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November 10, 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 – 2025–2026 Winter Readiness Planning Report –Report

Further to correspondence received from the Board of Commissioners of Public Utilities ("Board") on October 13, 2016 directing Newfoundland and Labrador Hydro ("Hydro") to provide an annual report detailing its winter readiness planning, and correspondence received on March 5, 2020 requesting additional detail, please find enclosed Hydro's 2025–2026 Winter Readiness Planning Report.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Shirley A. Walsh

Senior Legal Counsel, Regulatory

SAW/rr

Encl.

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2025–2026 Winter Readiness Planning Report

November 10, 2025

A report to the Board of Commissioners of Public Utilities



Executive Summary

- 2 Newfoundland and Labrador Hydro ("Hydro") closely monitors its supply-related assets and is confident
- 3 in its ability to service customers during the 2025–2026 winter season. Each year, Hydro completes
- 4 extensive winter readiness ("WR") activities across its network of assets. This requires detailed
- 5 scheduling and coordination from across all teams and sites to ensure safe completion of all tasks. These
- 6 activities are progressing towards completion, and Hydro is confident in its ability to provide reliable
- 7 service to its customers, as well as those of Newfoundland Power Inc., throughout the upcoming winter
- 8 season.

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- 9 The results of Hydro's annual work plan ("AWP") and WR activities for both the Island Interconnected
- 10 System and the Labrador Interconnected System year-to-date indicate that Hydro is on track to meet its
- target for all regulated generating assets, with the exception of Unit 3 at the Holyrood Thermal
- Generating Station ("Holyrood TGS"), and Bay d'Espoit Units 1 and 2. Holyrood TGS Unit 3 is undergoing
- major overhaul of the steam turbine and valves, and its return to service date has been extended to
- early-February 2026. Hydro is working with the contractor to explore opportunities to expedite the
- return to service date. Bay d'Espoir Units 1 and 2 are expected to return to service December 5, 2025
- 16 upon completion of the Penstock 1 Life Extension Project. In advance of the return to service of these
- units, Hydro has sufficient generation reserves and appropriate plans in place to mitigate any risk to the
- 18 system.
- 19 Due to a period of low inflows in its reservoirs, Hydro continues to utilize its portfolio of assets to
- 20 manage reservoir levels. Hydro will continue to monitor progress and mitigate work execution and
- 21 operational risks. The system is well positioned to meet the needs of all customers for the 2025–2026
- 22 winter season.
- 23 The Labrador-Island Link ("LIL") continues to reliably support the Island Interconnected System,
- delivering both capacity and energy to meet system needs, and will be available for bipole operation up
- 25 to 700 MW this winter. Subject to the completion of high-power testing, the LIL will be able to be
- 26 operated up to 900 MW as system conditions permit. Hydro has determined that the high-power test of
- 27 the LIL be postponed until later in the winter as a result of its continued focus on WR activities and

¹ As approved in Board Order No. P.U. 6(2023).



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- 1 prioritization of reliable service to customers during the winter period, including supporting reservoir
- 2 levels to meet peak load requirements.
- 3 Although Hydro has identified risks as outlined in this report, it is important to note that the
- 4 identification of risks is a normal and important piece of Hydro's comprehensive planning and
- 5 preparedness processes. These processes help to ensure reliable operation during our winter operating
- 6 seasons.
- 7 Hydro continues to monitor the remaining work activities and risks to WR, and will provide a further
- 8 update in its next 2025–2026 Winter Readiness Planning Report, to be filed on December 10, 2025.



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- Appendix C: Critical Spares Status Listing for Thermal Generation
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- Appendix F: Status of Winter Readiness Testing of Plant and Equipment for Hydraulic Generation
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- Appendix H: Status of Winter Readiness Testing of Plant and Equipment for Muskrat Falls Generation



1.0 Introduction

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- 2 In 2016, the Board of Commissioners of Public Utilities ("Board") directed Hydro to provide an annual
- 3 report detailing its WR planning.² This report, for the 2025–2026 winter season, addresses the following
- 4 items as requested by the Board:
 - The status of annual work plan items, for Hydro's generating plant and transmission and terminal stations, including the completion to date, outstanding items to complete, and any risks to completion or as a result of failure to complete.
 - A description and schedule for all outstanding [2025] capital projects for Hydro's generating plant and transmission and terminal stations, including progress on completion status to date and expected completion date.
 - Identification of all equipment and plant testing to be carried out in advance of the winter period (generation plant, emergency diesels, black start generators, fire systems, transmission system equipment), including progress on completion status to date.
 - The planned generation outage schedule for the period September 1 to
 December 31, [2025], including an explanation for any planned outages extending beyond
 December 1, [2025].³
 - An update of critical spares assessment and procurement.
 - Identification of any risks that could impact the winter readiness of assets as of December 1,
 [2025] and associated contingency plans.⁴

⁴ "Request to Hydro to file Winter Readiness Planning 2016-2017," Board of Commissioners of Public Utilities, September 13, 2016.



² "Investigation and Hearing into Supply Issues and Power Outages on the Island Interconnected System – Directions further to the Board's Phase One Report," Board of Commissioners of Public Utilities, October 13, 2016, p. 2, item iii.

³ In previous years, Hydro's WR report included a Near-Term Reliability and Resource Adequacy section. The Board approved the removal of the duplicate information in "Newfoundland and Labrador Hydro - Reliability and Resource Adequacy Study Review – Schedule for Future Updates," Board of Commissioners of Public Utilities, August 17, 2023. The information has been provided in the "Reliability and Resource Adequacy Study Review – 2024 Near-Term Reliability Report," Newfoundland and Labrador Hydro, November 20, 2024.

- 1 Hydro's AWP integrates all planned activities for the year (i.e., corrective maintenance ("CM"),
- 2 preventive maintenance ("PM"), and capital project support) that are critical to the safe and reliable
- 3 production and transmission of electricity. Hydro regularly measures the progress of its AWP execution
- 4 in comparison with the plan, and is able to track the AWP status down to the level of individual work
- 5 plan items. The individual AWPs for various assets are incorporated into an integrated AWP. While some
- 6 AWP activities are planned for completion through December 2025, those tagged as WR activities are
- 7 generally planned for completion by December 1, 2025.
- 8 To ensure WR, Hydro follows a structured checklist for planning and documenting its testing and
- 9 inspection of plant and equipment in its thermal and hydroelectric generation facilities.
- 10 In its transmission, terminal station, operational technology, and combustion turbine ("CT") operations,
- 11 Hydro relies on its AWP process to plan and track its WR testing and inspection of these assets. The
- 12 AWPs in these areas include planned PM activities and CM items, both of which involve inspection and
- testing. Planned PMs and CMs, and any other activities pertaining to WR, are flagged inside the
- 14 respective AWPs and may be tracked separately from other AWP items that are not WR related.
- 15 Except where otherwise noted, information presented in this report covers both the Island
- 16 Interconnected System and the Labrador Interconnected System for the period ending
- 17 October 31, 2025. This report is organized by operating area (i.e., Holyrood TGS, CT Generation,
- 18 Hydraulic Generation, Muskrat Falls Assets, Transmission and Rural Operations, and Operational
- 19 Technology), and WR activities for each operating area are discussed in Sections 2.0 through 7.0 and
- 20 relevant appendices, which contain applicable information on:
 - Annual Work Plan and Winter Readiness Status: This report provides a consolidated summary
 of operation and maintenance progress, both for the entire AWP and the WR tasks for each
 area. Each status chart includes the completed and remaining operations and maintenance AWP
 and WR tasks, as well as an indication of the planned task completion target to date.
 - Critical Spares: An update on the status of Hydro's critical spares for the 2025–2026 winter season is provided in this report. Items are categorized as In Stock, Non-Stock or Procurement Ongoing. In Stock status indicates the part is in inventory. Non-stock status is used when parts are critical but not necessary to keep in stock (e.g., because the part is readily available locally).



