

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

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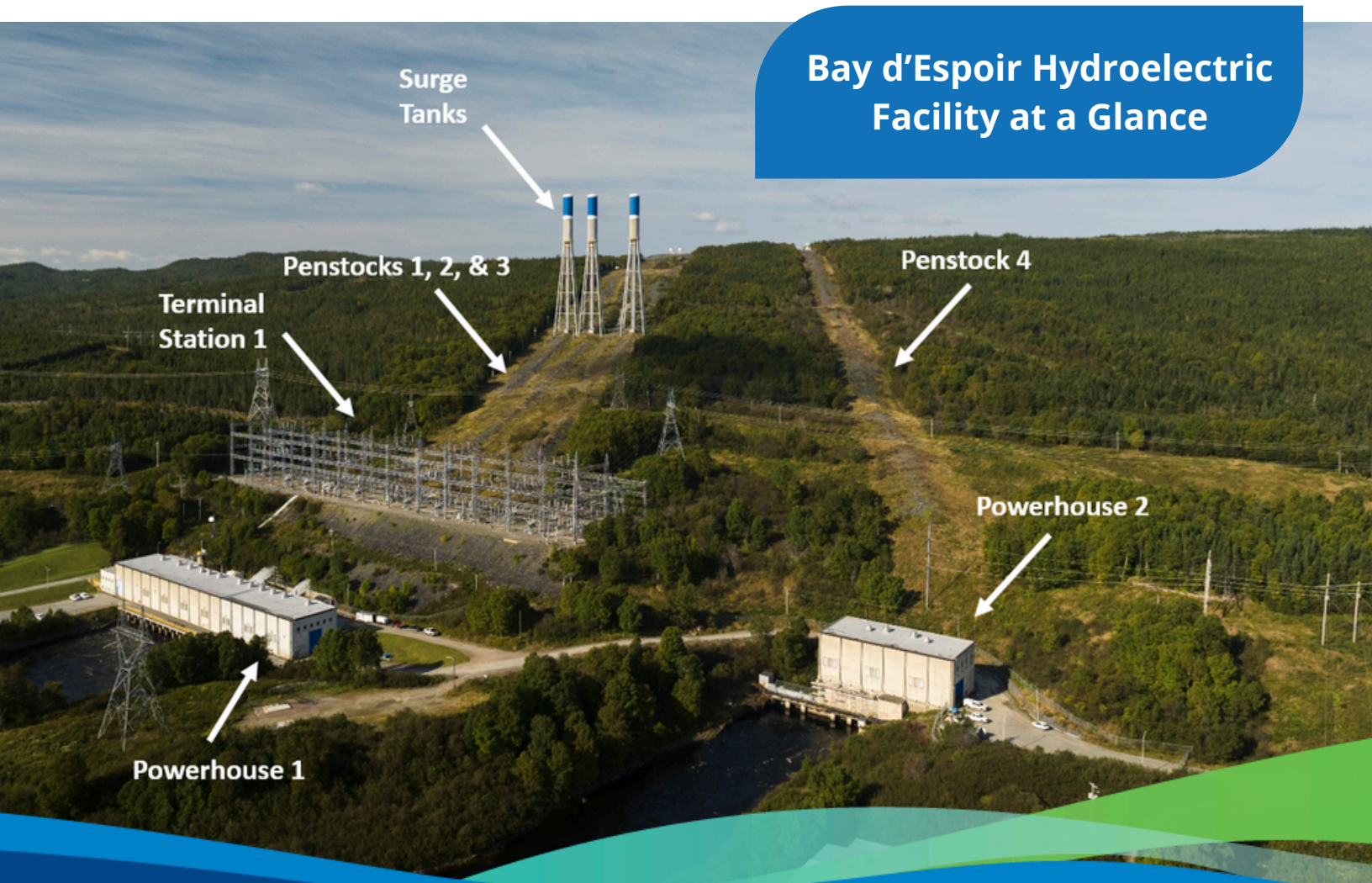
- Bay d'Espoir Hydroelectric Facility Upgrades Overview
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Bay d'Espoir Hydroelectric Facility Upgrades

It's a time of transition for our electricity system, and demand for new sources of reliable, renewable electricity is on the rise. The Bay d'Espoir Hydroelectric Facility, officially commissioned in 1967, continues to be a critical asset, providing steady base-load generation, as well as unit dispatch to meet higher demand at system peaks. To ensure that these assets continue to be managed efficiently, Hydro is investing in significant upgrades and expansions over the next several years.

We're keeping you informed on activities with **Project News** - sharing updates so that you know what's happening at the hydroelectric facility in connection with these important projects!

Have questions or would like additional information about any of the projects?
Connect with us: ProjectFeedback@nlh.nl.ca



Bay d'Espoir Hydroelectric Facility at a Glance

PENSTOCK #1 REFURBISHMENT AND REPLACEMENT

The Bay d’Espoir Hydroelectric Station has 4 steel penstocks, which are large steel pipes (about 17 ft in diameter) that feed water from Long Pond reservoir down to the turbines located in the powerhouses.

This year, penstock #1, originally built in 1965, is undergoing a major refurbishment and partial replacement. Work has been ongoing since April to excavate and remove more than 1,100 ft of the existing penstock and replace it with newly fabricated sections. The remaining 2,600 ft will be inspected and refurbished. This Project will extend the life of the penstock and ensure its reliable operation well into the future.



