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December 18, 2023

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

Attention: Jo-Anne Galarneau
Executive Director and Board Secretary

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

On July 16, 2021, Newfoundland and Labrador Hydro ("Hydro") submitted an application for the approval of construction of Hydro's long-term supply plan for southern Labrador.[1] On May 31, 2023, Hydro filed a revision to its application[2] that incorporated the recommendations made in Midgard Consulting Inc.'s ("Midgard") "Southern Labrador Communities – Integrated Resource Plan" ("IRP"), filed with the Board of Commissioners of Public Utilities ("Board") on March 31, 2023.[3] On October 5, 2023, Hydro filed a revised application updating the costs and schedule ("Application").[4]

Party Comments

The Board set a deadline of November 30, 2023 for party comments, and a further deadline of December 7, 2023 for public comments. Newfoundland Power Inc. ("Newfoundland Power") filed its submission on November 30, 2023 as per the schedule set by the Board. The NunatuKavut Community Council ("NCC") requested that they be permitted to file their comments on December 7, 2023, the date set by the Board for public comments; their request was approved and Hydro received the NCC's submission on that date. The Board received correspondence from Mary's Harbour Town Council, as well as from an individual Mr. James Jones. No further comments from intervenors or the public were received.

Newfoundland Power Inc.

In its submission, Newfoundland Power noted that Hydro has not clearly established that its proposed alternative is least cost when compared to the Islanded Operation alternative. Newfoundland Power submits that the proposed alternative has the highest upfront capital cost compared to any other alternative, and therefore requires a high degree of confidence that less expensive alternatives are not available or are not likely to occur in the future. Newfoundland Power suggests that that degree of

[1] "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021.
[2] "Long-Term Supply for Southern Labrador," Newfoundland and Labrador Hydro, rev. May 31, 2023 (originally filed July 16, 2021).
[3] "Southern Labrador Communities - Integrated Resource Plan," Midgard Consulting Inc., March 28, 2023.
[4] "Long-Term Supply for Southern Labrador," Newfoundland and Labrador Hydro, rev. October 5, 2023 (originally filed July 16, 2021).

confidence cannot be established without a clear understanding of whether the existing diesel generating stations can be refurbished as opposed to decommissioned and reconstructed.[5]

Project alternative analysis does contain some inherent risk and sensitivity. However, Hydro disagrees with Newfoundland Power's assessment that Hydro has not established a sufficient degree of confidence that the proposed alternative is the least-cost solution to supply its customers in southern Labrador. To account for the inherent uncertainty in analysis, Hydro has already provided for the record numerous sensitivity analyses, all of which have determined that the Regional Plant alternative is the least-cost solution on a balance of probabilities.

The most recent sensitivity analyses, completed by Midgard, were provided in Hydro's response to request for information ("RFI") PUB-NLH-097 of this proceeding. Midgard completed two separate sensitivity analyses, each with 300 individual scenarios considering sensitivities in interconnection cost, capital (plant) costs, fuel costs, and load change. Reasonable estimates and assumptions are necessary in alternative analysis, and Hydro believes that the plant design 40-year life is a reasonable assumption for its base case. In considering the life extension of existing plants rather than retirement at end of design life, one must not assume that the life of the existing plants can be extended indefinitely. However, at the Board's request, and to address the specific concern raised by Newfoundland Power regarding the timing of plant replacement, Midgard also completed sensitivity analysis which assumed plant replacement is extended to 50 years in service.[6] In the 50-year replacement case, the Regional Plant alternative remained the least-cost solution in 88% of scenarios (i.e., 264 of 300). Hydro also notes that each scenario does not have an equal probability of occurrence. Each of the 36 scenarios where the Regional Plant alternative was not least cost coincided with a 300% increase in interconnection transmission costs. Hydro considers this magnitude of increase highly improbable given the accuracy of the Class 3 estimate used, and Hydro's project execution performance for transmission projects.[7]

While Hydro acknowledges the upfront capital costs of the proposed alternative is higher than the Islanded Operation alternative, when considering the lifecycle cost of each of the alternatives, the Regional Plant alternative is the least-cost option for reliably serving customers.

