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December 16, 2025

Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL, A1A 5B2

Attention: Jo-Anne Galarneau
Executive Director and Board Secretary

Re: *Reliability and Resource Adequacy Study Review* – Semi-Annual Update for the Fourth Quarter of 2025

In 2025, as part of the Settlement Agreement[1] entered into between the parties to the *Reliability and Resource Adequacy Study Review* proceeding ("*RRA Study Review*"), Newfoundland and Labrador Hydro ("Hydro") committed to providing a semi-annual status update regarding the work ongoing in planning for the reliability and resource adequacy for the Island Interconnected System, including information to address specific requests by the Board of Commissioners of Public Utilities ("Board").[2]

This update is made in compliance with that provision of the Settlement Agreement. Throughout the *RRA Study Review*, Hydro has committed to providing other updates to the Board,[3,4] which are also included herein.

1.0 Background

Through Hydro's ongoing *RRA Study Review*, Hydro identified the need for additional generation to meet load growth and system reliability requirements. In the most recent update, the 2024 Resource Adequacy Plan,[5] Hydro focused on the production of an Island Interconnected System Expansion Plan that satisfied both capacity and energy requirements. The 2024 Resource Adequacy Plan assessed the integration of new assets, system reliability, and the effects of electrification and decarbonization across various scenarios. The analysis highlights that, in all modeled scenarios, urgent investment in increased electrical supply is essential and justified to maintain a reliable power supply for customers on the Island.

In the 2024 Resource Adequacy Plan, Hydro recommended the Minimum Investment Required Expansion Plan that meets reliability while balancing cost and environmental considerations, as a first and significant step to meeting the expected case (also known as the "Reference Case"). The 2024 Resource Adequacy Plan's Reference Case results indicate that approximately 525 megawatts ("MW") of

[1] "2025 Build Application – Bay d'Espoir Unit 8 and Avalon Combustion Turbine," Newfoundland and Labrador Hydro, March 21, 2025 ("2025 Build Application"), sch. 2.
[2] Please refer to Section 10 of the Settlement Agreement.
[3] Please refer to Hydro's response to PUB-NLH-334 of the *RRA Study Review*.
[4] Please refer to Hydro's response to Question 11 of "2025 Build Application – Request to Hydro to Provide Additional Information – Hydro's Reply," Newfoundland and Labrador Hydro, September 11, 2025.
[5] "2024 Resource Adequacy Plan – An Update to the Reliability and Resource Adequacy Study," Newfoundland and Labrador Hydro, rev. August 26, 2024 (originally filed July 9, 2024).

capacity is required by 2034. The Minimum Investment Expansion Plan, based on the Slow Decarbonization load forecast results, indicate a minimum of 385 MW of new capacity is required by 2034. The preferred, least-cost, environmentally responsible resource options under this recommendation are Bay d'Espoir ("BDE") Unit 8 and the Avalon Combustion Turbine ("CT") for an approximate total of 296 MW.

2.0 Energy and Capacity Expression of Interest Update

The 2024 Resource Adequacy Plan analysis identified a requirement for approximately 400 MW of wind to meet its firm energy requirements. While Hydro is pursuing further studies[6] in support of reliability and supply adequacy to maximize energy delivery to the Island over the LIL, potentially reducing this requirement, Hydro launched a call for power process in 2025. This process has been conducted in parallel to the build application process in 2025 to help determine resource options and costs to meet the Island Interconnected System energy requirements; however, these potential solutions will not reduce the capacity requirements for the Island Interconnected System recommended in the 2025 Build Application.

As a first step in the call for power process, Hydro issued a Request for Expression of Interest ("EOI") on July 9, 2025, for the supply of energy and capacity that, in combination, can provide for up to 150 MW of firm capacity and up to 500 gigawatt hours ("GWh") of firm energy. The Request for EOI was closed on September 2, 2025, and Hydro received 17 responses. Hydro is using the information gathered to inform the next steps in the call for power process. Hydro continues to support the new Government of Newfoundland and Labrador's transition and will provide an update to the Board on progress toward such procurement in its next semi-annual report in the second quarter of 2026.