Photo Credit: The Riverbend Group 2025



The new steel sections are being shipped from the fabrication facility in Nova Scotia. The final of four barge-loads arrived in Bay d’Espoir on July 20th, and the ten large, cylindrical sections were offloaded in St. Joseph’s Cove and trucked one at a time, slowly and carefully to the worksite over a couple of days.

Meanwhile, the project contractor, Pennecon, will have heavy equipment travelling along the Upper Salmon access road between the hydro plant and the quarry. Residents can expect this activity to be between 6am and 6pm from Monday to Friday until the end of September. Pennecon has continued to keep Town officials and residents informed of work activity through public service announcements and signage so to minimize local traffic impacts.

PUB APPLICATION	CURRENT STATUS	ESTIMATED COMPLETION
Approved in 2023	In Construction	Late 2025

PROPOSED UNIT 7 LIFE EXTENSION PROJECT

PUB
APPLICATION

Submitted June 2025

ENVIRONMENTAL
ASSESSMENT

Not Required

CURRENT
STATUS

**Front-end
Planning**

ESTIMATED
COMPLETION

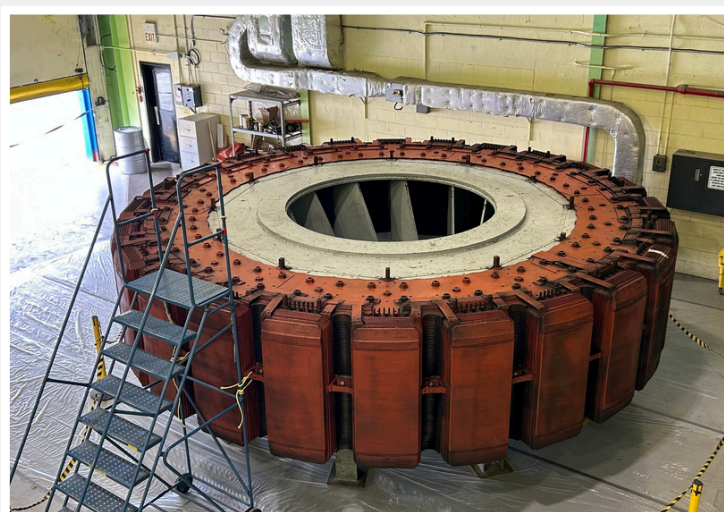
Late 2028

Unit 7 is an existing 154 MW hydroelectric generating unit (the largest unit at the Bay d'Espoir facility), which has been in operation since 1977. A condition assessment completed in 2023 recommended that the unit undergo a major refurbishment in order to extend its operating life, ensure continued reliable operation, and potentially increase energy production.

The work being planned will involve the disassembly of the unit to allow for replacement of the turbine runner,

rewinding the stator, reinsulating the rotor field windings along with inspection, and repair or replacement of numerous other components.

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



This is the rotor from Unit 1 at the Bay d'Espoir station. The rotor is essentially a large, rotating electromagnet. It weighs about 160 tons and, when in operation, it rotates up to 300 rpm. Just thinking about it kind of makes your head spin!

PROPOSED UNIT 8 PROJECT

PUB
APPLICATION

**Submitted
March 2025**

ENVIRONMENTAL
ASSESSMENT

**Registered
August 8, 2025**

CURRENT
STATUS

Early Execution

ESTIMATED
COMPLETION

2031

With growing demand for electricity, along with aging assets and the eventual retirement of thermal generating units at our Holyrood plant, the need to plan ahead for Newfoundland and Labrador's future electricity system requirements is critical. Following several years of extensive study, Hydro has submitted its proposed plan to the Public Utilities Board. One key part of that plan is the addition of a new generating unit at the Bay d'Espoir hydroelectric station. In fact, adding an eighth unit at Bay d'Espoir has long been identified as a preferable solution for additional firm capacity supply for the island, if ever needed.

The Unit 8 Project, if approved, will involve an expansion to the existing Powerhouse No. 2 to house the new 150 MW generating unit. It also includes headrace and tailrace channel enhancements, a new intake and penstock, and a 900m transmission line to the existing Terminal Station next to the hydro plant.

No additional water

Why another unit? Adding an eighth unit doesn't mean additional energy – but it would provide **extra generation capacity** during peak times when the island electricity system needs it most. In other words, there will be no new reservoir and no expansion of the existing reservoir.

Next step: Environmental Assessment

The proposed Unit 8 Project has just been registered for provincial Environmental Assessment (EA). As part of this process, the Department of Environment and Climate Change will closely review the project details. The public can provide comments to the Minister until **September 12** by emailing: **EAProjectComments@gov.nl.ca**.

For more information on the project EA registration, visit the department's website at: www.gov.nl.ca/ecc/env-assessment/projects-list/

What have we done so far?

- 2018:** Hydro files original Reliability and Resource Adequacy (RRA) study with a focus on planning to meet customer and system requirements over a 10-year planning horizon; Concept Design Studies completed.
- 2024:** Front End Planning and Front End Engineering Design completed.
- 2025:** Environmental Assessment registration and approval; Public Utilities Board Application and approval; Engage Turbine Generator supplier; Engage Engineering Procurement and Construction Management (EPCM) Consultant; Begin early execution works.
- We are HERE!*

Next steps & key activities

- 2025 into 2026:**
- Environmental Assessment registration and approval
 - Submission of PUB application and approval
 - Early execution works:
 - Geotechnical investigations and surveys
 - Procurement for long lead equipment (i.e. Transformer)
 - Utility re-routes and power distribution
 - Detailed execution planning and design
- Ongoing engagement and information sharing*



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