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

January 15, 2025

Newfoundland Power Inc.
Dominic J. Foley
55 Kenmount Road
PO Box 8910
St. John's, NL A1B 3P6

Consumer Advocate
Dennis M. Browne, KC
Browne Fitzgerald Morgan & Avis
Terrace on the Square, Level 2
PO Box 23135
St. John's, NL A1B 4J9

Island Industrial Customer Group
Paul L. Coxworthy
Stewart McKelvey
Suite 1100, Cabot Place
100 New Gower Street
PO Box 5038
St. John's, NL A1C 5V3

Labrador Interconnected Group
Senwung Luk
250 University Avenue, 8th Floor
Toronto, ON M5H 3E5

Re: Bay d'Espoir Hydroelectric Generating Facility Penstock 1 – Project Update

In compliance with the Board of Commissioners of Public Utilities ("Board") Order No. P.U. 26(2024), please find enclosed Newfoundland and Labrador Hydro's ("Hydro") monthly report on the execution of the Bay d'Espoir Penstock 1 Life Extension Project for the period ended November 30, 2024. This report includes updates on the following:

- Project Scope;
- Project Risks and Mitigations;
- Project Schedule;
- Project Budget; and
- Project Expenditures.

This report, in particular Appendix B, contains commercially sensitive information. A version in which this information has been redacted is enclosed. The Board has been provided with a complete copy as well as a copy of the redacted version. Hydro requests that the Board use the redacted version for posting to its website.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

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

Encl.

ecc:

Board of Commissioners of Public Utilities
Jo-Anne Galarneau
Jacqui H. Glynn
Katie R. Philpott
Maureen Greene, KC
Board General

Labrador Interconnected Group
Nicholas E. Kennedy, Olthuis Kleer Townshend LLP

Newfoundland Power Inc.
Regulatory Email

Island Industrial Customer Group
Denis J. Fleming, Cox & Palmer
Glen G. Seaborn, Poole Althouse

Consumer Advocate
Stephen F. Fitzgerald, KC, Browne Fitzgerald Morgan & Avis
Sarah G. Fitzgerald, Browne Fitzgerald Morgan & Avis
Bernice Bailey, Browne Fitzgerald Morgan & Avis

Bay d'Espoir Penstock 1 Life Extension Project Update

Period Ended November 30, 2024

January 15, 2025

A report to the Board of Commissioners of Public Utilities

Contents

List of Appendices

1.0 Background

Newfoundland and Labrador Hydro's ("Hydro") application for approval of capital expenditures for section replacement and weld refurbishment for Bay d'Espoir Hydroelectric Generating Facility ("Bay d'Espoir") Penstock 1 ("Penstock 1 Life Extension Project") was approved by the Board of Commissioners of Public Utilities ("Board") in Order No. P.U. 6(2023).

Subsequent to the Board's approval, Hydro and its consultant completed a refresh of the project budget based on several factors, including the completion of detailed engineering, refinement of scope, and updated market factors such as commodity pricing and inflation. The review resulted in an increase to the initial estimated cost of $50,606,700. On October 16, 2024, Hydro requested authorization to proceed with the Penstock 1 Life Extension Project with refinements in the scope of work and a revised budget.

In the interim, on October 7, 2024, Hydro entered into a formal agreement with the preferred civil construction proponent authorizing them to begin specific, limited activities essential for maintaining the project's cost and schedule. This Limited Notice to Proceed ("LNTP") was put in place to address critical path requirements while awaiting Board approval to allow for the full civil contract award. As part of the LNTP, test pit excavations were conducted near the dam's toe to assess geotechnical conditions and inform planning efforts.

On October 28, 2024, Hydro executed an amendment to the LNTP with the preferred civil construction proponent to extend the LNTP period to December 7, 2024, as the original LNTP was due to expire, to allow for continued activities required to maintain cost and schedule while awaiting Board approval of the revised budget. Following Board approval of the revised budget, Hydro executed the agreement before the amended LNTP expired.[1]

On November 25, 2024, the Board issued Order No. P.U. 26(2024), approving an increased capital expenditure of $65,876,021 and directed Hydro to submit a monthly report on the execution of the Penstock 1 Life Extension Project.

[1] On December 6, 2024, Hydro executed the full civil construction agreement with the preferred proponent. Further information will be included in Hydro's Bay d'Espoir Penstock 1 Life Extension Project Update for the Period Ended December 31, 2024, to be submitted in mid-February 2025.