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- Procurement Ongoing status indicates the part is required to be in stock but is not, and is at a varying stage of the procurement process.⁵ This report includes an update on the status of the critical spares for each operating area, with a detailed listing of critical spares with status of Procurement Ongoing.⁶
 - Plant and Equipment Testing: Discussion of equipment and plant testing to be carried out in advance of the winter period, including structured checklist for planning and documenting its testing and inspection of plant and equipment in its thermal and hydroelectric generation facilities.
 - Risk and Risk Mitigation: Discussion of items influencing WR and/or reliable operations.
- 10 In line with Board direction, Hydro also provides an update on its capital programs and projects
- 11 impacting WR in Section 8.0 and Appendix A. As reflected throughout this report, a number of
- 12 generating unit annual maintenance programs have been completed across the fleet and Hydro plans to
- 13 complete annual maintenance on all of its regulated generating assets in advance of the winter season,
- with the exception of Holyrood TGS Unit 3 and Bay d'Espoit Units 1 and 2. The Master Generation
- 15 Outage Schedule for September 1 to December 31, 2025 is provided as Appendix B.

16 2.0 Holyrood Thermal Generating Station

2.1 Annual Work Plan and Winter Readiness Status

- 18 The status of AWP and WR execution at the Holyrood TGS is summarized in the following charts,
- 19 including:

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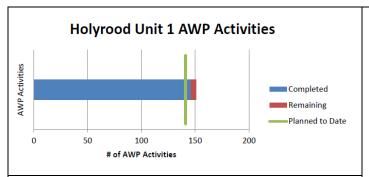
- 20 **o** Units 1, 2, and 3; and
- 21 Balance of Plant, including black start diesels.

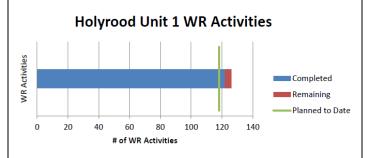
⁶ A detailed listing of all critical spares for each area of generation operations are provided within Appendices C, E, F and H of "Reliability and Resource Adequacy Study Review – 2025–2026 Winter Readiness Planning Report," Newfoundland and Labrador Hydro, October 14, 2025. ("October WR Report").



⁵ Hydro utilizes a number of its spare parts to address deficiencies found during the maintenance season; as such, fall maintenance outages may result in the requirement to replenish additional spare components.

- 1 All planned 2025 WR work is on target for completion by December 1, 2025, aside from activities related
- 2 to Unit 3. Unit 3 is undergoing major overhaul of the steam turbine and valves, and its return to service
- date has been extended to early-February 2026.





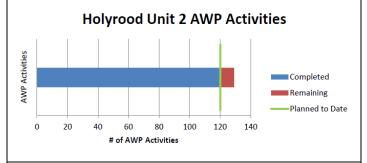
Holyrood TGS Unit 1

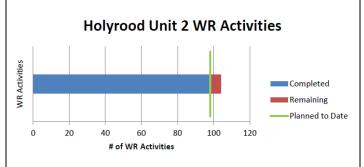
Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 96.7% to date.
- WR status is 96.8% complete for 2025.
- The annual maintenance outage was completed and the unit came online in September 2025.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.





Holyrood TGS Unit 2

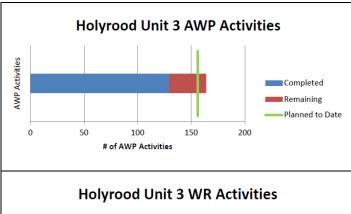
Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 93.8% to date.
- WR status is 94.2% complete for 2025.
- The annual maintenance outage was completed and the unit came online in October 2025.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.





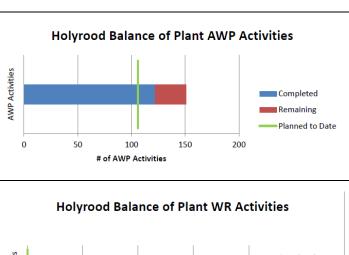
Holyrood Unit 3 WR Activities Completed Remaining Planned to Date # of WR Activities

Holyrood TGS Unit 3

Forecast Completion Status:

On Target for Completion by Return to Service Comments and Schedule Notables:

- Overall AWP completion status is 79.3% to date.
- WR status is 76.6% complete for 2025.
- Unit 3 is scheduled to come online upon completion of its annual maintenance outage in early-February 2026.
- All remaining activities are scheduled to be completed prior to the unit being returned to service.



Holyrood Balance of Plant WR Activities Completed Remaining Planned to Date # of WR Activities

Holyrood Balance of Plant

Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 80.8.% to date.
- WR status is 62.1% complete for 2025.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.



1 2.2 Critical Spares

2 The status of critical spares for the Holyrood TGS is provided in Table 1.

Table 1: Critical Spares for Thermal Generation

Status	Quantity
In Stock	731
Non-Stock	17
Procurement Ongoing	27
Total	775

- 3 There are 27 critical spare stock items currently with procurement ongoing, which are detailed in
- 4 Appendix C. Four items have purchase orders issued, with three items expected to be delivered prior to
- 5 December 1, 2025, and one expected in March 2026. The item expected to be received in March 2026 is
- 6 a boiler feed pump recirculation valve which was just replaced on Unit 2. Replacement of these valves is
- 7 very rare, therefore Hydro considers the risk to WR to be low. Two items have been sent to third-party
- 8 vendors for refurbishment, and are expected to be returned to site prior to December 1, 2025.
- 9 The remaining twenty-one items were recently consumed during the Overhaul Unit 3 Turbine and
- 10 Valves program. A request for quote has been submitted to the OEM for these twenty-one items, and
- 11 expected delivery dates will be provided in the filing of the next 2025–2026 Winter Readiness Planning
- 12 Report, scheduled for December 10, 2025. As these outstanding items are typically used during outages
- only, Hydro considers the risk to WR to be low.