3.0 Fuel Supply Update

There are currently no identified issues with fuel supply for the existing Holyrood CT facility and the proposed 150 MW facility;[7] however, Hydro is continuing to study storage options to mitigate any potential issues with fuel availability that may arise in the future.

Hydro plans to leverage a Request for EOI to explore potential partnerships that may help mitigate fuel risks. While not a near-term requirement, a marine terminal at the site of the Avalon CT, along with the associated commercial supply agreements, was identified as a future option to further ensure the long-term fuel security for the existing, proposed, and any future CTs. Without confirmed expansion of fuel supply investments on the Island, Hydro would not have a reliable supply of fuel that additional CTs, beyond the 150 MW Avalon CT proposed in the 2025 Build Application, would require to run reliably. This is a primary consideration for the Reference Case Expansion Plan and future resource planning. To date, Hydro has engaged Hatch to complete a study on the segregation of fuel storage for third-party access to identify potential options at the Holyrood site and to inform the Request for EOI process. Hydro will review the results of the study and determine the next steps.

As discussed during Technical Conference 2,[8] Hydro has been evaluating the upgrade or potential replacement of the Holyrood Marine Terminal to alleviate long-term fuel security. In January 2025,

[6] The Final Under Frequency Load Shedding ("UFLS") Study was filed with the Board on August 11, 2025. In addition, Hydro is studying the use of Battery Energy Storage Systems ("BESS") as frequency support, which may allow for additional energy to be brought to the Island via the Labrador-Island Link ("LIL").
[7] "Newfoundland and Labrador Hydro Conception Design Report – Final Report," Hatch Ltd., September 28, 2023.
[8] 2024 Resource Adequacy Plan – Technical Conference #2 – Issue #4: Resource Supply Options," Newfoundland and Labrador Hydro, October 2, 2024.

Artelia Canada Inc. ("Artelia") was awarded a contract to complete an initial concept design, including a condition assessment of the existing marine jetty and provide a report outlining the inspection findings, an Advancement of Cost Engineering ("AACE") Class 4 cost estimate and a recommendation to either refurbish or replace. In its report, Artelia has recommended a refurbishment of the existing jetty to extend the service life in parallel with the planned life of the new CT facility. Hydro has reviewed the report and the findings; however, no decision has been made to proceed with the project, as this option will be assessed in tandem with the EOI process. It should be noted that should Hydro decide to proceed with a project for the Marine Terminal for any reason, additional work is required to produce front-end engineering design ("FEED") deliverables and an AACE Class 3 estimate for inclusion in a capital application.[9]

Should the analysis associated with the next Resource Adequacy Plan indicate the need for additional CTs, or the outcome of the Fuel Partnership Request for EOI indicate that a marine terminal would be required, Hydro would consider the advancement of the project to FEED at that time.

Hydro will continue to update the Board on any developments regarding fuel risks or mitigation in its semi-annual reports.

4.0 Update on Analysis Required for the Reference Case

4.1 Progress to Date

On March 12, 2025, Hydro filed an application for approval of capital expenditures to ensure that the schedule and costs that would be proposed in the imminent application for approval of the BDE Unit 8 and Avalon CT projects would not be impacted by delay resulting from an inability to proceed with capital expenditures prior to approval ("Early Execution Application"). Hydro proposed to defer the determination of whether the expenditures can be recovered from customers to the subsequent application for approval of the projects. The Board issued Order No. P.U. 17(2025) approving Hydro's Early Execution Application on April 25, 2025, accepting that the approval of the proposed early execution work would reduce risks to the schedule and costs of the proposed projects.

On March 21, 2025, Hydro filed its application for capital expenditures for the purchase and installation of BDE Unit 8 and the Avalon CT.