1.1 Report Timing

Hydro contractually requires reports from its contractors regarding progress; each report provides details for the previous month. Upon receipt of the report, Hydro reviews and assesses the information to confirm that the work is being completed pursuant to the project's approved milestones, overall timeline, and contractual requirements. These are standard contracting and evaluation procedures that ensure the accuracy and reliability of the information provided between Hydro and the contractor. The time necessary for the contractor to prepare and provide its report, in addition to the time necessary for Hydro to complete its review and prepare this required report, allows Hydro to provide the enclosed monthly report for the period ended November 30, 2024.[2] A similar reporting timeline will continue for future reports.

2.0 Project Scope

Bay d'Espoir is the largest hydroelectric generating facility on the Island, producing an average of 2,650 GWh annually. In operation since 1967, the station relies on four penstocks to supply water to seven generating units. Penstock 1, which serves Units 1 and 2, is critical to the facility's operation, as these units contribute 153 MW of generation capacity. Over time, structural deficiencies in Penstock 1 have necessitated intervention to ensure its reliable operation.

The Penstock 1 Life Extension Project involves a combination of section replacement and weld refurbishment to address existing issues and ensure long-term structural integrity. Initially, the project scope was developed based on feasibility studies and inspections, which identified the need to replace the deteriorated 17-foot (5.2-meter) diameter section of Penstock 1, refurbish remaining weld seams, and apply protective coatings to the penstock interior. The original plan included key activities such as engaging a third-party consultant with expertise in steel penstock design and installation, fabricating and coating the replacement section offsite, and performing onsite excavation, demolition, and installation. Additional activities included the establishment of temporary accommodations, access routes, and laydown areas, as well as relocating overhead lines to support construction.

Following detailed engineering work by Kleinschmidt under the engineering, procurement, and construction management contract and a comprehensive inspection in 2023, the scope was refined to

[2] If Hydro becomes aware of a material change (as defined in the provisional Capital Budget Guidelines) that has occurred since the report cut-off date then Hydro will include it in the report.

address additional structural deficiencies. Most notably, the inspection findings indicated that the additional 49 meters of the 15-foot (4.65-meter) diameter section of Penstock 1 also required complete replacement. This section has the same steel thickness as the larger diameter section and its condition necessitated replacement to ensure long-term reliability. Additionally, more robust dam stabilization measures were determined to be essential to safely access the penstock at the dam's toe, increasing the complexity and cost of construction.

Hydro remains committed to mitigating operational risks and extending the life of this critical infrastructure to maintain reliable power generation for years to come. This project reflects Hydro's strategic approach to aligning cost, schedule, and technical objectives while delivering a robust solution to the challenges faced by Penstock 1.

With the exception of the aforementioned scope refinement approved in Board Order No. P.U. 26(2024), associated with additional length of penstock replacement and dam stabilization, all aspects of the project scope remain unchanged.

3.0 Project Risks and Mitigations

3.1 Geotechnical Assessment and Execution Planning

On November 21 and 22, 2024, the primary civil contractor completed test pit excavations near the dam's toe to verify the feasibility and prudence of the planned shoring activities outlined in the work scope. The results of these test pits are currently under analysis.

Civil projects involving excavation inherently carry the risk of encountering unexpected subsurface conditions, which may require adjustments to execution plans, timelines, or costs. Despite thorough planning, certain geotechnical conditions only become evident once excavation begins. Hydro recognizes these challenges and addresses them, to the extent possible, through proactive testing and analysis. Any necessary adjustments will be made to ensure safety, feasibility, and project success, with updates provided as they become available.

4.0 Project Schedule

The Request for Proposals ("RFP") associated with the primary civil component of the Penstock 1 Life Extension Project contemplated an award in the third quarter of 2024. As a result, the proponent's contemplated work commencing in the October to November 2024 timeframe.

To protect the project's schedule and cost objectives, Hydro proceeded with the LNTP agreement with the preferred civil construction proponent. This agreement authorized the commencement of specific, limited activities essential for maintaining project momentum while ensuring alignment with established milestones. The LNTP approach allowed critical early-stage work to proceed while the revised budget approval process was finalized to address higher-than-anticipated costs. This proactive step ensures the project remains on track and minimizes potential delays or cost escalations.

Work under the LNTP was completed, enabling the Contractor to continue to progress the work as planned to maintain cost and schedule associated with the return of the assets to service on October 31, 2025.

