NEWFOUNDLAND AND LABRADOR
BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
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2021-08-12

Shirley Walsh
Senior Legal Counsel, Regulatory
Newfoundland and Labrador Hydro
P.O. Box 12400
Hydro Place, Columbus Drive
St. John's, NL A1B 4K7

Dear Ms. Walsh:

Re: Newfoundland and Labrador Hydro – 2021 Capital Budget Supplemental Application Approval of the Construction of Phase 1 of Hydro's Long-term Supply Plan for Southern Labrador – Requests for Information

Enclosed are Requests for Information PUB-NLH-001 to PUB-NLH-030 regarding the above-noted application.

If you have any questions or require any clarification, please do not hesitate to contact the undersigned.

Yours truly,

Cheryl Blundon
Board Secretary

CB/rr

Enclosure

ecc **Newfoundland and Labrador Hydro**
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IN THE MATTER OF
the *Electrical Power Control Act, 1994*,
SNL 1994, Chapter E-5.1 (the "*EPCA*")
and the *Public Utilities Act*, RSNL 1990,
Chapter P-47 (the "*Act*"), as amended, and
regulations thereunder; and

IN THE MATTER OF an application by
Newfoundland and Labrador Hydro ("Hydro")
for an order approving the construction of Phase 1
of Hydro's long-term supply plan for Southern
Labrador, pursuant to section 41(3) of the *Act*.

PUBLIC UTILITIES BOARD
REQUESTS FOR INFORMATION

PUB-NLH-001 to PUB-NLH-030

Issued: August 12, 2021

General

PUB-NLH-001 Paragraph 2 of the Application states that Hydro has been studying long-term supply options, in particular the possibility of interconnection, for certain communities in southern Labrador since the early 2000s. Please explain why Hydro is proposing interconnection as the long-term supply option at this time, especially in light of increasing rate pressures and rate mitigation efforts.

PUB-NLH-002 Please provide the change in the rural deficit for the Labrador isolated area cost of service and the impact on rates should this project be approved.

PUB-NLH-003 What is Hydro's total proposed capital budget for 2022 including this project, Hydro's 2022 Capital Budget Application, as well as submitted and planned supplemental capital expenditures applications?

Schedule 1 – Long-Term Supply for Southern Labrador – Phase 1

PUB-NLH-004 Figure 2, page 9 graphs the incremental revenue requirements for the Interconnection vs. Status Quo.

a) Please confirm whether "Status Quo" represents Alternative 1 or if it is the current operating system in the four communities.
b) If the "Status Quo" is the current system, please prepare a similar graph showing the incremental revenue requirements for the interconnection to Alternative 1, and if "Status Quo" is Alternative 1, please prepare a similar graph showing the incremental revenue requirements for the interconnection to the current operating system.
c) Please update the rate impacts in Table 1, page 9 for the scenarios noted above.

PUB-NLH-005 Please provide an estimate of cost of work completed to date on the Southern Labrador proposal.

PUB-NLH-006 Table 1, page 9 provides the rate impact on customers every five years. Please provide a similar table showing the rate impact on customers for every year from 2024 to the end of the study period.

PUB-NLH-007 Is any infrastructure (e.g., generation and/or transformation capability, breakers, etc.) planned for Phase 1 that would not be necessary in the event that Hydro decided against proceeding with the subsequent phases? If so, please identify the infrastructure that would be extraneous or oversized from a load perspective and outline the measures Hydro has undertaken to lessen or avoid any extraneous or oversized infrastructure in the event that Phase 2 and Phase 3 do not proceed.

PUB-NLH-008 How are the economics of the project and the financial analysis impacted if Phase 2 and Phase 3 do not proceed?

PUB-NLH-009 Page 7, lines 22-23, states with respect to Alternative 4 (Interconnection to the Labrador Interconnected System) that "Preliminary cost estimates prepared by Hydro indicate that the total capital cost of such an interconnection would be in excess of $400 million." Please provide the assumptions and analyses used to arrive at the $400^{+} million estimate.