As noted in Hydro's response to NP-NLH-090 of this proceeding, when a diesel generating station is approaching the 40-year lifespan, its condition and design capacity is evaluated and Hydro assesses whether the diesel generating station is adequate to meet the needs of the communities it serves. In Board Order No. P.U. 13(2016), the Board indicated that in determining whether a decision or action is prudent, the Board considers:

1. Information that was known or ought to have been known at the time of the decision or action (or inaction);
2. Whether a utility applied reasonable foresight; perfect foresight is not required; and

[5] "Newfoundland and Labrador Hydro – 2021 Capital Budget Supplemental Application Approval of the Construction of Hydro's Long-Term Supply Plan for Southern Labrador – Newfoundland Power's Comments," Newfoundland Power Inc., November 30, 2023, p. 5 of 6.
[6] "Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Hydro's Long-term Supply Plan for Southern Labrador - Revision 1 - Safe and Reliable Power Supply to Charlottetown," Board of Commissioners of Public Utilities, August 1, 2023.
[7] Hydro's average project variance for transmission projects over the last five years is 11.9%. Hydro's highest variance for transmission projects completed over that period is 31%.

3. Whether the solution selected was within a range of reasonable alternatives.[8]

Hydro asserts the selection of an alternative that is not supported as least cost by the preponderance of evidence on record–such as the Islanded Operation scenario referenced by Newfoundland Power–would be inconsistent with the considerations of prudent decision making as noted by the Board.

NunatuKavut Community Council

The NCC's submission indicates it does not oppose Hydro's Application. However, the NCC noted specific concerns regarding the proposed project, including the environmental impacts of a large diesel plant, and uncertainty as to the role renewable energy will play in the proposed project. As noted above, and as evidenced by the analysis and documentation provided by Hydro and Midgard, a regional diesel plant has been determined to be the least-cost alternative to provide reliable, firm supply for the southern Labrador region.

Although the NCC references the above concerns, and notes the impact of the costs of the project on ratepayers, they reiterate through their submission that they do not oppose the project at this time. Their ultimate support, however, is conditional on a number of items to be addressed, including: integration of renewable energy and the timing and extent of such; support and prioritization of NCC's involvement, participation, and ownership of renewable projects and community-led energy projects; and the duty to consult.

Integration of Renewable Energy and Support and Prioritization of NCC Involvement and Ownership of Renewable Projects

The NCC stated that by not engaging with NCC in advance of submitting the Application, Hydro failed to take early advantage of an opportunity to introduce renewable energy options in NunatuKavut communities at the initial stages of the project. Hydro notes that consultation with the NCC is ongoing and Hydro will continue to evaluate how to best and most effectively integrate renewable energy, along with how to best partner with the NCC in achieving that integration. As stated in Hydro's response to NCC-NLH-008 of this proceeding, also referenced by the NCC, Hydro is committed to ensuring that the proposed Regional Plant alternative will be designed and built to allow for integration of renewable energy developments. The NCC has acknowledged that Hydro has made considerable effort to address their concerns, and constructive conversation is ongoing in this regard.

Although renewable alternatives are more attractive from a purely environmental perspective, those alternatives cannot be relied upon to meet the firm supply needs of customers in southern Labrador. Hydro considered renewable solutions including wind, solar, and energy storage solutions in its analysis of the available options. As Hydro noted in its correspondence to the Board on April 26, 2022,[9] Hydro does not consider wind, solar, storage, or run-of-river hydro generation as viable firm supply energy solutions for the region. Renewable energy sources, such as wind and solar, installed in isolated systems are considered by the industry to be "non-dispatchable" sources as they are intermittent and the level of supply that can be provided by these sources varies throughout the days, seasons, and years. These alternatives cannot currently meet the all-firm supply needs of any region, particularly the Labrador region which experiences winter weather extremes, impacting equipment and often necessitating travel to address equipment issues. As Hydro has noted often, there is a role for renewable energy solutions in

[8] *Public Utilities Act,* RSNL 1990, c P-47, Board Order No. P.U. 13(2016), Board of Commissioners of Public Utilities, April 26, 2016, p. ii.
[9] "Long-Term Supply for Southern Labrador – Phase 1 – Correspondence Regarding Requirement for Further Information," Newfoundland and Labrador Hydro, April 26, 2022, att. 1.

the communities in southern Labrador and it is to provide electricity in conjunction with the firm supply source.

