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February 17, 2025

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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 December 31, 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:

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Bay d'Espoir Penstock 1 Life Extension Project Update

Period Ended December 31, 2024

February 17, 2025

A report to the Board of Commissioners of Public Utilities

newfoundland labrador hydro

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1.0 Project Scope

On December 6, 2024, Newfoundland and Labrador Hydro ("Hydro") executed the full civil construction agreement with the preferred proponent, Pennecon Industrial Limited ("Pennecon" or "Contractor"), marking a significant step in the project's advancement. As part of the project deliverable requirements, Pennecon submitted the proposed baseline schedule and commenced the development, review, and optimization of the transportation plan. The Contractor has also begun rolling steel plates for the fabrication of penstock can sections while continuing to develop various work plans, submit shop drawings, and document control requirements. All aspects of project scope remain unchanged since the November Report.[1]

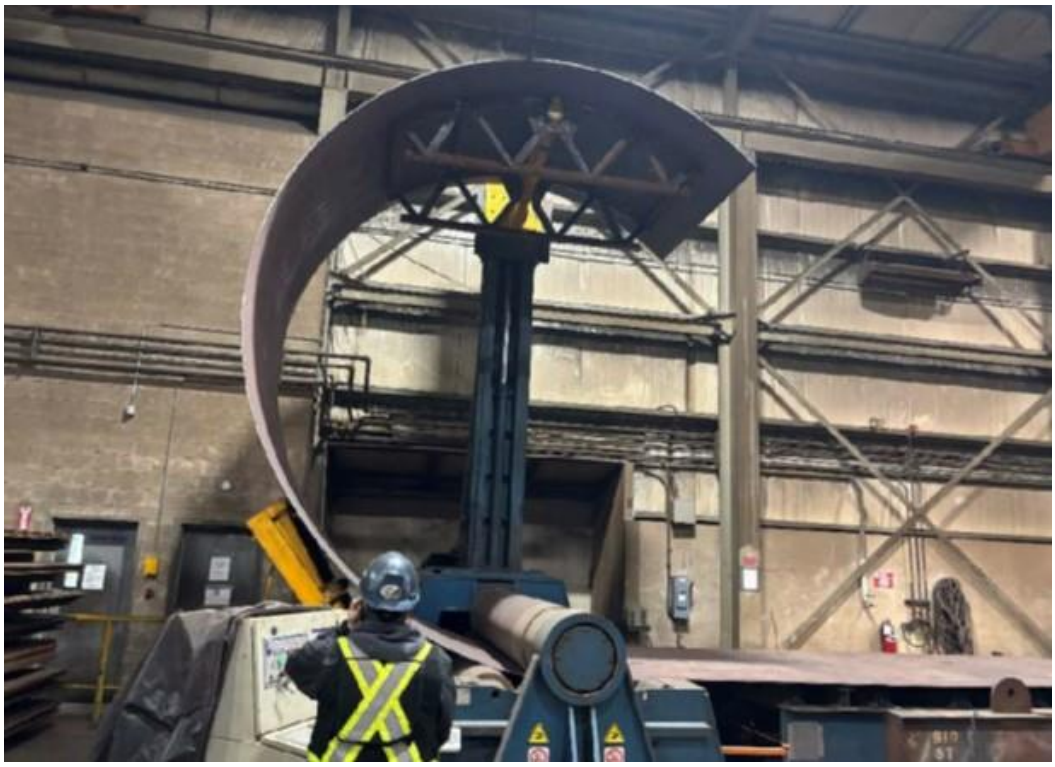


Figure 1: Typical Can Segment Rolling

[1] "Bay d'Espoir Penstock 1 Life Extension Project Update for the Period Ended November 30, 2024," Newfoundland and Labrador Hydro, January 15, 2025 ("November Report").

2.0 Project Risks and Mitigations

2.1 Key Risks and Mitigations

A summary of key risks identified during the planning and execution of the project, as well as associated controls and risk status, are provided in Table 1.

Table 1: Key Risks[2]

Risk Title/Description	Controls/Risk Response	Status
Delay in obtaining penstock material (steel plate) for fabrication	Hydro pre-ordered steel plate and issued to Contractor upon award.	Closed – Risk fully mitigated with no impact on cost or schedule.
Delay in penstock transportation	Schedule developed to include float for weather events, barge offloading structure constructed early, conducted route survey to identify any restrictions/issues with ground transportation.	Open – requirements included in the contract, bathymetry survey conducted for barge offloading structure and data provided to barge supplier. Hydro will continue to monitor as work progresses.
Damage to penstock during transportation	Contractor to obtain the required information for load and barging tie-down and engage a third-party engineering firm to perform required calculations for proper loading and fastening of material on the barge. Procure and roll additional steel plate material.	Open – requirements included in the contract, marine engineering calculations completed and provided to barge supplier. Hydro will continue to monitor as work progresses.
Quantity/scope of weld repairs in refurbishment section higher than estimated	Begin cleaning and inspection of the refurbished section as early as possible, if required increase resources for repairs, adjust shift durations and/or add a second shift.	Open – requirements reflected in Contractors' schedule. Hydro will continue to monitor as work progresses.
Intake shoring, unexpected subsurface conditions leading to design changes	Complete test pits/geotechnical investigation prior to mobilization/construction starts. Engineering/design of the shoring system accounts for unknown conditions and includes options if site conditions are not as expected.	Open – Completed test pits/geotechnical investigation early, as planned. Additional information on shoring and associated geotechnical investigation is provided in Section 2.2.