PUB-NLH-010 Further to PUB-NLH-009 please provide the screening factors and the analyses that Hydro employed to dismiss Alternative 4 from consideration.

PUB-NLH-011 Please provide a technical depiction illustrating a typical structure built to a 66 kV standard but operated at 25 kV and highlight the differences as compared to a typical 25 kV structure.

PUB-NLH-012 If the proposed capital project is approved, are there any additional capital expenditures required over the next three years for the continued operation of the three mobile gensets in Charlottetown while Phase 1 is being completed?

PUB-NLH-013 Footnote 7 on page 8 states "Hydro forecasts a reduction on operating, maintenance, fuel, and overhaul costs of $1 million in 2035 and $2.8 million by 2055." Please provide the assumptions and analyses used to derive these forecast reductions as well as the reduction forecasts for all years from 2024 to the end of the study period.

PUB-NLH-014 Page 4, line 2, states "The Port Hope Simpson Diesel Generating Station has three units with an installed capacity of 1,725 kW…" What is the plan for the three units once the new regional diesel generating station is completed in Port Hope Simpson?

PUB-NLH-015 The application is requesting approval of a $72.6 million capital project to provide service to four communities in Southern Labrador.

a) Please provide the estimated cost of this project per ratepayer that will be receiving service from this capital project.
b) How much will these ratepayers be contributing towards the costs of this project in their rates?
c) How much will the rates of the other ratepayers in the province contribute towards this project?

Schedule 1 – Long-Term Supply for Southern Labrador – Phase 1: Appendix A Stakeholder Engagement

PUB-NLH-016 Please provide a general overview of the feedback offered at the stakeholder meetings, including any concerns. Were any changes/suggestions incorporated in this application as a result of the stakeholder feedback?

PUB-NLH-017 Please provide an explanation for consultations not having been scheduled with the parties indicated on page A-1.

PUB-NLH-018 Please confirm if any of the engagements discussed possible integration of community activities with Hydro's proposed alternatives so as to promote community growth (e.g., waste heat opportunities).

Attachment 1- Long-Term Supply for Southern Labrador - Economic and Technical Assessment

PUB-NLH-019 Table 2 on page 4 provides the base case operating load forecast (2020) for the Southern Labrador communities for the period 2020 to 2039.

a) Please provide a complete description of the existing and forecast demographics of the four communities included in the table to support the load forecast, including the number of customers in the four communities.
b) Please explain what is causing the net demand and net energy to increase over the 20-year period in three of the four communities.
c) What is the sensitivity in the cost/benefit analysis if the load decreases over the next 20 years instead of increasing or remaining constant?
d) Does Hydro have any knowledge of new potential industrial/commercial customers that may be included within these communities? If so, does the base case include the potential load of a new industrial/commercial customers? If so, please include the amount of the load and the potential timing of the new customer load coming on the system.
e) Has the potential impact of electric vehicles and electrification in general been incorporated into the forecast? If not, please provide the rationale for not doing so.

PUB-NLH-020 Did Hydro complete a sensitivity analysis considering advancement of the replacement schedule for Mary's Harbour and St. Lewis (e.g., due to a fire or genset failure) or, alternatively, delay of the replacement schedule for Mary's Harbour and St. Lewis (i.e., in the event that they remain operational beyond 2030 and 2045)? If yes, please provide details. If no, please provide the rationale for not doing so.

PUB-NLH-021 Please provide the two reports identified within Footnotes 13 and 14 on page 5: *Feasibility Study of Hydraulic Potential of Coastal Labrador – Phase 2: Project Definition Phase & Annex (Potential Storage) – Final Report*, Hatch Ltd., March 2013 and *Newfoundland and Labrador Coastal Labrador Energy – Southern Communities New Diesel Schemes – Class 3 Cost Estimates*, Hatch Ltd.

PUB-NLH-022 Has Hydro undertaken any studies, or is Hydro aware of any studies conducted by other parties, to investigate the potential feasibility of wind or solar generation in the vicinity of the four communities being considered for interconnection? If so, please provide the analyses that Hydro has performed and identify the studies performed by other parties if Hydro is aware of any.

