



Newfoundland and Labrador Hydro
Hydro Place, 500 Columbus Drive
P.O. Box 12400, St. John's, NL
Canada A1B 4K7
t. 709.737.1400 | f. 709.737.1800
nlhydro.com

August 8, 2022

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

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

Re: Newfoundland Power's 2023 Capital Budget Application – Requests for Information

Please find enclosed Newfoundland and Labrador Hydro's ("Hydro") requests for information NLH-NP-001 to 037 in relation to Newfoundland Power's 2023 Capital Budget Application.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Shirley A. Walsh
Senior Legal Counsel, Regulatory
SAW/sk

Encl.

ecc:

Board of Commissioners of Public Utilities
Jacqui H. Glynn
PUB Official Email

Consumer Advocate
Dennis M. Browne, QC, Browne Fitzgerald Morgan Avis & Wadden
Stephen F. Fitzgerald, Browne Fitzgerald Morgan Avis & Wadden
Sarah G. Fitzgerald, Browne Fitzgerald Morgan Avis & Wadden
Bernice Bailey, Browne Fitzgerald Morgan Avis & Wadden
Bernard M. Coffey, QC

Newfoundland Power Inc.
Dominic J. Foley
Lindsay S.A. Hollett
Regulatory Email

IN THE MATTER OF the *Public Utilities Act* (the “*Act*”); and

IN THE MATTER OF capital expenditures and rate base of Newfoundland Power Inc. (“Newfoundland Power”); and

IN THE MATTER OF an application by Newfoundland Power for an order pursuant to Sections 41 and 78 of the *Act*:

- (a) approving single-year 2023 capital expenditures in the amount of \$93,292,000;
- (b) approving multi-year projects with capital expenditures of \$10,483,000 in 2023 and \$10,645,000 in 2024; and
- (c) fixing and determining a 2021 rate base of \$1,202,946,000.

Newfoundland and Labrador Hydro

Requests for Information

NLH-NP-001 to NLH-NP-037

August 8, 2022

1 **GENERAL**

2 **NLH-NP-001 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29,**
 3 **2022, Application Cover Letter, p. 1.**

4 The Application confirms there has been no change in the nature, scope
 5 or magnitude of ongoing multi-year projects previously approved in
 6 Order Nos. P.U. 37 (2020), P.U. 12 (2021), and P.U. 36 (2021), with
 7 expenditures of \$19,688,000 in 2023 and \$4,276,000 in 2024. Further
 8 approval of these expenditures is therefore not required.

9 Please confirm the total capital expenditure for which Newfoundland Power is seeking
 10 approval in its 2023 Capital Budget Application.

11 **NLH-NP-002 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,**
 12 **2023 Capital Budget Overview, p. 9, sec. 2.3.3.**

13 **a)** Is there a direct relationship between Newfoundland Power's average annual capital
 14 expenditures of over \$100 million since 2016 and the resulting rate changes from
 15 the 2019/2020 General Rate Application and the 2022/2023 General Rate
 16 Application?

17 **b)** Would you expect similar rate impacts in future general rate applications if capital
 18 expenditures continued to average over \$100 million? Please explain.

19 **c)** Would a reduction in capital expenditures result in a decrease in Newfoundland
 20 Power's contribution to customer rates? Please explain.

21 **NLH-NP-003 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,**
 22 **2023 Capital Budget Overview, p. 18, Table 4.**

23 How would the materiality of Programs greater than \$5 million change if Newfoundland
 24 Power used a three-year average instead of a five-year average to determine program
 25 budgets (e.g., Extensions program, Reconstruction program)?

26 **NLH-NP-004 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,**
 27 **2023 Capital Budget Overview, Appendix B, p. 3, Table B-1.**

28 Please describe the modifications made to the scope of the Application Enhancements
 29 project and the costs of those additional modifications.

1 **NLH-NP-005** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
2 **2023 Capital Budget Overview, Appendix C, p. 1, f.n. 1.**

3 Newfoundland Power commenced an asset management review in
4 2022. This review is expected to take two years to complete and will
5 include, among other matters, an assessment of options to calculate risk
6 mitigation and reliability improvement values as required by the
7 Provisional Guidelines.

8 Please detail the steps that Newfoundland Power is taking in completing its asset
9 management review.

10 **NLH-NP-006** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
11 **2023 Capital Budget Overview, Appendix C, p. 3, Table C-1.**

12 a) Please confirm that the risk scores assigned to Newfoundland Power’s projects and
13 programs consider economics in addition to safety, reliability, and environment.

