

February 7, 2023

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

Attention: Cheryl Blundon
Director of Corporate Services and Board Secretary

Re: Application for Approval of Capital Expenditures for Section Replacement and Weld Refurbishment for Bay d'Espoir Hydroelectric Generating Facility Penstock 1– Hydro's Reply

On December 7, 2022, Newfoundland and Labrador Hydro ("Hydro") filed an application with the Board of Commissioners of Public Utilities ("Board") requesting approval for section replacement and weld refurbishment of Penstock 1 at the Bay d'Espoir Hydroelectric Generating Facility ("Bay d'Espoir").

In preparing the application, Hydro retained three engineering consultants to assist with investigations, assessments, and analyses of the issues and possible solutions. Hydro's consultant identified 15 possible solutions, 7 of which were further analyzed as potential long-term solutions and led to the final 4 alternatives considered for life extension studies, as described in Hydro's application.¹ Hydro then engaged an external consultant to perform a comprehensive review of the 4 identified life extension options for Penstocks 1, 2, and 3. Hydro's application requested approval of the option with the greatest level of risk mitigation and highest level of reliability of the available options for the penstock identified as the most critical. Hydro is cognizant of the importance of Bay d'Espoir to reliable service for its customers, as well as the cost pressures facing ratepayers in the province. Hydro strives at all times to balance cost and reliability when making the vital decisions to ensure safe, least-cost, reliable power. Hydro's application is based on a thorough risk assessment that determined that the chosen alternative to address the issues of Penstock 1 was the only technically feasible alternative to return the penstock to safe and reliable operation.

Party Comments and Hydro's Reply

Newfoundland Power Inc. ("Newfoundland Power") and the Consumer Advocate both filed comments with respect to Hydro's application. The Island Industrial Customer Group advised it had reviewed Newfoundland Power's comments on the application and had nothing to add. There were no other submissions filed. While neither party objected to the application, both Newfoundland Power and the Consumer Advocate raised various concerns about implications of the project, including the related costs. Hydro's reply to those concerns follows.

¹ "Application for Approval of Capital Expenditures for Section Replacement and Weld Refurbishment for Bay d'Espoir Hydroelectric Generating Facility Penstock 1," Newfoundland and Labrador Hydro, December 7, 2022, sch. 1, apps. I to L.

Newfoundland Power

Newfoundland Power noted the importance of Bay d’Espoir to the Island Interconnected System. It further acknowledged the impact that issues with the penstocks have on the operation of Bay d’Espoir. Newfoundland Power noted Hydro’s position that the chosen alternative to address the issues of Penstock 1, section replacement and weld refurbishment (“Project”), was deemed the only technically feasible alternative to return the penstock to safe and reliable operation. Newfoundland Power did not note any disagreement with Hydro’s recommended alternative.

Newfoundland Power expressed concerns regarding the cost of the Project in the context of the other large capital expenditures Hydro is likely to have to make in the future related to Bay d’Espoir penstock work, as well as those presented in the “Reliability and Resource Adequacy Study – 2022 Update.”² Newfoundland Power noted that delays and cost overruns present risk of increased supply cost pressure for Newfoundland Power’s customers, as well as risk to the reliability of supply. Newfoundland Power submitted that Hydro should be directed to provide sufficient reporting to allow the Board to monitor the risks to supply cost and reliability.

Hydro understands the desire of its customers, particularly Newfoundland Power, and the Board to be informed regarding the costs incurred by Hydro that will be recovered from ratepayers and of any issues that could impact reliable service. The Board has established processes in place to monitor Hydro’s spending on capital projects. Hydro provides detailed information in a number of reports filed annually and biannually that would provide the Board and parties with the information necessary to keep them informed on the progress of this Project and its related costs. These include:

- Hydro files its capital expenditures report, as required by the Board’s provisional Capital Budget Application Guidelines (“Guidelines”),³ by March 1 of each year as well as in Hydro’s annual capital budget application (“CBA”). The capital expenditures report provides information on Hydro’s capital expenditures in the previous year, along with a detailed explanation for each variance when the actual expenditure was greater than approved by both \$100,000 and 10%. A full explanation is required, including any change in scope, schedule, and budget. The capital expenditures report also requires a discussion of any approved capital expenditures that were modified, reprioritized, deferred, re-paced, or cancelled. In addition to this reporting, Hydro’s interpretation of subsections 41(1)⁴ and 41(2)⁵ of the *Public Utilities Act*, along with Section 6 of the Guidelines, is that approval of the expenditures for subsequent years is required within the CBA for the year in which the costs are to be incurred.⁶
- Further to the financial reporting, Hydro’s biannual near-term reliability report and its annual winter readiness planning report provide substantive reporting on issues relating to the reliability of the electrical system.
 - As part of the near-term reliability report, Hydro provides details regarding issues that have affected generating unit reliability, as well as the status of those issues and the actions taken to mitigate against future reliability impacts.

² “Reliability and Resource Adequacy Study - 2022 Update,” Newfoundland and Labrador Hydro, October 3, 2022.

³ “Capital Budget Application Guidelines (Provisional),” Board of Commissioners of Public Utilities, January 2022.

⁴ *Public Utilities Act*, RSNL 1990, c P-47, s 41(1).

⁵ *Public Utilities Act*, RSNL 1990, c P-47, s 41(2).