14 2.3 Plant and Equipment Testing

- 15 WR testing of generating equipment in thermal generation is focused primarily around annual unit
- 16 maintenance outages. Following these annual outages, units are run up and synchronized and all
- 17 systems are verified before the unit's operating status is determined and preparedness is confirmed.
- 18 Unit load tests are performed at this time as well; however, all required load testing is not completed
- 19 until later in the fall when system conditions allow. The WR testing protocol includes the testing of



- appropriate Balance of Plant components, including the black start diesel generators. The current
- 2 status of equipment/plant testing for thermal generation is indicated in Appendix D.
- 3 Unit 1 was returned to service on September 17, 2025 after completion of its annual maintenance
- 4 outage. Many of the start-up checks for Unit 1 have been completed, as reflected in Appendix D. The
- 5 completion of load testing and online safety valve testing remains outstanding due to an issue
- 6 discovered with the turbine control valves after the unit returned to service, restricting the unit to
- 7 100 MW. Correction of this issue will require a brief unit outage, which is currently scheduled for the
- 8 week of November 17, 2025 as system conditions permit. Unit 1 will remain online, derated to 100 MW,
- 9 until that time. High pressure ("HP") feedwater heaters Number 4 and 5 are not available for service this
- 10 year due to the failure of Heater Number 4. Heater Number 6 will remain in service. This will not impact
- the ability of the unit to operate reliably at full load for this winter.
- 12 Unit 2 returned to service on October 15, 2025 following the conclusion of its annual maintenance
- outage. The majority of the start-up checks for Unit 2 have been completed upon return to service of
- the unit, as indicated in Appendix D.⁸ All HP feedwater heaters are expected to be in service for Unit 2
- 15 for this winter. On October 23, 2025, Unit 2 was derated to 163 MW due to water flow issues to the
- 16 boiler. The boiler contractor has been engaged, and investigation into the issue is ongoing.
- 17 Unit 3's return to service was extended to mid-January 2026 due to the additional work required during
- the Overhaul Unit 3 Turbine and Valves Program. The return to service of this unit was further extended
- 19 to early-February 2026 due to the failure of the turbine hall crane at the Holyrood TGS. Hydro is working
- 20 with the contractor to explore opportunities to expedite the return to service date. As indicated in
- 21 Appendix D, the majority of start-up checks on Unit 3 have not been completed due to the ongoing
- 22 outage. The start-up checks will commence in preparation to return the unit to service, with the
- remainder completed when the unit is started up for system generation needs. HP feedwater heater
- Number 6 on Unit 3 will not be available for service this year due to failure. Heaters Number 4 and 5 are
- 25 expected to be in service. The unit is expected to be available for full load when returned to service.

⁸ The outstanding load testing and online safety valve testing for this unit was completed in late October 2025, and will be reflected in the filing of the next 2025–2026 Winter Readiness Planning Report, scheduled for December 10, 2025.



⁷ The black start diesel generators are run up to speed and synchronized on a weekly basis to confirm their availability. The function of all associated breakers are also tested and confirmed.

- 1 With the exception of Unit 3, Hydro does not anticipate any concerns regarding completion of the start-
- 2 up checks for all units by December 1, 2025.

2.4 Risk and Risk Mitigation

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- 4 In accordance with capacity requirements as specified by Hydro in its 2024 Resource Adequacy Plan,⁹
- 5 Hydro has recommended that all three Holyrood TGS units remain available through the "Bridging
- 6 Period"¹⁰ while Hydro seeks to develop new long-term sources of supply.
- 7 In 2021, Hatch Ltd. ("Hatch") completed its Life Extension Condition Assessment Study ("LECA"), 11
- 8 including a capital plan to support the standby operation of the Holyrood TGS to 2030. In 2024, Hatch
- 9 completed a refresh to their capital plan, which also considered operations to 2035 to inform the capital
- 10 costs of operating beyond 2030, should this be required. 12 It is recognized that increased age can result
- in an increased risk of in-service failures. Hydro mitigates this risk through regular overhaul programs on
- major components, increased condition assessment work, and a robust critical spares program.
- 13 Hydro anticipates that Units 1 and 2 at the Holyrood TGS will be fully available for the winter period.
- 14 Unit 3 is undergoing major overhaul of the steam turbine and valves, and its return to service date has
- been extended to early-February 2026. Hydro is working with the contractor to explore opportunities to
- 16 expedite the return to service date. Items influencing WR and/or reliable operations are identified in the
- 17 sections that follow.

18 2.4.1 Unit 3 Turbine and Valves Overhaul

- 19 The WR scope in this program is to clean, inspect, test, and refurbish or overhaul as required the turbine
- and turbine valves for Unit 3 at the Holyrood TGS. The planned inspection and overhaul of the turbine

¹² "Reliability and Resource Adequacy Study Review – Holyrood Thermal Generating Station Capital Plan Refresh," Newfoundland and Labrador Hydro, March 7, 2025, att. 1.



⁹ "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).

¹⁰ Hydro considers the Bridging Period to be from the present to 2030, or until such time that sufficient alternative generation is commissioned, adequate performance of the LIL is proven, and generation reserves are met. During the Bridging Period, the system would rely primarily on existing sources of generation capacity to maintain reliability while new generation capacity is being built. The primary, readily available supply options in this period are extending the retirements of the Holyrood TGS, Stephenville GT and the Hardwoods GT until their capacities can be adequately replaced.

¹¹ "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.

- 1 valves is substantially complete, with final commissioning to occur during the start up and return to
- 2 service of Unit 3.
- 3 The planned turbine inspection has been completed and overhaul work is in progress. During the project
- 4 discovery phase, damage was discovered on a turbine rotor diaphragm that required additional time to
- 5 refurbish at the original equipment manufacturer's ("OEM") facility. The diaphragm refurbishment work
- 6 is complete and the component has been returned to the Holyrood TGS. Installation of this component
- 7 in the lower turbine casing is required for turbine reassembly, and delayed the expected return to
- 8 service of Unit 3 to mid-January 2026.
- 9 In addition, failure of the turbine hall overhead crane at the Holyrood TGS, which is required to
- 10 reassemble the turbine, has resulted in further delays in return to service of the unit. Engineering of the
- 11 repair and procurement of the necessary materials is complete, and the crane returned to service on
- 12 November 6, 2025. As a result, the expected return to service of Unit 3 has been delayed to early-
- 13 February, 2026. Hydro is working with the contractor to explore opportunities to expedite the return to
- 14 service date.