Midgard considered the integration of renewables in its IRP, and similarly concluded that while intermittent renewable energy sources, such as wind and solar generation, may be viable for the provision of energy; to provide firm capacity, intermittent resources must be paired with energy storage with the capacity to supply the system for several days in the event of low renewable generation. Midgard reviewed the future cost effectiveness of battery energy storage systems and concluded that renewable energy sources with sufficient battery storage to provide firm capacity remains cost prohibitive at this time and is unlikely to become cost competitive with thermal generation systems within the next decade.[10] Midgard found that interconnection of the communities had a number of benefits, including a greater potential for renewable penetration. In fact, Midgard noted that proceeding with the full interconnection, rather than the phased interconnection, is not only more cost effective, but, may in fact enable greater renewable penetration sooner. This was one of the key considerations in Hydro's revision to the Application to propose a full interconnection to a regional generating facility, instead of the phased approach initially offered.

Hydro's proposed alternative provides the optimal opportunity for the integration of renewable sources into the southern Labrador region. As previously noted throughout this process, Hydro has already started advancing the model of integration of renewable energy alternatives through arrangements with private sector proponents. Hydro is committed to continue using this model and to working with the NCC to support their development and ownership of such renewable projects. Hydro agrees with the Board's statement, referenced by the NCC, that, " . . . there is a clear shift towards clean renewable energy and reduction in the use of fossil fuel . . . ";[11] however, the evidence does not currently exist to demonstrate that solutions are currently available that make the use of renewable power a dispatchable, least-cost solution. Hydro's proposed option provides a firm, reliable supply of energy while maximizing the opportunities for renewable energy integration and therefore meets the necessary balance of cost, reliability, and environmental responsibility.

Duty to Consult

The NCC also noted Hydro has a duty to consult and accommodate the NCC prior to making decisions or taking action that could impact the NCC's asserted rights. Hydro has previously confirmed that its activity during construction of the project has the potential to impact the asserted rights of the NunatuKavut Inuit in the region. Hydro has acknowledged it must consult with the NCC to identify and determine how the rights of its citizens will be impacted. Hydro has committed to taking those asserted rights into account, and to make reasonable efforts to accommodate or mitigate any potential impacts,[12] as was noted by the NCC in their submission. The NCC also noted in their submission that Hydro has made considerable efforts to ensure NCC's concerns are addressed, and to ensure that the necessary consultation has and will take place. In order for Hydro to effectively ensure that the consultation is thorough and fulfills the duty to consult, and to ensure that Hydro is able to move forward with its proposed alternative and provide safe, reliable, and environmentally responsible service to the region, the necessary steps in the process for approvals must proceed without delay.

[10] "Long-Term Supply for Southern Labrador – Phase 1 – Midgard Consulting Inc. Report," Newfoundland and Labrador Hydro, March 31, 2023, p. 2.
[11] "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 - To NLH - Further Information Required Before Schedule is Resumed," Board of Commissioners of Public Utilities, April 7, 2022, p. 2.
[12] Please refer to Hydro's response to NCC-NLH-017 of this proceeding.

Hydro's submissions herein are intended to allow for timely progress while also ensuring concerns are addressed and requirements met.

Duty to Consult – Next Steps

The NCC suggests the Board may also have a duty and the authority to apply and ensure that its decisions are in compliance with the *Constitution Act, 1982*, and further submits that the Board cannot approve a project where the duty to consult has not been met.

Hydro does not dispute that the Board may have an obligation to consider whether the duty to consult has been adequately achieved,[13] nor that the duty to consult has not yet been fully met in this circumstance. Hydro continues to provide the NCC with all available information with respect to the project, as well as have continued dialogue about how to address any of NCC's concerns. As noted in NCC's submission, and as Hydro detailed in its response to NCC-NLH-017 of this proceeding, Hydro will continue to develop specific information with respect to the project (i.e., the site plans, more specific timelines, and construction plans) and will provide this information to NCC for review and discussion regarding potential impacts. However, this information will be gathered and compiled during the next stage of the project, particularly during the environmental assessment process.

The NCC indicated in their submission that they expect to have an engaging environmental assessment process which will allow for further review of the aspects of the project and to identify impacts on the asserted rights of NCC's citizens. The NCC also notes that it looks forward to working with Hydro to ensure adequate consultation and accommodation through the development, construction, and operation of the project.

Proposed Conditional Approval

The necessary consultation with the NCC will continue through, and in parallel to, the environmental assessment process. As Hydro is able to provide more details and specifics of the project, Hydro and the NCC will be able to identify and resolve any potential impacts of the specifics with required mitigations. The environmental assessment process is, of course, also necessary to obtain environmental approval, without which the project cannot proceed. To start the environmental assessment process, Hydro requires an approved project to submit for assessment. To obtain some of the information necessary both for effective consultation with the NCC and to progress the environmental assessment process, Hydro will have to incur capital expenditures for third-party experts. Expenditures for certain capital assets will also be required as information needed for both the consultation process and environmental assessment process is specific to the asset purchased. To enable approval by the Board, in advance of the fulfillment of the duty to consult, Hydro is proposing a conditional approval.

