newfoundland 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
www.nlh.nl.ca

July 13, 2021

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 & Board Secretary

Dear Ms. Blundon:

Re: Newfoundland Power's 2022 Capital Budget Application – Requests for Information

Please find enclosed Newfoundland and Labrador Hydro's Requests for Information NLH-NP-001 to NLH-NP-043 in relation to Newfoundland Power's 2022 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

Newfoundland Power
Dominic J. Foley
Regulatory Email

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

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 a 2022 Capital Budget of $109,651,000; (b) approving certain capital expenditures related to multi-year projects commencing in 2022; and (c) fixing and determining a 2020 rate base of $1,181,897,000.

Newfoundland and Labrador Hydro

Requests for Information

NLH-NP-001 to NLH-NP-043

July 13, 2021

NLH-NP-001 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 2.1, 2022 Substation Refurbishment and Modernization**

a) On what basis is the replacement of HUM-T3 justified (e.g., asset condition, load requirements, etc.)?

b) Following elimination of the 4.16 kV infrastructure, in what year does Newfoundland Power forecast the Humber Substation 12.5 kV load to exceed the capacity of HUM-T3?

c) Has the HUM-T3 on-load tap changer continued to experience gassing? If so, what attempts has Newfoundland Power made to address the gassing issue?

d) Newfoundland Power provided a condition assessment report to support the replacement of HUM-T2. Does Newfoundland Power have a similar condition assessment report to support the replacement of HUM-T3? If so, please provide. If not, why not?

NLH-NP-002 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 2.1, 2022 Substation Refurbishment and Modernization at p.3**

In considering the replacement of the Tors Cove Substation, did Newfoundland Power undertake an economic assessment of the continued operation of the Tors Cove Hydro Plant? If yes, please provide. If not, why not?

NLH-NP-003 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Schedule B, Replace Vehicles and Aerial Devices 2022-2023 (Other, Multi-Year) at p. 70**

Please provide the quantity of vehicles currently in Newfoundland Power's fleet by the vehicle categories identified in Table 1.

NLH-NP-004 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Schedule B, Replace Vehicles and Aerial Devices 2022-2023 (Other, Multi-Year) at pp. 70–72**

a) Has Newfoundland Power considered extension of its replacement criteria for heavy- and light-duty vehicles (e.g., from 5 years/150,000 km to 7 years/200,000 km)? If not, why not?

b) When was the last time Newfoundland Power reviewed its replacement criteria?

NLH-NP-005 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 4.1, Distribution Reliability Initiative at p.3**

a) Please provide a comparison of the distribution interruption statistics five-year average of BCV-04 and the company average against that of CEA region 2.

b) Does Newfoundland Power consider the relative reliability of its distribution lines in comparison to that of CEA region 2 in developing its Distribution Reliability Initiative project? If not, why not?

NLH-NP-006 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 4.1, Distribution Reliability Initiative at p.3**

a) Does Newfoundland Power's reliability statistics include outages originating upstream of the distribution line?

b) Hydro's five-year average service continuity SAIDI and SAIFI for the period (2016–2020) are 17.74 and 5.68, respectively, which includes outages of any origin impacting a Newfoundland and Labrador Hydro ("Hydro") distribution customer. Please provide a comparison of Newfoundland Power's reliability statistics calculated on that basis, to that of Hydro.

c) Does Newfoundland Power consider the relative reliability of its distribution lines compared to that of Hydro's rural customers in developing its Distribution Reliability Initiative project? If not, why not?

NLH-NP-007 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 3.1, Transmission Line Rebuild at p.3**

Of the transmission lines 94L and 124L poles identified as deteriorated, what quantity of poles on each line has been identified as deteriorated through mechanical testing (i.e., sounding or core sampling)?

