Bay d'Espoir Penstock 1 Life Extension Project Update

Period Ended July 31, 2025

September 15, 2025

A report to the Board of Commissioners of Public Utilities

newfoundland labrador hydro

Contents

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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, penstock fabrication progress, and site works.

Development, submission, and review of key project plans and procedures are effectively complete. Plans and procedures will be updated as needed throughout the project.

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 has completed the fabrication and delivery of the penstock sections (commonly referred to as "cans") as shown in Figure 1 and Figure 2. Fabrication and coatings have been completed on all 27 cans. Barge load 3 arrived in St. Joseph's Cove on July 21, 2025, and all ten cans were delivered to the site July 22–23, 2025.

Figure 1: Barge 3 Offloading

Figure 2: Last Ten Cans Stored in Marshalling Yard

A summary of progress through the reporting period[1] is provided in Table 1.

[1] The reporting period refers to the monthly timeframe summarized in the Project Schedule Milestone Table and Detailed Cost Information attached as appendices to this report. To complete those reports, Newfoundland and Labrador Hydro ("Hydro") reviews the contractor(s)' progress reports to assess compliance with project milestones, timelines, and contractual obligations. The time between the end of the reporting period and the date of this report to the Board of Commissioners of Public Utilities ("Board") includes both the time taken by the contractor to prepare the report and the time Hydro requires to review and incorporate the data into the monthly summary. Hydro will provide the information in this report based on the reporting period, to align with the appendices, with additional updates for any material developments that occur after the reporting period up to the filing of the report.

Table 1: Cans Progress to July 31, 2025[2]

ME July, 25		Fabrication		Coatings		Delivered to
Barge	Can #	In-Progress	Complete	In-Progress	Complete	Site
1a	2 (Elbow)		X		X	X
	3		X		X	X
	4		X		X	X
	5		X		X	X
1b	6		X		X	X
	7		X		X	X
	8		X		X	X
	9 (Elbow)		X		X	X
2	10		X		X	X
	11		X		X	X
	12		X		X	X
	13		X		X	X
	14		X		X	X
	15 (Elbow)		X		X	X
	16		X		X	X
	17		X		X	X
	18		X		X	X
3	19		X		X	X
	20		X		X	X
	21		X		X	X
	22		X		X	X
	23		X		X	X
	24		X		X	X
	25 (Reducer)		X		X	X
	26		X		X	X
	27		X		X	X
	28		X		X	X

1.2 Site Works

In order to track working points for penstock fabrication and installation, and to provide the location of the work along the length of the penstock, stations are used as a reference. The stations begin at the intake structure, 0+00 and continue the full length of the penstock to the powerhouse, station 11+58.[3] The replacement section starts at station 0+65 (Cut 1) and continues to station 4+28 (Cut 2). The refurbishment section starts at station 4+28 and continues the full length of the penstock to station 11+58.

[2] Can 1 is no longer required due to a change in the splice location. However, because fabrication shop drawings had already been initiated prior to this change, the numbering sequence of the cans was not updated. As a result, Can 1 will be skipped in the final numbering.

[3] In these references X+Y, X = hundreds of meters, and Y = meters. 11+58 = 1,158 meters from the intake.

On-site construction continued during the reporting period with excavation and backfilling, can placement, as well as refurbishment activities. Drain piping and bedding placement continued and were completed from Cans 18 to 23, and Cans 25 to 28. Due to a subsequent significant rain event, the drain piping and bedding in the area of Can 26 to 28 were washed out and required rework. The quarry at Upper Salmon was established for the common backfill material, and hauling and stockpiling of common material at the site has begun. Placement of common backfill material has also started from Can 2 to Can 10.

Cans 13 through 18 were lifted, fitted, and tack-welded into place, with welding and non-destructive examination also completed up to Can 18. Exterior coating product was applied to the circumferential weld joints in the replacement section from Cans 7 to 15. Removal of interior bracing commenced from Cans 2 to 14.

Buffing, cleaning, and Non-Destructive Testing ("NDT") of the existing welds on the lower refurbishment section is ongoing from temporary access point three, station 05+39 to station 11+00. Pressure washing of the interior of the cans continued between temporary access points two and the powerhouse, station 11+58. Completion of weld inspections and submittal of the associated Quality Surveillance Reports ("QSR") is ongoing; 97 QSRs were submitted, which included the inspection of 210 cans. Weld repairs also continued on areas identified through the inspection process from Cut 2 to the temporary access point three.

Figure 3 to Figure 8 show progress within the current reporting period.

