experienced by customers.

Transmission line 363L was originally constructed in 1963 and is a radial transmission line that serves as the only source of supply for approximately 2,800 customers on the Baie Verte Peninsula.²² A failure of transmission line 363L could result in prolonged outages to all customers in that area. Inspections identified significant deterioration of the line due to decay, splits and checks in the poles and spar arms, cracks in insulators and other hardware deficiencies, as well as non-standard and damaged conductor. Given the criticality of the line to serving customers and its general condition, Newfoundland Power commenced a multi-year project to rebuild this line in 2018.²³

By comparison, Hydro's transmission line TL224 is part of the 138 kV loop system from Deer Lake to Grand Falls. Because of this looped arrangement, transmission line TL224 is less critical than transmission line 363L in providing reliable service to customers.²⁴

¹⁹ Newfoundland Power filed its *Transmission Line Rebuild Strategy* with the Board as part of its *2006 Capital Budget Application*. This strategy prioritizes the rebuilding of transmission lines based on physical condition, risk of failure, and potential customer impact in the event of a failure. Approximately 77% of capital expenditures completed under Newfoundland Power's *Transmission Line Rebuild Strategy* have been on lines constructed prior to 1962.

²⁰ Information provided by Hydro indicates that its oldest line was constructed in 1962. Over the period 2006 to 2018, Newfoundland Power's capital expenditures totaled approximately \$30.7 million on transmission lines constructed after 1962. This compares to capital expenditures of \$53.6 million by Hydro.

²¹ See response to Information Request PUB-Nalcor-219, page 9 of 10, lines 8 to 10.

²² This includes approximately 1,000 customers served by Newfoundland Power and approximately 1,800 customers served by Hydro in this area.

²³ See Newfoundland Power's 2020 Capital Budget Application, Report 3.1 2020 Transmission Line Rebuild, page 2.

²⁴ Due to its looped configuration, TL224 can be removed from service and de-energized to facilitate repair without exposing customers to extended outages. Unlike TL224, 363L requires the deployment of a mobile generator to facilitate repairs in order to avoid an extended outage.

The positive impact of Newfoundland Power's capital programs on the reliability experienced by customers was acknowledged by The Liberty Consulting Group ("Liberty") in 2014. Liberty stated that: (i) Newfoundland Power uses an effective combination of periodic inspection and maintenance programs and capital *rebuild* and modernization projects; (ii) the Company's transmission line and pole inspection and corrective maintenance practices conform to good utility practices; and (iii) effective maintenance and capital programs, that appropriately recognize the *age* of its assets, have contributed materially to improved reliability.²⁵

C. Conclusion

We trust that the foregoing is in order.

If you have any questions, please contact the undersigned at your convenience.

Yours truly,



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c. Dennis Browne, QC
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²⁵ See The Liberty Consulting Group, *Report on Island Interconnected System to Interconnection with Muskrat Falls addressing Newfoundland Power*, December 17, 2014, page ES-2.