14 b) If confirmed, please provide the weightings applied to each component in deriving
15 the risk scores.

16 **NLH-NP-007** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
17 **2023 Capital Budget Overview, Appendix C, p. 3, Table C-1.**

18 a) Please provide the percentage of distribution feeders/lines that serve greater than
19 5,000 customers.

20 b) Please provide the percentage of transmission lines that serve greater than 5,000
21 customers.

22 c) Please provide the percentage of substations that serve greater than 5,000
23 customers.

24 **NLH-NP-008** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
25 **2023 Capital Budget Overview, Appendix D.**

26 Please provide Tables D-1, D-2, D-3, D-4, and D-5 with comparative data on Electricity
27 Canada Region 2, where available.

1 **NLH-NP-009** Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,
2 **2023–2027 Capital Plan, p. 1, para. 5.**

3 Newfoundland Power's investment priorities over the next five years
4 reflect an increased focus on the planned refurbishment of assets to
5 extend their useful service lives and the replacement of assets that
6 become deteriorated or fail in service.

7 **a)** Please specify what is changing from the current focus in Newfoundland Power's
8 investment priorities, and the reason for any such changes.

9 **b)** Please quantify the additional cost reflected in the five-year plan as a result of this
10 increased focus on these activities.

11 **c)** Based on the quantification, please estimate the projected annual capital
12 expenditures for the five-year plan if this increased focus on refurbishments and
13 replacements is not implemented.

14 **DISTRIBUTION**

15 **NLH-NP-010** Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,
16 **Schedule B, p. 8, para. 2 (Distribution Reliability Initiative).**

17 Newfoundland Power has proposed a targeted refurbishment of
18 Summerford (“SUM”) Substation distribution feeder SUM-01 for 2023
19 and 2024, which will include:

- 20 (i) Replacing 6.5 kilometres of deteriorated conductor;
21 (ii) Replacing poles, structures and other components identified
22 during inspection as being in poor condition, including
23 crossarms and insulators;
24 (iii) Installing an automated downline recloser on the two-phase tap
25 supplying the Virgin Arm/Moreton’s Harbour area; and
26 (iv) Replacing the existing hydraulic-style downline recloser, SUM-
27 01-R3, with a fully automated recloser.

28 **a)** What would be the reliability improvement associated with each individual upgrade
29 listed?

30 **b)** If only a subset of these upgrades is performed, would this system meet
31 Newfoundland Power’s average reliability indices? Please explain.

1 c) Please explain why installing and replacing the reclosers is expected to improve
2 reliability and why it needs to be included as part of these upgrades.

3 **NLH-NP-011 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,**
4 **Schedule B, p. 9, para. 4 (Distribution Reliability Initiative).**

5 Customers served by this feeder experienced an average outage
6 duration of 8.0 hours annually over the last five years, which is more
7 than four times Newfoundland Power's corporate average. The
8 frequency of outages experienced by these customers on New World
9 Island is more than double the corporate average.

10 Please provide a comparison of the System Average Interruption Duration Index
11 ("SAIDI") and System Average Interruption Frequency Index ("SAIFI") performance of
12 this feeder compared to the Electricity Canada Region 2 average.

13 **NLH-NP-012 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,**
14 **Schedule B, p. 9, para. 5 (Distribution Reliability Initiative).**

15 An engineering assessment determined the poor service reliability
16 experienced by these customers is due to equipment failures including
17 corroded or broken conductor, insulator failures, and deteriorated
18 poles.

19 What percentage of outages is due to each of the particular causes (broken conductor,
20 insulator failure, and deteriorated poles)?

21 **NLH-NP-013 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,**
22 **Schedule B, p. 10, para. 1 (Distribution Reliability Initiative).**

23 Data for distribution feeder SUM-01 indicates that there have been
24 153 outage incidents on the feeder between September 2019 and the
25 end of 2021.

26 a) Please define "outage incident."

27 b) Does Newfoundland Power monitor customer satisfaction through customer
28 complaints or stakeholder engagement (e.g., local town councils, businesses, etc.) in
29 evaluating adequacy of service reliability to the affected towns and businesses prior
30 to moving forward with a distribution rebuild project? If yes, please describe the
31 customer engagement process and provide any available documentation.