⁶ For example, Hydro’s 2023 CBA included \$41.2 million in 2023 capital expenditures associated with previously-approved, multi-year projects; details regarding the expenditures are included in the CBA materials. Those details were contained within “2023 Capital Budget Application,” Newfoundland and Labrador Hydro, July 13, 2022, vol. I, sch. 1, app. B.

- The annual winter readiness planning report requires a description and schedule for all outstanding capital projects for Hydro’s generating facilities, transmission lines, and terminal stations, including progress on the completion status as of the date of the report and the expected completion date.

Hydro currently provides detailed information regarding the Bay d’Espoir penstocks in both the May and November near-term reliability reports and the winter readiness planning report filed in October,⁷ and will continue to do so—including information on the proposed Project, if approved.

Hydro submits that further reporting would not add any additional visibility than that which is already provided.

Newfoundland Power also stated, “Hydro also indicates that its consultant, Kleinschmidt Associates, is currently finalizing a report (the “Kleinschmidt Report”) to document its findings on the suitability of fibre wrap alternatives and why they are not preferred alternatives for Bay d’Espoir Penstock 1.”⁸ In its response to NP-NLH-009 of this proceeding, Hydro noted that the use of fibre wraps or reinforcements had been reviewed at various stages of the Project and had been eliminated. Kleinschmidt had been asked to review advancing technology—not to determine why that option was not preferred—but to determine whether there were any developments that would change the previous determination. Hydro advised that Kleinschmidt had not found anything to change the previously-made justification; the report to follow was to document those findings. Hydro has not yet received the final version of Kleinschmidt’s report. Hydro has no objection with filing the report once it has been received; however, Hydro believes that the analysis and evidence provided in its application indicates that the recommended alternative is the only option that adequately addresses the peaking and fatigue issues in the penstock to allow Bay d’Espoir Units 1 and 2 to return to normal operation.

Consumer Advocate

The Consumer Advocate noted in its response that it accepts that Bay d’Espoir is critical to the reliable operation of the Island Interconnected System and does not oppose the application. However, the Consumer Advocate submitted that Hydro had not met the requirements set out in the Board’s Guidelines in terms of quantifying risk or costs of project deferral and continuing with the status quo. In response to a similar statement by the Consumer Advocate in Hydro’s 2023 CBA, Hydro noted its application does comply with the Guidelines and conditions for supplemental applications as outlined by the Board.⁹ The Guidelines state that certain information must be provided depending on the investment classification, whether the expenditure is a project or program, and the materiality threshold. However, the Guidelines also state, “Where a utility is not able to provide the required information it should provide other available information which may be of assistance in relation to the matter.”¹⁰

Hydro’s application discussed the risk assessment that was developed to evaluate risks associated with the various aspects of the life extension options for Penstock 1. Kleinschmidt stated that:

It was demonstrated that Option 1 is the highest risk option due to the probability of multiple failures (estimated at one every other year) and associated significant costs

⁷ The winter readiness planning report receives two scheduled updates in November and December.

⁸ “NLH – Application for Approval of Capital Expenditures for Section Replacement and Weld Refurbishment for Bay d’Espoir Hydroelectric Generating Facility Penstock 1 – Newfoundland Power’s Comments,” Newfoundland Power Inc., January 31, 2023.

⁹ “2023 Capital Budget Application – Hydro’s Final Written Submission,” Newfoundland and Labrador Hydro, November 30, 2022.

¹⁰ “Capital Budget Application Guidelines (Provisional),” Board of Commissioners of Public Utilities, January 2022, sec. III, p. 13.

over the next 30 years. Option 1 had two risk items with ratings of 16, the highest risk rating. Based on the level of risk associated with Option 1, with its elevated probability of failures demonstrated by 4 failures in 5 years, new cracks discovered in 2021 during dewatered inspection, and high consequence, it is recommended that this option be ruled out as it exceeds what should be tolerated for risk.”¹¹

The Consumer Advocate recommended five actions in its submission; the fifth recommendation was for the Board to direct Hydro to incorporate projects such as the one proposed in this application in the capital budget application process and allow the Board to determine if the project should be treated as a separate undertaking. As Hydro noted in the cover letter to its application, due to the timing of the inspections, the project proposal could not be included in the 2023 Capital Budget Application. The nature of the project and the urgency related to it meant it could not wait to be filed in the 2024 Capital Budget Application.

Hydro notes that the remainder of the five recommended actions included in the Consumer Advocate’s submission did not directly relate to the Application. Hydro believes those submissions should be addressed in the relevant proceeding.

Conclusion

As Hydro has demonstrated in its application, the current operational status of Penstock 1 in Bay d’Espoir is not a viable long-term solution to meet Hydro’s mandate to provide safe, least-cost, reliable power. Hydro’s proposed solution is the least-cost solution necessary for safe and reliable operation of the penstock and the continued ability of Hydro to utilize Bay d’Espoir to provide safe, reliable service to its customers.

Hydro respectfully requests that the Board approve Hydro’s application as submitted.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO



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¹¹ “Application for Approval of Capital Expenditures for Section Replacement and Weld Refurbishment for Bay d’Espoir Hydroelectric Generating Facility Penstock 1,” Newfoundland and Labrador Hydro, December 7, 2022, sch. 1, app. K, p. 5.