

Bay d'Espoir Hydroelectric Generating Station Major Refurbishment and Expansion Projects

THIS ISSUE:



- Water Management and Hydrology at NL Hydro
- Penstock #1 Project Completed
- Proposed Unit 8 Project Update
- Future Work at the Hydroelectric Generating Station

WATER MANAGEMENT AND HYDROLOGY AT HYDRO

Our Water Management and Production Planning Teams work year-round to closely monitor hydrology (reservoir/water levels) for all of our hydroelectric generating sites, including the Bay d'Espoir Hydroelectric Facility .

Year to year, variations in hydrology are observed - this is most often based on weather conditions fluctuating from season-to-season and also from year-to-year. It's normal for our system's hydraulic energy storage to trend downwards during the summer season—this is necessary in order to prepare our reservoirs in advance of the fall hurricane season and all the extra precipitation that comes along with it. However, this year, the fall hurricane season, and its associated precipitation, has yet to impact the island. But our teams are continuing to manage our system accordingly.

Our electricity system is always managed holistically. This means we can draw on off-island generation to help reduce Island generation demands and support Island reservoir storage during dry periods, as required - including flow over the Labrador Island Link and, on occasion, imports from the Maritime Link. Two units at our Holyrood Thermal Generating Station have also returned to service, following their planned annual outages, in preparation for cooler fall temperatures and increasing electricity demand, which will also support island reservoir storage.



An aerial viewpoint, looking upstream at the Long Pond Reservoir.

PENSTOCK #1 PROJECT COMPLETED!

NL Hydro is proud to announce the completion of the major replacement and refurbishment of penstock #1 at the hydroelectric generating facility.

Approved by the PUB in 2023, penstock #1 has undergone a major refurbishment and partial replacement since April 2025. More than 1,100 ft of the existing penstock has been excavated and replaced with newly fabricated sections, and the remaining 2,600 ft has been fully inspected and refurbished.

The scope of work for the project also included the application of a protective coating on the interior, and supporting activities, such as backfilling, drainage system upgrades, and installation of pressure monitoring systems. This project extends the life of the penstock, originally built in 1965, and ensure its reliable operation well into the future.

Delivered on budget with strong execution and outstanding results, the project was a success from start to finish. Most importantly, it was completed with an excellent safety record—zero recordable injuries and no reportable environmental events.

The completion of the penstock #1 project is a testament to the commitment, skill, and collaboration of everyone involved.

Congratulations and thanks go to the project team, our partner contractors: Kleinschmidt Associates Canada and Green Infrastructure Partners (formerly Pennecon); and to all of the workers for their planning, teamwork, and dedication to excellence. A special shout-out to our top-notch operations team at the Bay d’Espoir plant for supporting the project at every stage and helping make it a success.

Finally, a big thank-you to the local municipalities and residents in Bay d’Espoir—we appreciate your support and patience during a busy 2025, and we’re proud to be a part of the community for close to 60 years and counting!



PROJECT CONSTRUCTION Employment Report

Provided by Green Infrastructure Partners September 2025. Represents Project Workforce May - Sept. 2025:



23 of 92 Team
Members Local to
the Bay d’Espoir
Area on the
Penstock #1
Project

Apprentices:

- 23% Boilermakers
- 11% Scaffolders
- 25% Operators
- 10% Ironworkers



PROPOSED UNIT 8 PROJECT UPDATE

Environmental Assessment Release

Hydro's proposed Unit 8 project was registered for provincial Environmental Assessment (EA) in August 2025. The project proposal went through a public comment period, and a review process by the Department of Environment, Conservation and Climate Change and an interdepartmental EA screening committee.

On November 13, the Minister released the project from further environmental assessment, with certain conditions for Hydro to satisfy.

A full summary of the EA Process for the Unit 8 Project, including Registration Documents, Public Notices, and Conditions of Release are online:
<https://www.gov.nl.ca/eccc/projects/projects-2369/>

Scan the QR code and get taken to the webpage!



PUB Review

Hydro submitted its application for the Unit 8 project to the Board of Commissioners for Public Utilities (PUB) in early 2025. Initial review, study and requests for additional information have been ongoing since then by the PUB and its consultants on the filing. The PUB is expected to soon provide a schedule for formal regulatory review proceedings on the Unit 8 project.

What's Next?

Early works continue in 2026 with shifting the path of existing utility lines to accommodate development and prevent service interruptions, as well as detailed planning and design. Procurement of long-lead equipment, such as transformers, is forecast for next year to allow construction to begin as scheduled in 2028.

EPCM Selected

To oversee and coordinate the Unit 8 project, Hydro recently awarded a contract for Engineering, Procurement, and Construction Management (EPCM).

The EPCM firm will work closely with Hydro, providing management services for design, procurement coordination, and construction oversight (e.g. quality, safety, scheduling), and will eventually hire primary construction contractors for the Unit 8 project.

FUTURE WORK

Penstocks #2 and #3

Penstocks #2 and #3 are expected to require partial replacement and refurbishment due to recurring weld seam failures. Similar to #1, these penstocks are approximately 1,200 meters in length and constructed from a series of steel cans that vary in length and plate thickness. The penstocks range in diameter from 5.2 meters at the intake to 4.1 meters at the powerhouse bifurcation and are buried along their entire length.

Refurbishment work for Penstocks #2 and #3 will be separate projects that do not require environmental assessment, and are at different stages in the approval process. Penstock #2 is currently in the Feasibility and Front End Planning stage with submission to the PUB anticipated to coincide with a future PUB Application. Penstock #3 is currently in Front End Engineering and Design (FEED) stage, with application to the PUB anticipated early Q1 2026.



Alex Chaulk, Mechanical Graduate Engineer, standing next to disassembled Unit 1 turbine runner and shaft assembly in preparation for inspection.

Proposed Unit 7 Life Extension Project

Hydro submitted its application to the Board of Commissioners for Public Utilities (PUB) in June 2025 for the Unit 7 Life Extension Project. If approved, work would be carried out in 2028, with a construction workforce of 40-50.

An environmental assessment is not required for the project, and it is currently in front-end planning.

Scheduled Overhaul of Unit 2

One of the seven generating units at the Bay d'Espoir hydroelectric station is scheduled for an overhaul in 2026, following an overhaul of Unit 1 completed in 2025.

These are major inspections, not major projects, and are completed approximately every six years. The inspection includes the partial dismantling of the Unit 2 to complete the cleaning and testing of several components, as well as bushing replacement. Any operational issues and seal leaks on the Spherical Valves for the unit will also be addressed and a condition assessment will be completed to provide recommendations for future maintenance.



Have questions or would like additional information
about any of the projects? Connect with us:

ProjectFeedback@nlh.nl.ca



Scan here
to learn more about
these and other
major projects on the
horizon for Hydro