As Hydro has noted in Schedule 3 of the Application, the current project schedule which positions commissioning of equipment in the second quarter of 2028 requires starting the environmental assessment process in the first quarter of 2024, with anticipating completion of same in the first quarter of 2025. This timeline also assumes the beginning of procurement of major equipment and completion of construction contracts in the fourth quarter of 2024.[14] To meet this timeline, Hydro requires approval of the proposed project under the *Public Utilities Act*[15] in order to proceed with the environmental

[13] Consultation with the NCC and any necessary accommodation will also be explored during the environmental assessment process required for project approval by the Department of Environment and Climate Change.
[14] "Long-Term Supply for Southern Labrador," Newfoundland and Labrador Hydro, rev. October 5, 2023 (originally filed July 16, 2021), sch. 3, p. 3, Table 3.
[15] *Public Utilities Act,* RSNL 1990, c P-47.

assessment and necessary design and procurement, which will involve significant expenditures. A delay in approval of the Application will impact this schedule, and would result in Hydro being unable to complete construction within the timeframe noted in the Application and prevent the return of reliable service to the region by the end of 2028.[16]

The NCC reiterates throughout its submission that it does not oppose the Application, with the lack of opposition conditional on the issues noted above; however, as stated, Hydro is unable to progress to the next stage of detailed planning and environmental assessment, during which time these issues would be further addressed, without approval from the Board.

Therefore, Hydro proposes that the Board conditionally approve the Application subject to confirmation that the duty to consult has been met, and environmental assessment release has been received prior to the commencement of project construction. This will provide Hydro with the necessary certainty to continue the steps toward construction, while providing additional time to allow Hydro to fulfill its obligations to consult with NCC and, where necessary, accommodate or mitigate any potential impacts. Conditional approval would address the NCC's concerns by precluding Hydro from proceeding with construction prior to confirmation that the duty to consult has been fulfilled and environmental approval granted, and would also provide Hydro with the required assurance to continue with the next critical steps in a time-sensitive schedule.

The Nova Scotia Utility and Review Board ("NSUARB") found a conditional order to be one of two potential remedies when faced with a similar matter, (i.e., ruling on a capital application from Nova Scotia Power Incorporated when a duty to consult had not been fulfilled.) The NSUARB found that the potential remedies were:

> i) The Board could adjourn the proceedings until the duty to consult had been fulfilled; and ii) The Board could approve a project and impose terms and conditions, within its jurisdiction, to alleviate First Nations' concerns which have not yet been addressed.[17]

In that instance, the NSUARB determined the appropriate remedy was to adjourn the proceedings and provide parties with further opportunity to complete consultations. The distinction in this situation, as noted above, is that adjourning the proceeding pending fulfillment of the requirements of the duty to consult would preclude Hydro from proceeding with vital steps in the environmental assessment process, design, and procurement, and puts the current project schedule in immense doubt. It is likely that delay in approvals, as set out in Schedule 3 of the Application, would add another year to the project completion schedule, as a result of the compressed construction season(s). Approving the project subject to confirmation to the Board, prior to the start of construction, that the duty to consult has been met and environmental approval has been received, would allow Hydro to proceed with the necessary steps toward the provision of reliable service to southern Labrador communities without undermining or impairing the asserted rights of the NCC.

Mary's Harbour Town Council

Mary's Harbour Town Council expressed their concerns regarding diesel generated power, and advised that they did not support the construction of a regional plant. They reiterated their position that their preference would be to interconnect to what they reference as the "Lower Churchill Grid", which Hydro

[16] Further delays to the project schedule will occur if approval of the proposed project is not received by the end of the first quarter of 2024.
[17] *Public Utilities Act,* R.S., c 380, Preliminary Decision, 2018 NSUARB 154, Nova Scotia Utility and Review Board, August 7, 2018, p. 44. <https://nsuarb.novascotia.ca/sites/default/files/M08162%20Preliminary%20Decision.pdf>

refers to as the Labrador Interconnected System. The Town Council stated that they wish for reliable, affordable electricity supply to enable economic development, expansion of local business, and to increase affordability for residents. The Town Council's submission further posed questions regarding the financial resources utilized in providing Charlottetown with power since the fire, and whether that cost would have been better suited to replace the diesel plant in Charlottetown and allow Hydro more time to review other options to serve the region.