The Board subsequently engaged their expert, Bates White Economic Consulting, LLC ("Bates White"), to review Hydro's submission and provide a report to the Board. Bates White submitted their report to the Board on June 26, 2025. Since Hydro's submission in March 2025, Hydro has responded to additional requests for information from the Board and their consultant, Bates White, and Bates White issued an addendum to their report on November 7, 2025. On October 8, 2025, the Board advised that Bates White had partnered with two firms to assist with its review. Gruner AG would provide support regarding BDE Unit 8, and Consolidated Asset Management Services would support the review of the proposed Avalon CT Project. The Board noted that the regulatory schedule for further process would be set upon receipt of those reports, at that time expected in late November. Hydro understands that there has been some delay in the receipt of those reports.

[9] As is the practice with FEED documentation, applicable FEED documentation will be filed with a future capital application for the Marine Terminal Station, if necessary, and not stand-alone reporting, as outlined in the Settlement Agreement. Please refer to Hydro's response to Question 11 of "2025 Build Application – Request to Hydro to Provide Additional Information – Hydro's Reply," Newfoundland and Labrador Hydro, September 11, 2025.

In the Early Execution Application, Hydro noted that in the absence of a Board Order on the 2025 Build Application by the end of 2025, it would be necessary for Hydro to file a second early execution application in the fourth quarter of 2025 to allow Hydro to continue the expenditures necessary to maintain the project schedule. Hydro filed its Additional Early Execution Application on December 12, 2025.[10]

To continue to update the Reference Case scenario load forecast, Hydro has provided its 2025 Load Forecast Report[11] to the Board and continues to closely monitor demand and energy requirements for the next Resource Adequacy Plan. Hydro has also completed a refresh of the capital plan within its Holyrood Thermal Generating Station ("Holyrood TGS") Life Extension Condition Assessment[12] to inform the Board and parties of the costs associated with continued operation past the current retirement date of March 31, 2030.

To support the need and timing for further supply expansion to meet the Reference Case, an ELCC[13] Study for batteries, wind, and solar was completed in November 2025, and the results were filed with the Board. Table 1 outlines the applications and studies filed to date in support of the Reference Case Expansion Plan and provides a brief summary of each study.

Table 1: Applications and Studies filed in Support of the next Resource Adequacy Plan

Study	Date Filed	Summary
2024 Resource Adequacy Plan	July 9, 2024	Update to the *RRA Study Review,* which proposed Hydro's Minimum Investment Required Expansion Plan.
Holyrood Thermal Generating Station Capital Refresh	March 7, 2025	Summary of capital, operating and fuel costs to continue operation of the Holyrood TGS up to 2035.
2025 Build Application	March 21, 2025	Application for capital expenditures for Avalon CT and BDE Unit 8, related to the Minimum Investment Required Expansion Plan, and included the 2024 Long-term Load Forecast report.
The Final Lower Churchill Project Operational Study	August 10, 2025	Final UFLS scheme, which will reduce the firm energy deficit that was presented in the 2025 Build Application by approximately 450–500 GWh.
Evaluation of a Remedial Action Scheme ("RAS") for the Avalon 230 kV Corridor	October 14, 2025	Recommended Avalon RAS as the least-cost alternative to the construction of a new transmission line, which can support an island demand of 2,000 MW during a LIL shortfall scenario.[14]
CDM[15] Potential Study	November 5, 2025	No impact on the projects proposed within the 2025 Build Application, as Hydro has already reflected an appropriate level of savings from CDM programming and energy efficiency in its 2024 Slow Decarbonization Load Forecast.

[10] "Additional Early Execution Capital Work – Bay d'Espoir Unit 8 and Avalon Combustion Turbine," Newfoundland and Labrador Hydro, December 12, 2025 ("Additional Early Execution Application").
[11] "2025 Island Interconnected System Load Forecast Report," Newfoundland and Labrador Hydro, November 5, 2025.
[12] "*Reliability and Resource Adequacy Study Review* – Assessment to Determine the Potential Long-Term Viability of the Holyrood Thermal Generating Station," Newfoundland and Labrador Hydro, March 31, 2022, att. 2.
[13] Effective Load Carrying Capability ("ELCC").
[14] Assuming the proposed Avalon CT is online.
[15] Conservation and Demand Management ("CDM").