NLH-NP-008 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 3.1, Transmission Line Rebuild**

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

NLH-NP-009 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 3.1, Transmission Line Rebuild at p.3**

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

NLH-NP-010 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 3.1, Transmission Line Rebuild at p. 2**

In cases where ice and wind loading causes stretching of the conductor and reduction in ground clearance, does Newfoundland Power consider the installation of mid-span structures as opposed to rebuilding sections of transmission lines? If not, why not?

NLH-NP-011 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 3.1, Transmission Line Rebuild at p.3**

Please provide a list of outages, including duration, on an annualized basis, related to component failure on 124L and 94L for the period 2016–2020. If available, please provide relevant reliability statistics.

NLH-NP-012 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 3.1, Transmission Line Rebuild**

a) Please provide annual preventive maintenance expenditures for maintenance carried out on transmission lines 124L and 94L for the period 2016–2020.

b) Please provide annual corrective maintenance expenditures for maintenance carried out on transmission lines 124L and 94L for the period 2016–2020.

NLH-NP-013 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Schedule A, Transmission Line Maintenance and 3rd Party Relocations (Pooled) at p. 22**

a) Please provide a breakdown of the expenditures presented in Table 2 by general maintenance and third-party relocation expenditures.

b) Is Newfoundland Power forecasting its general maintenance capital expenditures to decrease as its transmission infrastructure is rebuilt? If not, why not?

NLH-NP-014 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A, Table 2 at p.A-3**

a) Please provide Newfoundland Power's definition of the winter period and the numbers of hours contained within the winter period.

b) Please provide Newfoundland Power's calculation of average normal production of the South Brook Hydro Plant.

c) Please provide the output in MW of the Sandy Brook Plant during the hour of system peak for the last for the ten-year period from 2011 to 2020.

NLH-NP-015 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A**

The justification of the project indicates it is supported by an assessment of the benefits associated with sale of the energy to export markets. In 2020, as reported in Nalcor Energy's Annual Financial Statements, Nalcor Energy Marketing stated its realized electricity price was $23 CDN per MWh for its export sales. Please provide a cost-benefit analysis for this project assuming an electricity price of $23 CDN per MWh.

NLH-NP-016 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A, Table 2 at p.A-3**

The analysis states that the calculation of benefits was based on a calculated all-hours electricity price. Given that Newfoundland and Labrador Hydro is projected to have an excess of energy available for export following the in-service of the Muskrat Falls Project, it is likely that any energy made available as part of this project would increase the energy available for export in off-peak hours. Please provide a cost-benefit analysis for this project assuming an electricity price calculated using winter off-peak and summer all hours pricing only.

NLH-NP-017 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A**

Does Newfoundland Power's economic analysis consider the costs associated with transmission tariffs (as published on the Newfoundland and Labrador System Operator OASIS portal) that would be incurred when selling energy in the export market? If yes, please provide the assumptions regarding such costs utilized for the analysis, and the basis of these assumptions. If not, why not?

NLH-NP-018 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A**

The calculation of benefits used marginal cost information. As the *Reliability and Resource Adequacy Study Review* proceeding is ongoing, there remains uncertainty with respect to the timing of the next resource addition. As noted in Newfoundland Power's application, the Board of Commissioners of Public Utilities' ongoing review of Newfoundland and Labrador Hydro's "Reliability and Resource Adequacy Study" may impact the need for capacity additions. Did Newfoundland Power consider or perform any sensitivity analysis considering marginal cost? If so, please provide the results of such analysis. If not, why not?

NLH-NP-019 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A**

a) Please provide a cost-benefit analysis for this project assuming a marginal cost of 25% of stated values.

b) Please provide a cost-benefit analysis for this project assuming a marginal cost of 50% of stated values.

c) Please provide a cost-benefit analysis for this project assuming a marginal cost of 75% of stated values.