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2.4.2 Unit Boiler Tubes

- 16 Each of the three thermal generating units at the Holyrood TGS has a boiler that contains tubes, the
- 17 failure of which are a common issue in thermal power plants. 13 To mitigate the possibility of tube
- 18 failures, Hydro conducts a thorough annual tube inspection and test program, which was executed
- 19 during the 2025 annual outage season, and is scheduled to reoccur in 2026. Hydro has determined that
- 20 the boiler tube sections as a whole are in good condition; however, tube failures continue to pose a risk.
- 21 Hydro maintains a thorough selection of spare tube material and a contract with an experienced boiler
- contractor for the provision of emergency repairs in the event of tube failures.

2.4.3 High Pressure Feedwater Heaters

- 24 In recent years, Hydro has experienced increasing difficulty in operating the HP feedwater heaters, with
- 25 the majority of the heaters unavailable for service during the 2023–2024 operating season due to tube

¹³ Boiler tube failures are a common issue in thermal power plants due to the inherent design, which requires relatively thin walls for heat transfer to be subjected to high temperatures and stresses.



- bundle leaks. 14 In 2024, Hydro began a condition assessment program, 15 under which all heaters will be
- 2 opened for internal inspection and tube testing over the next two years.
- 3 This program continued in 2025, with a total of six of the nine heaters assessed to date. ¹⁶ Four of these
- 4 heaters were refurbished and returned to service; two had deteriorated severely and could not be
- 5 refurbished. Replacement of these heaters (Heater Number 4 on Unit 1, and Heater Number 6 on
- 6 Unit 3) is ongoing. Three heaters remain to be assessed in 2026, all of which are available for service. For
- 7 the 2025–2026 operating season Unit 1 will have one heater in service, Unit 2 will have three heaters in
- 8 service, and Unit 3 will have two heaters in service as a result of this ongoing work. Based on heater
- 9 lead-time and the need for installation during a unit outage, replacement of the two failed heaters is
- 10 expected to occur after the 2025–2026 operating season.
- 11 The units can be operated reliably at full load without the HP feedwater heaters in service; however,
- 12 extended operation through the Bridging Period without the heaters can cause premature failures of
- turbine and boiler components, with one significant impact being risk of damage to the last stage blades
- 14 ("LSB"). Since 2023, Hydro has completed assessments of the LSBs on all three units, and replacements
- 15 were completed on the Unit 1 and Unit 2 blades. As such, Hydro considers the risk to the Holyrood TGS
- for this winter operating season associated with the HP feedwater heaters to be low.

2.4.4 Unit 1 Turbine Control Valve

- 18 The completion of the Overhaul Unit 1 Turbine Valves and Generator 2024 Program included
- 19 assessment and refurbishment of the main steam control valves. During the assessment of these
- 20 components by the turbine service provider, it was discovered that the camshafts that control opening
- 21 and closing of the control valves were bent outside of the OEM recommended tolerance for reliable
- operation. Two spare camshafts, OEM supplied, were used to rebuild the control valve assemblies.
- 23 During commissioning of the unit during April 2025, load was limited intermittently. The OEM
- 24 investigated the issue and determined that pins on the new camshafts were interfering with the control

¹⁶ There are three heaters per unit, numbered 4 through 6.



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¹⁴ The HP heaters transfer heat from steam outside of the tubes to the feedwater, which then passes through the tube bundles to the boiler. Each unit contains three heaters, which are intended to improve thermal efficiency.

¹⁵ "2024 Capital Budget Application," Newfoundland and Labrador Hydro, rev. September 21, 2023 (originally filed July 12, 2023), sch. 6, prog. 6.

- 1 valves, preventing full opening. The interference was corrected, and the unit successfully returned to
- 2 service.

- 3 After this adjustment, the unit was operated for a brief period without the issue reoccurring before
- 4 being shut down for the summer. Hydro believed that this issue was resolved; however, during the
- 5 return to service of Unit 1 in September 2025 after completion of the annual outage, the same load limit
- 6 was experienced, restricting the unit to 100 MW. It is expected that a similar adjustment is required,
- 7 which will be completed in consultation with the OEM and service provider. Correction of this issue will
- 8 require a brief unit outage, which is currently scheduled for the week of November 17, 2025 as system
- 9 conditions permit. Unit 1 will remain online, derated to 100 MW, until that time.

2.4.5 Fuel Oil Contamination Storage Tank 3

- 11 In March 2025, Hydro received a fuel delivery of just over 202,000 barrels. The bulk of this delivery
- 12 (approximately 180,000 barrels) was allocated to Tank 3 while the remaining (approximately 22,000
- barrels) was stored in Tank 1. While this fuel delivery fully complied with Hydro's specifications, issues
- with frequent strainer plugging were encountered immediately with fuel drawn from Tank 3, with
- 15 contamination suspected. At that time, there were also leaks in the steam piping to Tank 3, which
- limited the amount of heating that could be provided to the fuel oil and may have contributed to the
- strainer plugging; however, this has since been corrected.
- 18 When Unit 1 was returned to service in September 2025, Tank 4 was in service and there were no
- 19 concerns with fuel plugging. Upon switching fuel supply from Tank 4 to Tank 3, strainer plugging became
- severe, leading to a trip of Unit 1 on September 25, 2025 due to insufficient fuel supply to the boiler.
- 21 Rather than discharge the fuel, operational strategies will be followed to consume the fuel in Tank 3,
- 22 including using the fuel from Tank 3 in parallel with other tanks to dilute the contaminated fuel
- and reduce the potential for fouling. As the tanks must contain the same level of fuel to be utilized
- 24 parallel, the fuel in Tank 3 was burned down carefully until it could be placed in parallel with another
- tank. Tank 3 and Tank 1 have been utilized in parallel since early October, 2025, with no major fuel-
- related issues occurring since that time. Risk will remain as the fuel from Tank 3 is gradually consumed.
- 27 With a new fuel delivery scheduled on November 10, 2025, it is expected that the contaminated fuel



- 1 from Tank 3 will be fully consumed by the end of November 2025. As reported in the October WR
- 2 Report, Hydro is taking preventative measures to prevent the receipt of contaminated fuel in future.

2.4.6 Cooling Water Sump Structures

- 4 The WR scope in this project is to clean, inspect, and perform a Level 2 Condition Assessment of the
- 5 Holyrood Stage 2 Pumphouse cooling water sump structures. This project was initially approved by the
- 6 Board to complete a Level 2 Condition Assessment of both the Stage 1 & Stage 2 cooling water sump
- 7 structures in 2025; however, as a result of the outcome of the procurement process, Hydro adjusted its
- 8 approach and proposed to proceed with the inspection of Pumphouse 2 only in 2025, and to extrapolate
- 9 the findings to define the scope of the Pumphouse 1 refurbishments.¹⁷ The risk associated with not
- 10 completing the condition assessment of Pumphouse 1 in 2025 is considered to be low, and was
- mitigated by completing a UAV¹⁸ inspection to identify any significant changes in the concrete condition
- over the past 12 months. This inspection is now complete, with preliminary feedback indicating that no
- 13 major changes were observed.