Study	Date Filed	Summary
2025 Load Forecast Update: Island Interconnected System	November 5, 2025	Load Forecast Update for 2025, which demonstrates that there is an immaterial difference between the compound annual growth rate between the 2024 and 2025 Load Forecasts.
ELCC Study	December 9, 2025	ELCC Study to determine the capacity contribution for wind, solar, and battery storage, as it applies to the Island Interconnected System.

4.2 Upcoming Studies

To assess the need and timing for further supply expansion to meet the Reference Case, Hydro is advancing work on the next potential options in its supply stack by undertaking multiple feasibility studies through 2025 and 2026 to advance analysis of resource options, driven by the outcome of the 2024 Resource Adequacy Plan. Hydro will use the outputs of these feasibility studies and incorporate them into its next Resource Adequacy Plan analysis.

This feasibility work consists of feasibility and supporting studies on Cat Arm Unit 3, BESS, and transmission expansion options, as shown in Table 2.

Table 2: Estimated Filing Dates – Upcoming Studies

Study	Estimated Completion Date[16]	Status Update	Estimated Filing Date[17]
Transmission Expansion Feasibility Study	Q4 2025	Contract awarded. Study and final report remain on schedule.[18]	February 2026
Evaluation of BESS for Frequency Support	Q4 2025	Contract awarded. The study is ongoing, and the final report is now anticipated in the first quarter of 2026.	April 2026
Cat Arm Unit 3 Feasibility Study	Q1 2026	Contract awarded. Study and final report remain on schedule.	April 2026
BESS Feasibility Study	Q1 2026	Contract awarded. Study and final report remain on schedule.	April 2026

In line with its legislated mandate, Hydro is currently prioritizing activities and focusing its efforts based on the resource options that its analysis indicates are the next least-cost options for reliable service. Hydro's approach is data-driven and, as a result, the activities and studies are subject to change in scope or prioritization should the outcome of the analysis indicate that the applicable resource option(s) are not a feasible or a least-cost option to meet Hydro's needs for the Reference Case.

[16] The date listed in this column is the estimated completion date as provided in the Settlement Agreement, unless the study is complete, in which case a more specific date will be listed.
[17] Hydro's internal review, as referenced herein, will be completed within 45 days of the completion of the report. Should additional time be required to complete the internal review, Hydro will advise the Board and the parties of the amount of additional time needed and the reasons for the additional time.
[18] While transmission line construction will not be required in support of the proposed projects in the 2025 Build Application, as outlined in Hydro's RAS Feasibility Study, Hydro will continue with its commitment to work with a consultant on the Transmission Feasibility Study to complete the cost estimate.

4.3 New Studies

At this time, Hydro has determined that one additional study is necessary to inform the Reference Case resource selection options, as outlined in Table 3.

Table 3: Additional Study Necessary to Inform the Reference Case

Study	Estimated Completion Date[19]	Purpose
Reactive Power Study	Q2 2026	Assessment of reactive power requirements and resource options for the Island Interconnected System.
Condition Assessment and Retirement Optimization Study	Q1 2026	Assessment of the remaining useful life for the Hardwoods and Stephenville Gas Turbines, and estimated capital and operating costs up to 2035.

5.0 Next Resource Adequacy Plan

Hydro believes it is prudent to have an approved plan in place to meet the Minimum Investment Required Expansion Plan prior to determining next steps. With the ongoing review of the Minimum Investment Required Expansion Plan through the 2024 Resource Adequacy Plan and the 2025 Build Application proceedings, Hydro is planning to submit its next Resource Adequacy Plan in the second quarter of 2027.

In the interest of regulatory efficiency, Hydro will identify any new resource requirement or new projects that may be required to meet the Reference Case within its next Resource Adequacy Plan prior to submission of an application for any required capital expenditures.

If you have any questions or comments, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

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[19] As outlined within the Settlement Agreement, Hydro will file the study after internal review is completed within 45 days of receipt of the final report.