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April 15, 2025

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

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 February 28, 2025. 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
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Encl.

ecc:

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Bay d'Espoir Penstock 1 Life Extension Project Update

Period Ended February 28, 2025

April 15, 2025

A report to the Board of Commissioners of Public Utilities

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List of Appendices

1.0 Progress to Date

As part of ongoing project execution activities, the following update outlines the current status of key project plans, engineering deliverables, and penstock fabrication progress. Work is ongoing on the development, submission, and review of key project plans and procedures to meet deliverable requirements. The Project Control Schedule Baseline Document, Schedule Development and Control Plan, and Control Schedule have been reviewed and accepted by Newfoundland and Labrador Hydro ("Hydro"). In addition, Hydro has completed its review and acceptance of the penstock fabrication subcontractor's Coatings Procedures, Quality Control and Inspection Test Plan.

The Project Health and Safety Plan, Execution Plan, Environmental Protection Plan, Clearing Plan and Sediment and Erosion Control Plan have been reviewed and returned to the contractor with comments for resubmission. Plan submission and review timelines are being actively managed and are tracking in accordance with agreed timelines as per the contract agreement.

1.1 Fabrication

The contractor continues to advance the fabrication of the penstock sections (commonly referred to as "cans") and remains on schedule for the first barge load delivery to the site. Of the eight cans included in the first barge load, five have been fabricated, with coatings completed on two and being applied on a third, as shown in Figure 1, Figure 2, Figure 3, and Figure 4.

Figure 1: Laydown Area Storage (Complete and Awaiting Loadout) – Cans 3 and 5

Figure 2: Awaiting Blast and Paint – Can 7

Figure 3: Fabrication (Ring Segments) – Cans 4 and 10

Figure 4: Fabrication (Complete and awaiting Blast and Paint) – Can 8

Fabrication of one additional can for the first barge load is in progress. Fabrication work on three cans for the second barge load has also started. Engineering work and the development of shop drawings for various can segments are ongoing, with submissions under review for approval. A summary of progress to date is provided in Table 1.

Table 1: Cans Progress to Date[1]

ME Feb, 25		Fabrication		Coatings	
Barge	Can #	In-Progress	Complete	In-Progress	Complete
1	2 (Elbow)				
	3		X		X
	4	X			
	5		X		X
	6		X	X	
	7		X		
	8		X		
	9 (Elbow)				
2	10	X			
	11				
	12	X			
	13	X			
	14				
	15 (Elbow)				
	16				
	17				
	18				

[1] Can 1 is no longer required due to the change in the splice location. As fabrication shop drawings were already started, the cans did not get re-numbered.

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 mitigations and status, are provided in Table 2.

Table 2: Key Risks[2,3]

Risk Title/Description	Mitigations	Status
Ability of penstock near toe of dam that was unable to be replaced to meet project performance expectations, including service life and removal of operational restrictions.	Hydro is working with the EPCM[4] Consultant to assess alternative refurbishment options to achieve performance outcomes without replacing this section.	Open – discussions are ongoing with the EPCM Consultant regarding mitigations and options, as further outlined in Section 2.2.
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 the refurbishment section is 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.

[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.
[3] Risks which have been shown as closed in a previous report have been removed.
[4] Engineering, Procurement and Construction Management ("EPCM").

Risk Title/Description	Mitigations	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 the Contractors' schedule. Hydro will continue to monitor as work progresses.

2.2 Geotechnical Assessment and Execution Planning

As indicated in the January Report, the adjustment to relocate the splice location will result in a short section of the existing penstock, approximately 17 meters, remaining in place. Hydro, in collaboration with the EPCM consultants, is continuing to assess refurbishment options for this section to ensure it meets project performance criteria, including expected service life and the removal of any existing operational restrictions. Options currently being considered include enhanced inspection and repair, installation of a structural or semi-structural liner, section replacement at a later date, as well as various other liner options.

The impact on project cost and schedule remains under evaluation and will depend on the selected refurbishment strategy. However, Hydro does not anticipate any changes to the overall project completion schedule due to this design modification. Further updates will be provided in future monthly reports once a preferred refurbishment approach is selected and cost and schedule impacts are confirmed.

3.0 Project Schedule

The Contractor's Project Control Schedule Baseline Document, Schedule Development and Control Plan, and Control Schedule were reviewed and accepted by Hydro, and are reflected in Appendix A. Based on current progress, the Contractor remains on schedule to meet the project's approved milestones and overall timeline for project completion in the fourth quarter of 2025.

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 February 28, 2025, 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 February 28, 2025. 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.

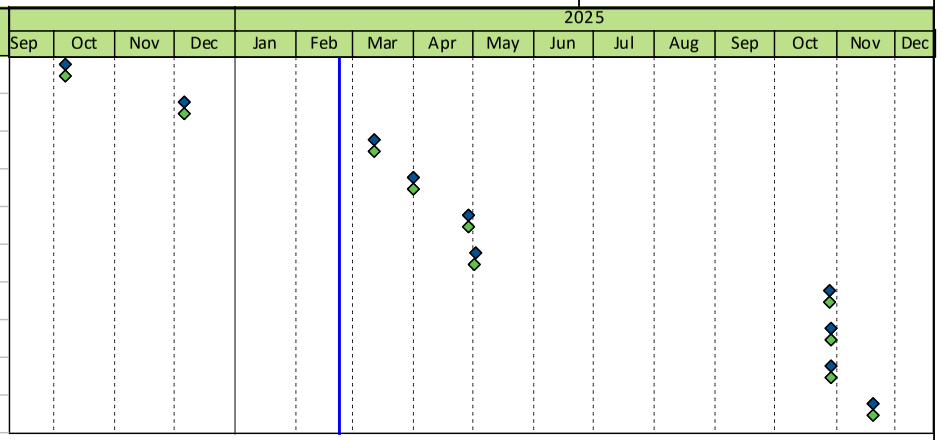
Appendix A

Project Schedule Milestone Table

BDE Penstock No. 1 Refurbishment
Project Schedule

Data Date: 23-Feb-25
Print Date: 24-Mar-25

Activity Name	Baseline	Forecast	Variance
LNTP Execution Approval	07-Oct-24	07-Oct-24 A	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 Replacement Section Works	28-Apr-25	28-Apr-25	0d
Start of Refurbishment Section Works	01-May-25	02-May-25	-1d
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



Notes:

*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.
**Blue line in the milestone schedule represents the project status date.

◆ Milestone
◆ Baseline MS

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

Appendix B

Detailed Cost Information

Redacted

Redacted