1 **NLH-NP-014 Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
2 **Schedule B, p. 13, Table 1 (Distribution Feeder Automation).**

3 Table 1 lists the downline reclosers to be installed in 2023 and the associated deployment
4 scenario.

5 **a)** For each of the feeders listed, please indicate the expected improvement in terms of
6 SAIDI and SAIFI by installing downline reclosers.

7 **b)** Please provide a comparison of SAIDI and SAIFI indices to Electricity Canada Region
8 2 average and corporate average reliability statistics.

9 **NLH-NP-015 Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
10 **Schedule B, p. 15, para. 3 (Distribution Feeder Automation).**

11 For example, the operation of five downline reclosers during a severe
12 blizzard in January 2020 avoided approximately 3.5 million customer
13 outage minutes without the assistance of field crews.

14 **a)** For this example, please indicate the improvements in five-year average SAIDI and
15 SAIFI expected due to the operation of five downline reclosers. Please compare this
16 to the corporate and Electricity Canada Region 2 averages.

17 **b)** Please provide the cost savings associated with not having to use field staff to
18 manually operate devices in the locations of the downline reclosers.

19 **NLH-NP-016 Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
20 **Schedule B, p. 15, f.n. 11 (Distribution Feeder Automation).**

21 As examples, the operation of a downline recloser in May 2019 quickly
22 restored service to 665 customers served by Chamberlains Substation
23 distribution feeder CHA-01 following an equipment failure. The
24 operation of a downline recloser on Hardwoods Substation distribution
25 feeder HWD-08 avoided over 96,000 customer outage minutes in
26 April 2020. In both cases, customer outages were reduced or avoided
27 without dispatching field crews.

28 **a)** For this example, please indicate the improvements in five-year average SAIDI and
29 SAIFI expected due to the operation of five downline reclosers. Compare this to the
30 corporate and Electricity Canada Region 2 averages.

- 1 **b)** Please provide the cost savings associated with not having to use field staff to
2 manually operate devices in the locations of the downline reclosers.

3 **NLH-NP-017** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
4 **Schedule B, p. 26, para. 1 (Distribution Feeder SLA-05 Refurbishment).**

5 An engineering assessment determined that the two single-phase
6 sections supplying Dundas, Dorset and Wexford streets off of Oxen
7 Pond Road are overloaded at approximately 135 amps each, which is
8 ‘outside of the Company’s planning guidelines for a single-phase
9 distribution line.

10 Please provide a copy of the engineering assessment.

11 **NLH-NP-018** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
12 **Schedule B, p. 26, para. 2 (Distribution Feeder SLA-05 Refurbishment).**

13 The least-cost alternative to address the overloaded conditions on
14 distribution feeder SLA-05 is to complete a voltage conversion on a
15 section of feeder and transfer the load to adjacent distribution feeder
16 SLA-08, which operates at 12.5 kV.

- 17 **a)** What is the estimated cost to upgrade the single-phase taps to three-phase without
18 completing the voltage conversion?

- 19 **b)** Please provide a cost-benefit analysis demonstrating which alternative is least cost.

20 **NLH-NP-019** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
21 **Schedule B, p. 30, para. 2 (Distribution Feeder PEP-02 Refurbishment).**

22 The primary conductor faults are becoming more frequent, with eight
23 faults occurring since July 2020. Approximately \$54,000 in maintenance
24 costs to repair failed primary underground conductor have been
25 incurred in the last 1.5 years.

- 26 **a)** Please provide the SAIDI and SAIFI history for this feeder.

- 27 **b)** Please indicate the improvements expected in terms of SAIDI and SAIFI due to this
28 change.

1 **NLH-NP-020** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
2 **Report 1.2 Feeder Additions for Load Growth.**

3 a) Please provide a load forecast for both feeders PUL-01 and PUL-04 for the next five
4 years.

5 b) Given that the customers are residential and commercial, what Customer Demand
6 Management opportunities were considered as part of the analysis for the two load
7 growth projects?

8 **NLH-NP-021** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
9 **Report 1.2 Feeder Additions for Load Growth, sec. 3.3, p. 7, para. 2.**

10 The analysis showed that the load on the identified single-phase section
11 of the feeder is approximately 185 amps, which exceeds the Company’s
12 planning criteria for maximum current on a single-phase distribution
13 line.