3

17

- 14 The schedule delay associated with pausing the project construction activities to update, review and
- 15 approve the new project budget and scope has resulted in the expected completion date for this project
- to be extended to late-December, 2025.

2.4.7 Fuel Oil Storage Tank 1

- 18 During a tanker delivery in November 2024, while filling Tank 1, it was determined that both suction
- 19 heaters¹⁹ on this tank had tube leaks. The leaking tubes were removed from service by plugging, which
- 20 allowed the suction heaters to be returned to service; however, the number of tubes removed from
- service in each heater was significant, and has reduced their heating capability. As such, for reliable
- winter operation, the Tank 1 suction heaters need to be replaced.
- 23 Hydro purchased replacement suction heaters, which were delivered to the Holyrood TGS in October
- 24 2025. Hydro prioritized the consumption of fuel from Tank 1 early in the operating season to reduce the
- fuel in the tank to minimum storage levels, where the suction heaters can be replaced. This replacement

¹⁹ The suction heaters utilize steam to heat the oil to a sufficient temperature, allowing the oil to flow freely from the tank farm to the plant for combustion in the boilers.



¹⁷ The Board approved Hydro's proposal and updated budget in Board Order No. P.U. 29(2025).

¹⁸ Unmanned Aerial Vehicle.

- 1 work is planned for completion in mid-to-late November 2025, after receipt of the fuel delivery
- 2 scheduled on November 10, 2025.

2.4.8 Flame Scanners

3

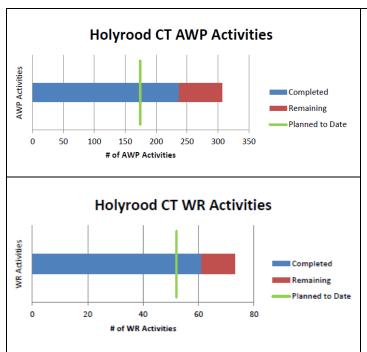
- 4 The combustion of fuel in the boilers at Holyrood TGS is supervised by safety devices called flame
- 5 scanners. Each burner has its own flame scanner, which is an optical device that detects the presence of
- 6 flame. If the flame scanner does not detect flame, then it will shut off the fuel going to that burner. This
- 7 prevents the accumulation of unburned fuel inside the boiler, which could lead to an explosive
- 8 condition. These devices are required by code. Unit 1 and Unit 2 each have twelve burners, while Unit 3
- 9 has nine. To reliably generate full load, all burners are required to be operational.
- 10 Hydro's existing flame scanner system is no longer supported by the OEM, and it is no longer possible to
- 11 purchase additional scanners. To mitigate the risk of obsolescence and the minimal availability of spare
- 12 parts, the flame scanners on Unit 2 were identified for replacement with a newer model procured from
- the OEM. The new system was installed on Unit 2 during the 2025 annual outage; however, during start-
- up of the unit in October 2025, technical issues occurred which prevented the unit from returning to
- 15 service. After several days of troubleshooting supported by the OEM, it was agreed to return to the
- original scanner system to enable the unit to return to service. Hydro will continue to work with the
- 17 OEM to resolve the technical issues and enable the new system for changeover and commissioning
- during the next annual unit outage, or a maintenance outage earlier in 2026.
- 19 Hydro has sufficient scanners for burners on all three units, with 10 additional spares, and a total of 33
- 20 currently in-service across the three burners. All scanners for Unit 3 and the 10 additional spares have
- 21 been tested and confirmed to be operational. Based on operational experience, Hydro will carefully
- 22 monitor for scanner failures but expects this is a sufficient number of spares to maintain the availability
- of all burners for the winter operating season, especially given the delay in return to service of Unit 3.

3.0 Combustion Turbine Generation

25 **3.1 Annual Work Plan and Winter Readiness Status**

- 26 The status of AWP and WR execution at the Holyrood CT, Hardwoods GT, Stephenville GT, and Happy
- 27 Valley GT is summarized in the following charts. Planned WR work for all CTs is on target for completion
- 28 by December 1, 2025.





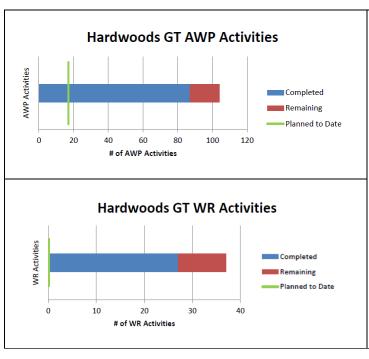
Holyrood CT

Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 77.2% to date.
- WR status is 83.6% complete for 2025.
- The annual maintenance outage is complete; however, the unit remains unavailable due to experiencing a ground fault alarm upon energizing the generator. Investigation and troubleshooting is ongoing, with the unit expected to return to service by the end of the week of November 10, 2025.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.



Hardwoods GT

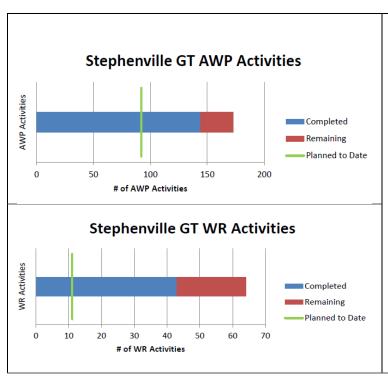
Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 83.7% to date.
- WR status is 73.0% complete for 2025.
- The annual maintenance outage is complete; however, a brief outage is planned in late November 2025 to complete remaining WR activities.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.





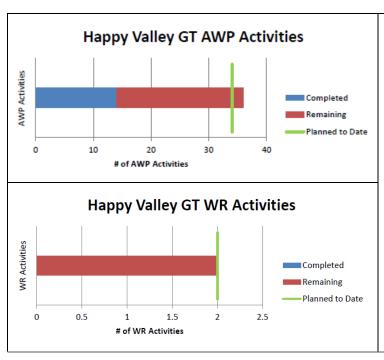
Stephenville GT

Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 83.2% to date.
- WR status is 67.2% complete for 2025.
- The annual maintenance outage is complete.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.



Happy Valley GT

Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 38.9% to date.
- WR status is 0.0% complete for 2025.²⁰
- The annual maintenance outage is scheduled for mid-November 2025, with exact dates to be determined based on resource availability.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.

²⁰ Note that in total, there are two WR activities to be completed for the Happy Valley GT.



1 3.2 Critical Spares

- 2 As shown in Table 2, all critical spares are in stock for the Hardwoods GT, Stephenville GT, Holyrood CT,
- 3 and Happy Valley GT.