Hydro noted in its initial Application filing, preliminary cost estimates prepared by Hydro indicate that the total capital cost of such an interconnection to the Labrador Interconnected System would be in excess of $400 million. Due to the magnitude of this cost, it was not considered further in Hydro's analysis.[18] Details of those cost estimates were provided in Hydro's response to NP-NLH-004 of this proceeding.

Hydro notes that Midgard, in its IRP, considered a transmission interconnection between the southern Labrador communities and the Labrador Interconnected System. Midgard noted that upon completion of a Labrador Interconnected System transmission interconnection, a local diesel generating plant would still be required to provide backup to the four systems for loss of the interconnection. As a result of this consideration, Midgard found that the lowest cost option for firm capacity over the selected timeframe was a regional plant, mainly due to the time necessary to permit and build an interconnection and the likely need to replace the two largest southern Labrador community generating stations in the meantime. Midgard also noted that even if redundant generation had no additional cost, the interconnection to the Labrador Interconnected System would still have the highest capital cost of any of the alternatives.[19]

Hydro reiterates its comments, included above in response to both Newfoundland Power and NCC's submissions, that Hydro's proposed option provides a firm, reliable supply of energy while maximizing the opportunities for renewable energy integration. Hydro's proposed alternative is the solution that addresses the needs set out by the Town Council; the proposed alternative is the solution that will provide reliable, affordable electricity supply to enable economic development and expansion of local business. The proposed alternative is the least-cost option when considering the lifecycle cost of each of the alternatives, particularly in comparison to an interconnection to the Labrador Interconnected System.

Mr. James Jones

Mr. Jones noted an apparent contradiction in proposing to construct a regional diesel plant to supply the area. Hydro believes this particular point has been addressed in detail above, and throughout Hydro's filings. The research and evidence filed supports the conclusion that the regional diesel plant is the solution that balances environmental responsibility with the obligation to provide least-cost reliable service.

Mr. Jones also suggested irony in government offering rebates to switch from oil to electric, when the ultimate power would be coming from diesel plants. Hydro notes that the Oil to Electric Rebate Program is not available for households in communities with diesel generation.[20]

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[18] "Long-Term Supply for Southern Labrador," Newfoundland and Labrador Hydro, rev. October 5, 2023 (originally filed July 16, 2021), sch. 1, p. 7/22–24.

[19] Please refer to Hydro's response to NP-NLH-069 of this proceeding.

[20] "Provincial and Federal Governments Launch New Oil to Electric Incentive Program," Government of Newfoundland and Labrador, Department of Environment and Climate Change, June 29, 2023, <https://www.gov.nl.ca/releases/2023/ecc/0629n03/>.

Finally, Mr. Jones suggests that the cost of converting power from direct current to alternating current is a predominant reason for not interconnecting the communities with the Labrador Interconnected System. As noted in Hydro's response to NP-NLH-004 of this proceeding, the majority of the cost associated with the interconnection is the cost of the transmission line, and is not related to the cost of converting voltage, or current.

Conclusion

Hydro is committed to maximizing opportunities for the integration of renewable energy in the region. Hydro is also committed to continuing its consultation with the NCC to ensure that its duty to consult is met and any concerns or impacts on the asserted rights of the NCC are addressed.

The Regional Plant alternative continues to be the least-cost option, both on a total project (net present cost) basis, and on a ten-year horizon. Despite the higher initial capital cost, the preferred alternative has a lower cumulative cost over the near term and long term, and has the benefit of allowing for earlier and perhaps greater incorporation of renewable energy solutions. Hydro's proposal is based on the best available information that supports the conclusion of a solution that provides safe, adequate, reliable, least-cost service in an environmentally responsible manner. Hydro believes this process ensures its decisions and actions are prudent. Hydro firmly believes the fulsome evidence provided through Hydro's analysis, the Midgard report, and the substantial filings in response to RFIs and other correspondence from the Board, continues to support Hydro's proposal of the construction of a regional plant with a 25 kV interconnected system as the recommended solution for the long-term supply of southern Labrador. This solution is in line with Hydro's mandate to provide power at the lowest possible cost, consistent with reliable service in an environmentally responsible manner.

Hydro respectfully requests that the Board approve Hydro's Application, conditional on fulfillment of the duty to consult and receipt of environmental approval, as submitted above.

Should you have any questions or comments about any of the enclosed, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

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