14 Newfoundland Power states that distribution feeder PUL-04 has a single-phase section
15 with 185 Amps that exceeds the Company's planning criteria for maximum current on
16 the single-phase distribution line. Why was this section of line not upgraded before this
17 year as it is exceeding the planning criteria by 100 Amps?

18 **SUBSTATIONS**

19 **NLH-NP-022** **Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
20 **Schedule B, pp. 77–80 (Walbournes Substation Refurbishment and Modernization) and**
21 **Schedule B, pp. 81–84 (Molloy’s Lane Substation Refurbishment and Modernization).**

22 a) Please provide the criteria used to rank and identify substations for refurbishment
23 and modernization.

24 b) Please provide the details of condition assessment data inputs and the methodology
25 used.

26 c) Please provide Newfoundland Power’s methodology for ranking substation
27 criticality.

28 d) Does Newfoundland Power have a criticality scoring for ranking the criticality for all
29 of its substations?

1 **NLH-NP-023 Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
2 **Schedule B, pp. 88–91 (Substation Spare Transformer Inventory).**

3 a) Please provide a summary of instances over the past ten years where unavailability
4 of spare transformers has resulted in new or extended customer outages.

5 b) Please provide the quantity of spare transformers in Newfoundland Power’s fleet
6 that are 66-25/12.5 kV rates units up to 25 MVA.

7 c) Of the 11 transformers that failed in the last five years, please provide the age for
8 each at the time of failure.

9 **NLH-NP-024 Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
10 **Schedule B, pp. 100–103 (Substation Replacements Due to In-Service Failures).**

11 Has Newfoundland Power considered replacement of individual substation assets in a
12 planned manner? If so, please provide a cost-benefit analysis comparing this approach
13 to Newfoundland Power’s current approach. If not, why not?

14 **TRANSMISSION LINE REBUILD**

15 **NLH-NP-025 Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
16 **Schedule B, pp. 105–107 (Transmission Line 55L Rebuild).**

17 a) Please provide annual preventive maintenance expenditures for maintenance
18 carried out on Transmission Line 55L for the period 2017–2021.

19 b) Please provide annual corrective maintenance expenditures for maintenance
20 carried out on Transmission Line 55L for the period 2017–2021.

21 **NLH-NP-026 Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
22 **Schedule B, pp. 105–107 (Transmission Line 55L Rebuild).**

23 Please provide a list of outages, including duration, on an annualized basis, related to
24 component failure on Transmission Line 55L for the period 2017–2021. If available,
25 please provide relevant reliability statistics.

1 **NLH-NP-027 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,**
2 **Schedule B, pp. 105–107 (Transmission Line 55L Rebuild).**

3 **a)** Of the Transmission Line 55L poles identified as deteriorated, what quantity of poles
4 has been identified as deteriorated through mechanical testing (i.e., sounding or
5 core sampling)?

6 **b)** Does Newfoundland Power plan to test a portion of poles removed to build a
7 condition assessment database for the purpose of establishing a maintenance
8 program? If not, why not?

9 **c)** Does Newfoundland Power consider the degree of deterioration (decay, shell
10 separation, and checking) in determining whether wood poles require replacement?
11 If so, please provide the thresholds utilized for such decisions. If not, why not?

12 **NLH-NP-028 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,**
13 **Schedule B, p. 107, para. 2 (Transmission Line 55L Rebuild).**

14 Inspections have identified that half of the poles on this line are
15 deteriorated and a significant quantity of structures contain
16 deficiencies. The probability of failure is therefore likely.

17 Please explain how Newfoundland Power quantifies the probability of failure and
18 quantifies the consequence of failure in risk ratings.

19 **NLH-NP-029 Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,**
20 **Report 3.1 2023 Transmission Line Rebuild, p. 3, Table 1.**

21 **a)** Have these expenditures been part of the Transmission Line Maintenance program?
22 If not, have these costs been treated as operating expenses?

23 **b)** Please explain what Newfoundland Power considers a "lengthy customer outage."

24 **c)** Please list each occurrence of a "lengthy customer outages" over the past five years
25 for the customers being served by Transmission Line 55L.

1 **NLH-NP-030** Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,
2 **Report 3.1 2023 Transmission Line Rebuild, p. 4, sec. 4.2.**

3 a) Please provide the outage minutes per customer served on Transmission Line 55L
4 for each year over the period 2012–2021.

5 b) Does Newfoundland Power consider the level of service provided by Transmission
6 Line 55L in 2021 to be reliable? If not, why not?