Table 2: Critical Spares for CT Generation

	Hardwoods/			
Status	Stephenville	Holyrood	Happy Valley	Total
In Stock	90	403	54	547
Procurement Ongoing	0	0	0	0
Total	90	403	54	547

- 4 Hydro has utilized some of its critical spares during recent fall maintenance outages; however, these
- 5 items have been identified and the spare components have been replenished.

6 3.3 Plant and Equipment Testing

- 7 Examples of WR activities that are included in the AWPs for the Holyrood CT, Hardwoods GT,
- 8 Stephenville GT, and Happy Valley GT include the following:
- PMs and CMs for major components and auxiliary systems;
- Black start testing;
- Monthly operational testing; and
- Execution of capital upgrades and refurbishment.
- 13 Black start testing of the Holyrood CT and the Happy Valley GT is complete. Hydro anticipates that
- 14 completion of planned black start tests for Hardwoods and Stephenville GTs will occur before
- 15 December 1, 2025 during upcoming planned maintenance outages and planned monthly operational
- 16 testing.
- 17 Operational testing of all CTs was performed throughout the year as planned and all WR capital
- 18 upgrades and refurbishments are anticipated to be completed by December 1, 2025.



3.4 Risk and Risk Mitigation

- 2 Existing risk to WR and/or reliable operations related to CT operations is discussed in the section that
- 3 follows.

1

4 3.4.1 Hardwoods Gas Turbine – Spare Engine Overhaul

- 5 During a 2024 inspection, internal damage was found on the high-pressure turbine normal guide vane
- 6 seals of the engine installed in End A at the Hardwoods GT. While the damage was relatively minor in
- 7 nature, the location of the damage and age of the engine required that the engine be removed from
- 8 service and sent to a facility for overhaul, to eliminate the risk of a catastrophic failure. The damaged
- 9 engine was removed and its spare installed during the planned maintenance outage which concluded in
- 10 early November 2024.
- 11 The engine was expected to be returned from the overhaul facility in October 2025; however, during
- final inspections, an issue was detected with the fit of the turbine guide vanes. This issue requires the
- disassembly and replacement of components inside the engine. As a result, the engine is not expected
- to be returned from the overhaul facility until mid-to-late December 2025.
- 15 Hydro will not have a spare engine onsite until the return of the repaired engine, which also functions as
- a spare for the Stephenville GT, and has developed contingency plans should an operational issue occur.
- 17 Hydro's service provider has an additional lease engine available which Hydro can avail of should
- operational issues occur which requires an engine replacement prior to the return of the spare engine.

4.0 Hydraulic Generation

4.1 Annual Work Plan and Winter Readiness Status

- 21 The status of AWP and WR execution at hydraulic generation facilities is summarized in the following
- 22 charts, including:

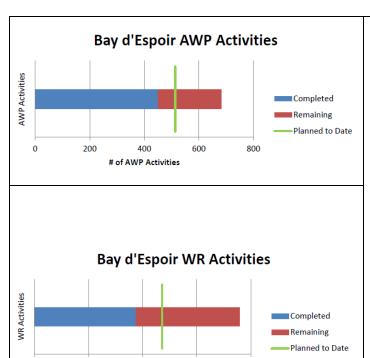
19

- Bay d'Espoir Hydroelectric Generating Station ("Bay d'Espoir");
- 24 o Cat Arm Hydroelectric Generating Station ("Cat Arm");
- 26 Paradise River Hydroelectric Generating Station ("Paradise River");



- Upper Salmon Hydroelectric Generating Station ("Upper Salmon"); and
- o Granite Canal Hydroelectric Generating Station ("Granite Canal").

3 WR work for all hydraulic generation facilities is on target for completion by December 5, 2025.



200

of WR Activities

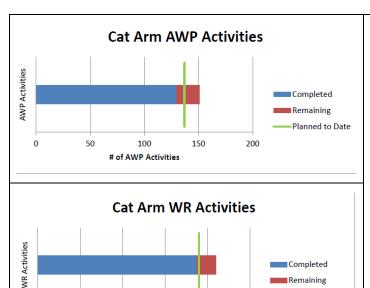
Bay d'Espoir

Forecast Completion Status:

On Target for Completion by December 5, 2025 Comments and Schedule Notables:

- Overall AWP completion status is 66.2% to date.
- WR status is 49.6% complete for 2025.
- Units 1 and 2 are currently offline on a planned outage, with return to service expected on December 5, 2025.
- The annual maintenance outage for Units 5 and 6 is scheduled to begin upon the return to service of the Holyrood CT in mid-November, and is expected to conclude in late-November, 2025.
- The annual maintenance outage is complete for Units 3, 4 and 7.
- All remaining WR activities are scheduled for completion prior to Units 1 and 2 being returned to service.





of WR Activities

80

100

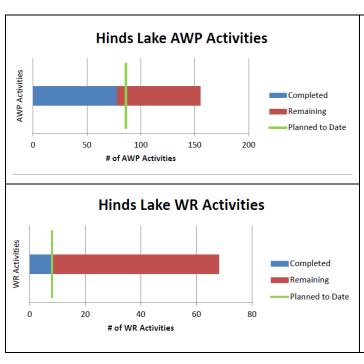
Cat Arm

Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 86.1% to date.
- WR status is 89.3% complete for 2025.
- The annual maintenance outage is complete.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.



Hinds Lake

Planned to Date

Forecast Completion Status:

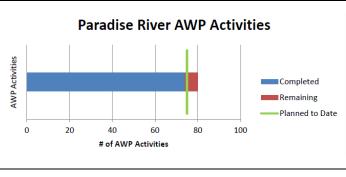
On Target

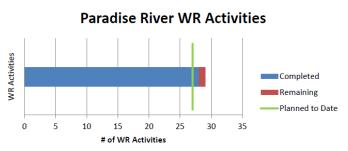
Comments and Schedule Notables:

- Overall AWP completion status is 50.3% to date.
- WR status is 11.8% complete for 2025.
- The annual maintenance outage began November 2, 2025, and is scheduled to conclude November 28, 2025.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.



0





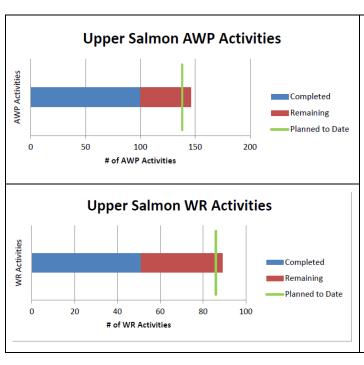
Paradise River

Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 92.5% to date.
- WR status is 96.6% complete for 2025.
- The annual maintenance outage is complete.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.