[2] This table is intended to highlight only key risks that may impact project success. Hydro uses a more comprehensive project risk register to facilitate risk management. Hydro regularly updates the risk register, and should a risk escalate in ranking or a new high risk be identified, it will be added to this table in future updates.

Risk Title/Description	Controls/Risk Response	Status
Penstock coating quality and/or application efficiency	Quality concerns are to be mitigated by the Contractor implementing a quality assurance/quality control program, development of an Inspection Test Plan, and using National Association of Corrosion Engineers-qualified inspectors to perform testing on the surface preparation/blasting and coating application, as well, as including on-site manufacturer support of the coating product. Contractors with previous experience in applying the specified coating are to be selected. Robotic blasting and coating application methods are to be used to mitigate quality concerns and provide more certainty on application rates. Backup equipment to be on-site in case of breakdown.	Open – requirements included in the contract, and reflected in Contractors' schedule. Hydro will continue to monitor as work progresses.

2.2 Geotechnical Assessment and Execution Planning

As identified in the November Report, Pennecon completed test pit excavations near the toe of the dam to verify the feasibility and prudence of the planned shoring activities outlined in the work scope on November 21 and 22, 2024.

On December 11, 2024, the Engineering Design team and Pennecon held a workshop to evaluate the test pit results and discuss potential design alternatives. The investigation revealed significant discrepancies in bedrock elevation compared to design drawings, including one location where bedrock was substantially lower than expected (based on historical design information) and another where it was not encountered. These findings necessitated a revision to the planned shoring design required to facilitate penstock replacement work in one localized area and not the full length of the penstock.

The preferred alternative for this location of the penstock and associated engineering adjustments to accommodate these conditions are now in progress. Hydro does not believe there will be an impact to cost and schedule, but will provide an update in the next monthly report.

3.0 Project Schedule

On December 20, 2024, Hydro received the Contractor's Control Schedule Baseline documentation. The submitted documentation has been reviewed and returned to the Contractor for revision and resubmittal. The initial schedule documentation indicates the Contractor remains on schedule to meet the project's approved milestones and overall timeline.

4.0 Project Budget

The Board of Commissioners of Public Utilities 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.

5.0 Project Expenditures

As of December 31, 2024, the project expenditure forecast remains consistent with the approved project budget. Appendix B provides further detailed cost information, including an overview of costs incurred to December 31, 2024. Please note that Appendix B has been redacted as it contains commercially sensitive information.

6.0 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.

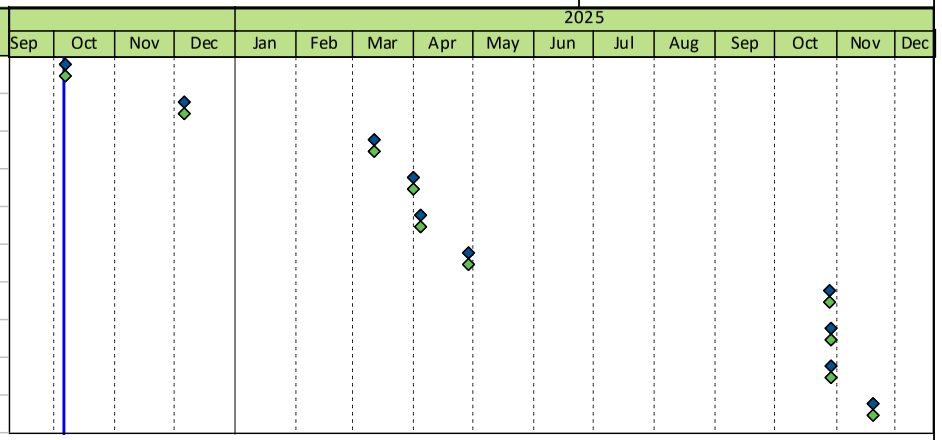
Appendix A

Project Schedule Milestone Table

BDE Penstock No. 1 Refurbishment Project Schedule

Data Date: 06-Oct-24
Print Date: 03-Feb-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

Redacted