As of November 30, 2024, Hydro was awaiting the submission of the detailed execution schedule from the primary civil contractor, as stipulated in the agreement. The schedule will be reviewed and assessed by Hydro to ensure it aligns with the project's approved milestones, overall timeline, and contractual requirements.[3] This review will specifically evaluate the schedule's consistency with the key deliverables outlined in the milestone table in Appendix A, which identifies critical components essential to the project's success. Hydro will incorporate an assessment of progress against the approved execution schedule, including these critical milestones, into its monthly reporting to the Board.

5.0 Project Budget

The Board has approved a revised project budget of $65,876,021. Hydro is progressing the work in alignment with the approved budget, with no deviations noted for the reporting period. The project remains on track to meet approved cost and schedule targets, and Hydro continues to actively manage risks to maintain compliance with all regulatory requirements.

6.0 Project Expenditures

As of November 30, 2024, the project expenditure forecast remains consistent with the approved project budget. Appendix B provides further detailed cost information, including an overview of costs

[3] Hydro received the contractor's baseline schedule on December 20, 2024. Further information will be included in Hydro's Bay d'Espoir Penstock 1 Life Extension Project Update for the Period Ended December 31, 2024, to be submitted in mid-February 2025.

incurred to November 30, 2024. Please note that Appendix B has been redacted as it contains commercially sensitive information.

7.0 Conclusion

As of the end of the reporting period, the Penstock 1 Life Extension Project remains on track to meet approved cost and schedule targets, and Hydro continues to actively manage risks to maintain compliance with all regulatory requirements.

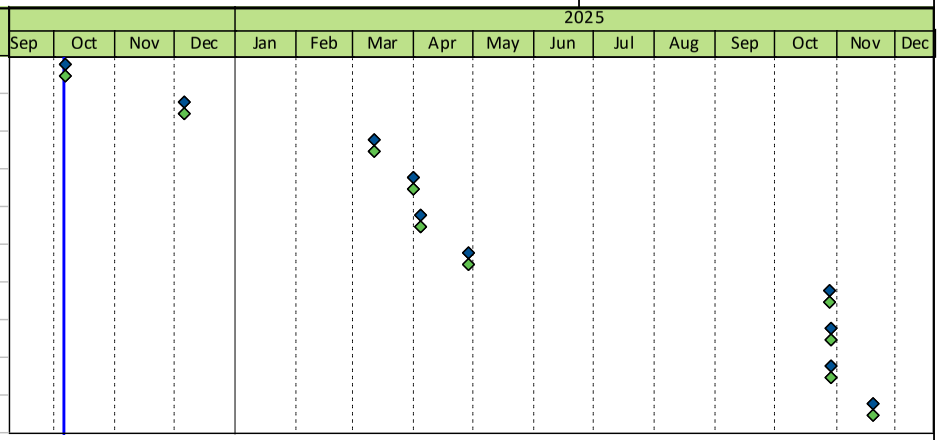
Appendix A

Project Schedule Milestone Table

BDE Penstock No. 1 Refurbishment Project Schedule

Data Date: 06-Oct-24
Print Date: 09-Jan-25

Activity Name	Baseline	Forecast	Variance
LNTP Execution Approval	07-Oct-24	07-Oct-24*	0d
Contract Award	06-Dec-24	06-Dec-24*	0d
Mobilization to Site	12-Mar-25	12-Mar-25*	0d
Penstock Site Handover to Contractor	01-Apr-25	01-Apr-25*	0d
Start of Refurbishment Section Works	04-Apr-25	04-Apr-25	0d
Start of Replacement Section Works	28-Apr-25	28-Apr-25	0d
Completion of Refurbishment Section Works	28-Oct-25	28-Oct-25	0d
Completion of Replacement Section	29-Oct-25	29-Oct-25	0d
Completion of Construction Works	29-Oct-25	29-Oct-25	0d
Completion of all Works and Demobilization	19-Nov-25	19-Nov-25	0d



Note:

* Asterisks in the milestone schedule serve as visual indicators of scheduling constraints, which are integral to the Critical Path Method in project scheduling. These constraints are highlighted because the milestone table is an embedded component of the overall project schedule.

◆ Milestone
◆ Baseline MS

Layout:MP:PEN1_PUB Report MS
Filter:TASK filter: MP_PEN1_PUB MS Table.

Appendix B

Detailed Cost Information

Redacted