NLH-NP-020 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A, Attachment C**

a) Newfoundland Power notes that beyond 2030, 2030–2042 marginal cost projections were escalated based on the Conference Board of Canada GDP deflator, long-term projection dated December 5, 2019. Please explain Newfoundland Power's rationale as to why Gross Domestic Product ("GDP") is an appropriate escalation for marginal cost given that the marginal cost is based on market energy pricing?

b) Please provide a cost-benefit analysis for this project removing the effects of GDP escalation on marginal cost.

NLH-NP-021 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A, Attachment D**

What marginal cost information was used to calculate the benefits associated with the project for the period from 2042 to 2071?

NLH-NP-022 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A**

a) What is the class of the capital cost estimate which supports the application for this project? If class is unavailable, what is the accuracy range of this estimate?

b) Did Newfoundland Power conduct a sensitivity analysis with respect to capital costs? If so, please provide the results of this analysis. If not, why not?

c) Please provide a cost-benefit analysis for this project assuming cost overruns of 25%.

d) Please provide a cost-benefit analysis for this project assuming cost overruns of 50%.

NLH-NP-023 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 7.1, 2022 Application Enhancements**

For each of the enhancements detailed in Appendices A, B, and C, Newfoundland Power has identified labour savings for Years 0 to 7. Will these labour savings result in a reduction in full-time equivalents ("FTE")? If yes, how many FTEs are expected to be eliminated as a result? If not, how will these labour savings be achieved?

NLH-NP-024 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 7.1, 2022 Application Enhancements at p.7**

Please provide the detailed breakdown of the three-year (2018–2020) historical costs for the Various Minor Enhancements projects by initiative and cost type by year.

NLH-NP-025 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 7.1, 2022 Application Enhancements, Table 1 at p.1**

Please provide a breakdown of the costs classified as "Other."

NLH-NP-026 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 7.1, 2022 Application Enhancements, Table 3 at p.8**

Please provide a breakdown of the costs classified as "Other."

NLH-NP-027 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 7.1, 2022 Application Enhancements, sec 2.2 at p.3**

Please provide the basis for the estimate for the new Technology Service Management Solution, including any assumptions used in the development of the estimate.

NLH-NP-028 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 7.2, 2022 System Upgrades p.3**

Please provide the actual expenditures, by cost type, for Various Minor Upgrades for the three-year period utilized to calculate the average cost used for the 2022 project budget.

NLH-NP-029 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 7.3, Workforce Management System Replacement**

a) Is extended support available for the Click workforce management software beyond 2023? If so, was this alternative considered?

b) Please provide a breakdown of the "Other" costs identified in Table 1, $240,000 in 2022 and $685,000 in 2023, for the Workforce Management System Replacement project budget.

c) Please provide the basis and/or support on which the estimated replacement cost was developed.

NLH-NP-030 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Schedule A, Personal Computer Infrastructure at p.84**

a) Please extend Table 1 to include the years 2018 and 2019, to reflect the full five-year life cycle for PC devices.

b) Does Newfoundland Power's proposed replacement and total Mobile devices include rugged devices?

c) Does Newfoundland Power's proposed replacement and total Desktop devices include workstations?

d) Please provide replacement criteria and 2018–2022B additions, retirements, and total devices for peripheral equipment replaced within this project.

NLH-NP-031 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021,**

Has Newfoundland Power analyzed the capacity of its internal resources to execute the large volume of Information Systems projects that are ongoing or have been proposed, including the ongoing Customer Service System Replacement project? If such analysis has been completed and has indicated a need for additional resources (internal or external), please provide Newfoundland Power's plan and associated costs to address those needs.

NLH-NP-032 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 4.2, Feeder Additions for Load Growth at p.3 footnote 5**

Did Newfoundland Power undertake a cost-benefit analysis comparing the net present value of upgrading the two-phase section of PUL-03 compared to that of the selected alternative? If yes, please provide. If not, why not?

NLH-NP-033 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 4.2, Feeder Additions for Load Growth at p.5 footnote 10**

Did Newfoundland Power undertake a cost-benefit analysis comparing the net present value of completing a load transfer between SPF-01 and SPF-02 to that of the selected alternative? If yes, please provide. If not, why not?