Figure 3: Placement of Can 13

Figure 4: Placement of Can 18

Figure 5: Installation of Exterior Coating Wrap on Cans 8 and 9

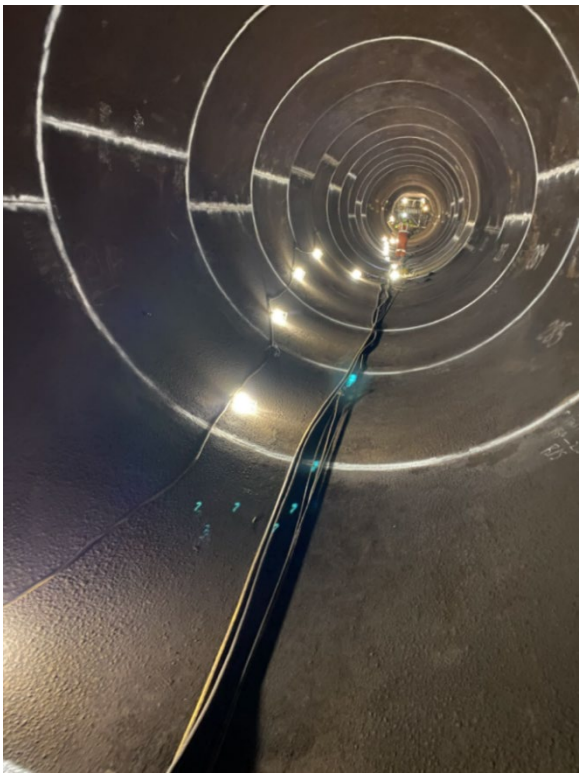


Figure 6: Typical View of NDT in the Refurbishment Section

Figure 7: Placing Common Backfill on South Side of Penstock

Figure 8: Placing Common Backfill on North Side of Penstock

Since the end of the reporting period, weld inspection in the refurbishment section has been substantially completed. The resulting quantity and scope of weld repairs appear to be less than originally anticipated. This milestone marks another significant step forward in ensuring readiness for return to service. The increased certainty in the weld repair scope allows the risk, identified in Table 2, associated with unknown or increased quantity and scope of weld repairs to be closed.

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[4,5]

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[6] 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. Risks have been reduced based on results of the additional inspection.
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.	Closed – Weld inspections in the refurbishment section are substantially complete, providing increased certainty in scope or repair work.
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 contractor's schedule. Hydro will continue to monitor as work progresses.

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

2.2 Geotechnical Assessment and Execution Planning

As indicated in previous reports, the adjustment to relocate the splice location will result in approximately 17 meters of the existing penstock remaining in place. Hydro, in collaboration with the EPCM consultants, have been further developing alternatives to refurbish this section of the penstock to ensure it meets project performance criteria, including expected service life and the removal of any existing operational restrictions. During the reporting period, the additional Phased Array Ultrasonic Testing was completed on the upper 17-meter section of Penstock 1. Initial analysis confirms that no major issues or defects were identified, providing further assurance on weld integrity and structural performance. These results significantly reduce the severity of the risk that refurbishment of this section will not meet project performance criteria.

The potential impact on project cost and schedule remains under evaluation, but is not considered to be significant at this time. Through the reporting period, the Engineering Consultant continued work on formalizing the final refurbishment strategy based on the results of the additional inspection. Since the end of the reporting period, weld repairs that were identified during the inspection have been completed in this section, and surface preparation for coating application as per the specifications has also begun. It is still anticipated that the required refurbishment work in this section will be completed within the current construction window, and it will not impact the planned return to service of the assets. Hydro will continue to provide updates in subsequent reports until full refurbishment requirements are confirmed and any cost and schedule impacts are confirmed.

3.0 Project Schedule

The Contractor's Milestone Schedule is included in Appendix A. Based on progress to the end of July, and as a result of the recovery plan initiated last reporting period, the contractor is trending slightly ahead of 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 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 July 31, 2025, the project expenditure forecast remains below the approved project budget. While Hydro is reasonably confident in its outlook, construction risks remain and will continue to be managed closely.

Appendix B provides further detailed cost information, including an overview of costs incurred to July 31, 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 achieve the project deliverables, meet approved cost and schedule targets, and Hydro continues to actively manage risks to maintain compliance with all regulatory requirements.

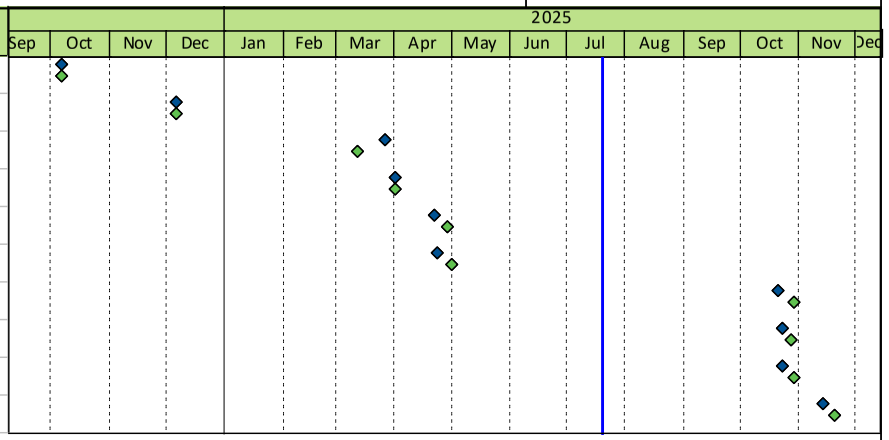
Appendix A

Project Schedule Milestone Table

BDE Penstock No. 1 Refurbishment
Project Schedule

Data Date: 20-Jul-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 A	0d
Mobilization to Site	12-Mar-25	27-Mar-25 A	-11d
Penstock Site Handover to Contractor	01-Apr-25	01-Apr-25 A	0d
Start of Replacement Section Works	28-Apr-25	22-Apr-25 A	6d
Start of Refurbishment Section Works	01-May-25	24-Apr-25 A	6d
Completion of Replacement Section	29-Oct-25	20-Oct-25	7d
Completion of Refurbishment Section Works	28-Oct-25	23-Oct-25	3d
Completion of Construction Works	29-Oct-25	23-Oct-25	4d
Completion of all Works and Demobilization	19-Nov-25	13-Nov-25	5d



Notes:

1 The Project Schedule Report presents a forecast that indicates a variance against the baseline. Forecasts are data-driven and subject to fluctuation as the project evolves. The variance represents a snapshot of the project's schedule status at a specific point in time. As progress continues and additional information becomes available, adjustments will be reflected accordingly.
2 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.
3 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