PUB-NLH-023 Table 4 on page 18 references the projected "Replacement Year" for diesel generating stations in Mary's Harbour, Port Hope Simpson, and St. Lewis. Are any portions of the existing diesel generating stations reused or salvaged during the replacement process? If so, please identify the typical infrastructure that is reused or salvaged. Please identify the last five diesel generating stations in the province that have been replaced as well as the rationale for doing so.

PUB-NLH-024 Page 42, lines 20-25, states "Case 10 represents a scenario where the continued operation of mobile units at the Charlottetown Diesel Generating Station would be preferred if all diesel generating station replacement costs could be reduced by 80%. Reliable operation with such a significant reduction in expected capital expenditures is deemed to be unsustainable. Further analysis indicates that even if diesel generating station replacements are deferred by more than 20 years, the interconnected alternatives remain the most economic solution." Please provide the above-referenced 'further analysis'.

PUB-NLH-025 In light of the recent passing of Bill C-12 by the Canadian government with the objective of attaining net-zero emissions by 2050 with incremental five-year targets beginning in 2030 to attain the net-zero goal, does Hydro anticipate any climate-related regulatory impediments to maintaining a diesel generating solution for Southern Labrador beyond, or even before, 2050? Please outline any contingency plans Hydro has in the event that government climate policy at some point in the future may either preclude fossil fuel generation or introduce regulations which make continued use of fossil fuel generation more costly.

PUB-NLH-026 Does Hydro have any apprehension that climate concerns could lead to technology obsolescence with respect to diesel genset equipment which in turn could result in replacement diesel infrastructure for the regional generating station being expensive and scarce, if available at all? Please detail the contingency plans that Hydro has in the event that diesel genset production stalls within the industry and replacement product is unavailable or prohibitively expensive.

PUB-NLH-027 Table 7 on page 33 shows the capital cost of the recommended alternative as $60.5 million while Table 2 of Schedule 1 (Long-Term Supply for Southern Labrador – Phase 1) shows the capital cost as $72.6 million. Please reconcile these numbers.

PUB-NLH-028 Table 7 on page 33, Attachment 1, shows that Alternative 1 has a cost of $10.4 million to enclose the existing mobile diesel gensets in Charlottetown in 2023.

Subsequent investments to complete Alternative 1 would be completed in 2030, 2035, and 2045. The same table shows that Alternative 3a has a cost of $39.4 million by 2024 in order to complete Phase 1 with subsequent phases in 2030 and 2045. Given the rapidly evolving technology advances being made in renewable energy technology such as wind and solar as well as the increases in battery capacity while battery costs are decreasing, has Hydro considered just completing the Charlottetown portion of Alternative 1 to address the immediate concerns in Charlottetown while allowing Hydro time to evaluate continually-improving renewable energy options for the region before the next scheduled upgrade to the region in 2030 given the resultant $29 million capital expenditure avoidance/deferral. Note that, depending on the response to PUB-NLH-027, this $29 million figure could be significantly higher.

PUB-NLH-029 Can the Southern Labrador proposal be delayed one, three, or five years? If so, what would be the cost of the delay for each of the three scenarios assuming a minimal amount of investment to maintain the safe, reliable operation of the existing Charlottetown mobile diesel arrangement?

Attachment 1 - Long-Term Supply for Southern Labrador - Economic and Technical Assessment: Appendix C – Southern Labrador Interconnection – Reliability Assessment

PUB-NLH-030 Hydro states on page 6 that "A southern Labrador interconnection would improve the overall system performance of the southern Labrador isolated diesel systems as long as the regional diesel plant has a redundancy of N-2."

a) What is the incremental cost to this proposal as a result of implementing this N-2 redundancy as opposed to Hydro's typical N-1 redundancy?
b) Is the use of N-2 redundancy a commonly accepted industry practice?
c) Is Hydro proposing that N-2 redundancy become the new rural planning standard for rural isolated systems?

DATED at St. John's, Newfoundland and Labrador, this 12th day of August, 2021.

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

Per

Cheryl Blundon
Board Secretary