NLH-NP-034 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 4.2, Feeder Additions for Load Growth at p.8 footnote 17**

Did Newfoundland Power undertake a cost-benefit analysis comparing the net present value of completing a load transfer between VIR-01 and the adjacent distribution line to that of the selected alternative? If yes, please provide. If not, why not?

NLH-NP-035 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021 2022 Capital Plan, sec 2.3.2 at p.11**

Citation:

> On a *pro forma* basis, the Company's 2022 revenue requirement is estimated to increase by approximately $2 million as a result of the capital projects proposed for 2022.

Please provide a detailed breakdown of this calculation in the following table format for both 2022 and 2023:

	2022	2023
Rate Base (A)		
Return % (B)		
Return (A × B = C)		
Depreciation (D)		
Operating and Maintenance (E)		
Income Tax (F)		
Revenue Requirement (C + D + E + F = G)		

NLH-NP-036 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021 2022 Capital Plan, sec 2.3.2 at p.12**

Citation:

> Since 2014, Newfoundland Power's contribution to revenue requirement has increased by approximately 6%. On an inflation-adjusted basis, the Company's contribution to revenue requirement has decreased by approximately 2%

Please provide the revenue requirement impact of the change in capital in Newfoundland Power's rate base (including depreciation, return, and interest) by year from 2014 to 2021.

NLH-NP-037 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021 2022 Capital Plan, sec 2.3.2 at p.12**

Citation:

> Table 3 shows Newfoundland Power's actual and inflation-adjusted contribution to revenue requirement in 2014 and 2021.

Please restate Table 3 to compare 2010 to 2021.

NLH-NP-038 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021 2022 Capital Plan, sec 2.3.2 at p.13**

Citation:

> Newfoundland Power's contribution to average customer rates has increased by approximately 17% over the last 2 decades. On an inflation-adjusted basis, the Company's contribution to average customer rates decreased by 21%.

a) Please provide Newfoundland Power's contribution to customer rates, nominal and inflation adjusted, as a result of changes to capital in rate base (including depreciation, interest, and return) for 2000, 2022, and 2023.

b) Please provide Newfoundland Power's contribution to customer rates, nominal and inflation adjusted, for 2000, 2022, and 2023 using a consistent Weighted Average Cost of Capital of 7.04% for each year.

NLH-NP-039 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, 2022 Capital Plan, sec 2.3.2 at p.13**

Citation:

> Table 4 compares Newfoundland Power's total contribution to average customer rates in ¢/kWh in 2000 and 2021.

Please restate Table 4 to compare 2010 to 2021.

NLH-NP-040 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1**

The cost for distribution line upgrade and extension work listed in Newfoundland Power's 2021 CIAC policy range from $32 per metre to $64 per metre.

It appears that the average cost per metre of distribution line construction and extension in Newfoundland Power's Feeder Additions for Load Growth and Distribution Reliability Initiative projects is approximately $182 per metre. Please explain this discrepancy.

NLH-NP-041 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement, Appendix A**

Please provide cost-benefit analysis for this project assuming a 25% reduction in marginal costs and a 25% increase in capital costs.

NLH-NP-042 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021, 2022 Capital Plan**

In light of the current operating environment and anticipated rate pressures, please detail the efforts considered and/or undertaken by Newfoundland Power to manage its capital investment levels and associated impact on customers.

NLH-NP-043 **Reference: "2022 Capital Budget Application," Newfoundland Power, May 18, 2021**

Please describe the considerations, review, and approval process that takes place at the senior management/executive level in scrutinizing Newfoundland Power's Capital Budget Application, in particular, the level of investment that is requested on an annual and five-year plan basis.

DATED at St. John's, in the Province of Newfoundland and Labrador this 13th day of July, 2021.

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
Email: shirleywalsh@nlh.nl.ca