Upper Salmon

Forecast Completion Status:

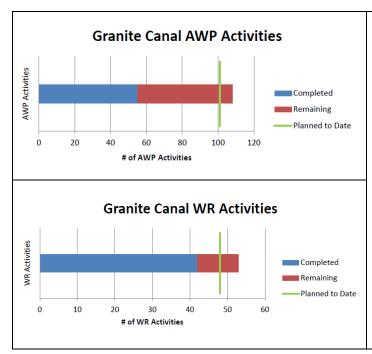
On Target

Comments and Schedule Notables:

- Overall AWP completion status is 68.5% to date.
- WR status is 57.3% complete for 2025.²¹
- The annual maintenance outage is complete.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.

²¹ The majority of the remaining AWP and WR activities for this asset are related to the Upper Salmon Spillway, some of which have been completed since the status charts data cutoff date of October 31, 2025.





Granite Canal

Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 50.9% to date.
- WR status is 79.2% complete for 2025.²²
- The annual maintenance outage is complete.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.

4.2 Critical Spares

1

- 2 The status of critical spares for hydraulic generation is provided in Table 3 and Appendix E provides a list
- 3 of spares that have procurement ongoing.

Table 3: Critical Spares for Hydraulic Generation

Status	Quantity
In Stock	1,227
Procurement Ongoing	1
Total	1,228

- 4 The Upper Salmon T2 spare transformer remains outstanding but does not present a risk to WR.²³ This
- 5 spare transformer was delivered to Upper Salmon in August 2021 from a factory in Turkey; however, the
- 6 unit was not accepted by Hydro due to unit damage most likely caused by an impact event that occurred
- during shipping from the factory.²⁴ The transformer was returned to Turkey in 2022 to be repaired and
- 8 tested; however, challenges were encountered with the Factory Acceptance Testing throughout 2023

²⁴ The unit was initially shipped off site to a manufacturer-affiliated repair facility in the USA for inspection, testing and repair.



²² The majority of the remaining AWP and WR activities for this asset are related to the Granite Canal Spillway, and are scheduled for completion during the week of November 17, 2025.

²³ The existing transformer is in good condition. A failure of T2 would not impact available generation from Upper Salmon; it provides power to some upcountry structures for which there are other contingencies.

- 1 and 2024. Hydro continued to work with the supplier to expedite repairs and deliver the transformer
- 2 back to Upper Salmon, with the transformer returned to site in late November 2024; however, on-site
- 3 acceptance testing at Upper Salmon returned unfavourable results. Upon identifying the issues with the
- 4 transformer after additional testing and troubleshooting in May 2025, repair plans were made and
- 5 required materials ordered, with material lead times estimated to be six to ten weeks. Planned repairs
- and testing were successfully completed in late October, 2025; however, a few deficiencies remain to be
- 7 addressed prior to acceptance of the transformer. These items are expected to be resolved by the end
- 8 of November, 2025.

18

4.3 Plant and Equipment Testing

- 10 WR testing of generating equipment in hydraulic generation is focused primarily around annual unit
- 11 maintenance outages. Following these annual outages, units are run up and synchronized and all
- 12 systems are verified before the unit's operating status is determined and preparedness is confirmed.
- 13 Unit load tests are also performed as system conditions permit. The WR testing protocol includes the
- testing of appropriate Balance of Plant components.
- 15 The status of equipment and plant testing for hydraulic generation is indicated in Appendix F.²⁵ All
- 16 inspection and testing of hydraulic generating facilities is scheduled for completion by
- 17 December 5, 2025.

4.4 Risk and Risk Mitigation

- 19 Existing risk to WR and/or reliable operations related to Hydro's Hydraulic Generation assets are
- 20 discussed in the sections that follow.

21 4.4.1 Bay d'Espoir Penstocks

- 22 As a result of previous ruptures of the Bay d'Espoir Penstocks, with the most recent being September
- 23 2019, Hydro decided to complete annual inspections of Bay d'Espoir Penstocks 1, 2, and 3 to monitor
- 24 penstock condition and ensure reliability in the short-term. One notable change in 2025 is the removal

²⁵ Testing completed upon the return to service of Bay d'Espoir Unit 7 in late October 2025 will be reflected in the filing of the next 2025–2026 Winter Readiness Planning Report, scheduled for December 10, 2025.



- 1 of Bay d'Espoir Penstock 1 from the annual inspection program, since it is currently undergoing major
- 2 capital investment to extend the reliable service life, which includes inspection activities.²⁶
- 3 Penstock 2 was inspected in May 2025; during the inspection, two new indications were discovered and
- 4 repaired. As well, four indications discovered in 2024, which posed no material concerns at that time,
- 5 were also repaired during the 2025 inspection.
- 6 The inspection of Penstock 3 is scheduled to commence in early November 2025, the results of which
- 7 will be discussed in its next 2025–2026 Winter Readiness Planning Report, to be filed on December 10,
- 8 2025.

- 9 Although Hydro has mitigated the risk of penstock failure to the extent possible, there is residual risk
- that a failure could occur on Penstocks 2 or 3 before further life extension work is completed.
- 11 Modifications remain in place, which are designed to limit the amount of rough zone operation, as well
- as a more prescriptive operating regime for Units 5 and 6 due to the results of annual inspections of
- Penstock 3 in recent years.²⁷ Hydro has estimated a 13- to 23-day repair timeline depending on
- 14 circumstances, should a new failure occur, and has continued to take proactive measures to reduce
- 15 generating unit downtime in the event of failure.

4.4.2 Hinds Lake Unit Vibration and Shaft Seal Leakage

- 17 The Hinds Lake unit is currently experiencing higher-than-normal vibration levels and shaft seal leakage
- 18 rates, which has resulted in operational modifications until inspection and interventions are completed
- during the upcoming planned maintenance outage. 28 The annual outage for the Hinds Lake unit began
- 20 November 2, 2025, the results of which will be discussed in its next 2025–2026 Winter Readiness
- 21 Planning Report, to be filed on December 10, 2025.
- 22 It is anticipated that the Hinds Lake Unit will be available at full capacity this coming winter. Hydro
- 23 continues to monitor both issues, and to mitigate risk should concerns worsen, Hydro has proceeded

²⁷ Under this operating regime, once dispatched, Units 5 and 6 are limited to a minimum loading of 50 MW and are not cycled or shut down as part of normal system operations. In previous years, operational modifications were in place on Penstock 1 (ie. Units 1 and 2); however, these modifications will no longer be required after capital investment is completed in 2025.

²⁸ Under this operating regime, once dispatched, the Hinds Lake Unit is fixed at 22 MW to reduce the impact of elevated vibration levels.



²⁶ In Board Order No. P.U. 6(2023), Hydro received approval for the refurbishment of Penstock 1 at Bay d'Espoir in 2023, and the project is planned for completion in early December, 2025.