7 **NLH-NP-031** Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,
8 **Report 3.1 2023 Transmission Line Rebuild, p. 9, sec. 6.0.**

9 The rebuilding of Transmission Line 55L was deferred by over 15 years.
10 However, based on its age, condition and criticality, continued
11 maintenance is no longer feasible.

12 a) Please provide a comparison of the current condition assessment and the previous
13 most recent condition assessment and explain in detail what changes in the
14 condition assessment makes it "no longer feasible" to defer the rebuild even one
15 year.

16 b) Is the 15-year deferral statement based on the average life assumption of a
17 transmission line or as a result of targeted capital investments made to extend the
18 life of the line? Please explain. If the latter, please provide the capital costs incurred
19 by year to defer the rebuilding of Transmission Line 55L.

20 **TRANSMISSION LINE MAINTENANCE**

21 **NLH-NP-032** Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29, 2022,
22 **Schedule B, p. 108 (Transmission Line Maintenance).**

23 Does Newfoundland Power conduct transmission line maintenance activities that are
24 operating in nature (i.e., expensed and not capitalized)? If so, please provide the total of
25 transmission line maintenance costs expensed in 2021.

1 **GENERATION**

2 **NLH-NP-033** Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,
3 Schedule B, pp. 114–117 (Mobile Hydro Plant Refurbishment).

4 a) What is the anticipated useful life of the Mobile hydroelectric plant following
5 completion of the proposed refurbishment?

6 b) Did Newfoundland Power consider replacement of the generating unit as an
7 alternative? If not, why not? If so, please provide the cost-benefit analysis.

8 **NLH-NP-034** Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,
9 Report 4.1 Sandy Brook Hydro Plant Generator Refurbishment, p. 11, para. 6.

10 The generator stator windings will be designed and ordered early in
11 2023. Disassembly of the generator will commence when the unit is
12 taken out of service to start the penstock replacement in June 2023.

13 Did Newfoundland Power consider replacement of the generating unit as an
14 alternative? If not, why not? If so, please provide the cost-benefit analysis.

15 **INFORMATION SYSTEMS**

16 **NLH-NP-035** Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,
17 Schedule B, pp. 145–150 (System Upgrades).

18 a) Please indicate which projects, if any, are cloud computing arrangements.

19 b) Please provide the breakdown between implementation costs and subscription fees.

20 **NLH-NP-036** Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,
21 Schedule B, pp. 145–150 (System Upgrades).

22 In the event that any of the projects are cloud computing arrangements, please provide:

23 a) Newfoundland Power’s accounting policies on cloud computing arrangements;

24 b) Newfoundland Power’s analysis and position regarding the accounting treatment of
25 costs associated with the project including how costs met the criteria to be
26 capitalized or expensed as outlined in company policy and accounting standard;

- 1 c) Newfoundland Power’s analysis and position on the use of cloud computing
 2 arrangements or on-premise solutions for the systems being upgraded and how this
 3 was determined to be the least cost solution; and
- 4 d) Criteria used to make decisions about movement to cloud computing arrangements
 5 versus on-premise solutions.

6 **NLH-NP-037 Reference: “2023 Capital Budget Application,” Newfoundland Power Inc., June 29, 2022,**
 7 **Schedule B, p. 147, item (iii), para. 3 (System Upgrades).**

8 The Financial Management System was last upgraded in 2020. Since the
 9 last upgrade, the vendor has introduced a new policy that requires
 10 upgrades on an annual cycle as opposed to the previous upgrade cycle
 11 of every two to three years. An annual upgrade is now required in order
 12 to receive vendor support, bug fixes and security updates necessary to
 13 keep pace with evolving cybersecurity threats.

- 14 a) Please provide Newfoundland Power’s analysis and supporting accounting
 15 standards on the capitalization of software upgrades that are required annually;
- 16 b) Please provide descriptions of any enhanced functionality that is completed in the
 17 upgrade and if the upgrade is also expected to increase the life of the software; and
- 18 c) Please provide the expected useful life of the upgrade and the treatment of the
 19 costs upon the end of the useful life of the software.

20 **DATED** at St. John’s, in the province of Newfoundland and Labrador this 8th day of August, 2022.



Shirley A. Walsh
 Senior Legal Counsel, Regulatory
 Newfoundland and Labrador Hydro
 500 Columbus Drive P.O. Box 12400
 St. John's, NL A1B 4K7
 Telephone: (709) 685-4973