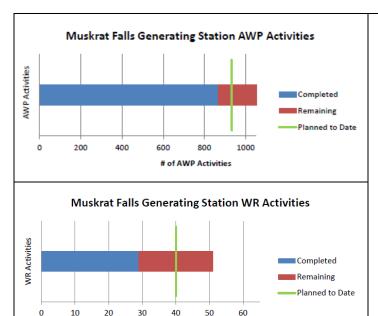
- 1 with the procurement of bearing components and replacement parts for the shaft seal to ensure they
- 2 are on hand in the event an outage is required. If unit condition does not worsen, Hydro intends to
- 3 replace the procured parts during the planned 2026 overhaul.

4 5.0 Muskrat Falls Assets

5 5.1 Annual Work Plan and Winter Readiness Status

- 6 The status of AWP and WR execution for the Muskrat Falls Assets is summarized in the following charts,
- 7 including:
- 8 Muskrat Falls Hydroelectric Generating Station ("Muskrat Falls");
- 9 o Labrador-Island Link;
- 10 o Labrador Transmission Assets ("LTA"); and
- o Soldiers Pond Synchronous Condensers ("SOP SC").
- 12 LIL will be available for bipole operation up to 700 MW this winter. Subject to the completion of high-
- power testing, the LIL will be able to be operated up to 900 MW as system conditions permit. Hydro has
- determined that the high-power test of the LIL be postponed until later in the winter as a result of its
- 15 continued focus on WR activities and prioritization of reliable service to customers during the winter
- period, including supporting reservoir levels to meet peak load requirements.
- 17 As the Muskrat Falls assets are in early operation, and considering trends in the occurrence of break-in
- 18 work, the timing and frequency of the OEM recommended PM activities and the scheduling of
- 19 maintenance resources are under review to determine an optimal AWP schedule.





of WR Activities

Muskrat Falls Generating Assets

Forecast Completion Status:

On Target for Completion by December 2, 2025

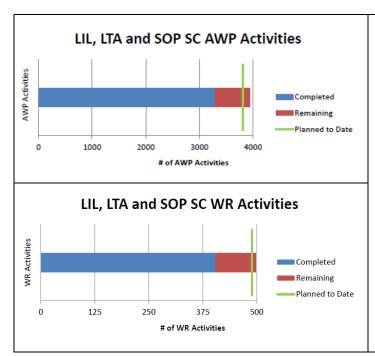
Comments and Schedule Notables:

- Overall AWP completion for Muskrat Falls Units 1 to 4 is 81.1% to date.²⁹
- WR status is 56.9% complete for 2025.³⁰
- Annual maintenance outages on Units 2, 3 and 4 have been completed.
- The Unit 1 outage began November 4, 2025, and is scheduled to conclude December 2, 2025.
- All remaining WR activities are scheduled to be completed prior to Unit 1 being returned to service.

³⁰ WR activity status is as of October 30, 2025. Completion of WR activities were delayed by the extension of the planned outage to repair the Unit 2 turbine runner.



 $^{^{\}rm 29}$ AWP activity status is as of September 30, 2025.



LIL, LTA and SOP SC

Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion for the LIL, LTA, and synchronous condensers at Soldiers Pond is 83.3%³¹ to date.³²
- WR status is 81.3% complete for 2025.³³
- All remaining WR activities are scheduled for completion prior to December 1, 2025.

5.2 Critical Spares

- 2 A significant fire in spring 2024 in the community of Happy Valley-Goose Bay resulted in the total loss of
- 3 the storage facility housing Hydro's Muskrat Falls generation critical spares. As a result, a significant
- 4 effort has been undertaken to replenish the critical spares inventory, and Hydro has in stock nearly
- 5 three-quarters of its critical spares. The remaining parts are at various steps within the procurement
- 6 process.

1

- 7 The status of critical spares for Muskrat Falls generation is provided in Table 4 and Appendix G contains
- 8 a detailed list of spares for which procurement is ongoing. Hydro has prioritized ordering of items based
- 9 on WR, and continues to evaluate its identification of critical spares to set an appropriate target for the
- 10 purpose of WR. 399 items are at various steps within the procurement process, with 83 of those items
- 11 expected to be delivered prior to year end.

³³ WR activity status is as of October 29, 2025. Note that LTA WR activities were omitted from the October WR Report in error.



-

³¹ The overall AWP completion percentage has decreased since the October WR Report due to the addition of LTA AWP activities, which were omitted from the October WR Report in error.

³² AWP activity status is as of September 30, 2025.

Table 4: Critical Spares for Muskrat Falls Generation

Status	Quantity
In Stock	1,032
Procurement Ongoing	399
Total	1,431

5.3 Plant and Equipment Testing 1

- 2 WR testing of generating equipment in hydraulic generation is focused primarily around annual unit
- 3 maintenance outages. Following these annual outages, units are run up and synchronized and all
- 4 systems are verified before the unit's operating status is determined and preparedness is confirmed.
- 5 Unit load tests are also performed as system conditions permit. The WR testing protocol includes the
- 6 testing of appropriate Balance of Plant components.
- 7 The status of equipment and plant testing for Muskrat Falls generating assets is indicated in Appendix
- 8 H.34 All inspection and testing of hydraulic generating facilities is expected to be complete prior to Unit 1
- 9 being returned to service on December 2, 2025.

10 5.4 **Risk and Risk Mitigation**

- Existing risk to WR and/or reliable operations related to these assets is discussed in the sections that 11
- 12 follow.

13 5.4.1 Muskrat Falls Unit 1 Intake – Concrete Spalling

- During the 2024 planned annual outage to Unit 1, concrete debris was observed in the turbine scroll 14
- case. Further inspection indicated some scuffing on the wicket gate lower operating ring caused by the 15
- passage of this debris through the turbine, which has since been repaired. This damage did not affect 16
- 17 the unit's output or availability.
- 18 Remote operated vehicle inspection of the intake civil works identified an area where concrete had
- cracked and dislodged. In October 2024, a specialized team assessed the condition of the remaining 19
- 20 concrete in the area where spalling had been observed. Upon completion of further concrete cutting

³⁴ Testing completed upon the return to service of Muskrat Falls Unit 4 in early November 2025 will be reflected in the filing of the next 2025–2026 Winter Readiness Planning Report, scheduled for December 10, 2025.



- and removal, sounding of the entire Intake Bay 3 lintel beam was completed with no further areas
- 2 identified for remedial action. Unit 1 was returned to service on October 16, 2024, with a final repair to
- 3 the intake civil works planned during the 2025 annual outage.
- 4 Due to the unforeseen extension of the planned outage to repair the Muskrat Falls Unit 2 turbine
- 5 runner, there was insufficient time to complete final repairs on the Unit 1 intake structures in 2025. An
- 6 inspection to assess the current condition of the intake civil works was carried out during the 2025
- 7 annual outage for Unit 1, with a further remote access assessment to be completed in late November,
- 8 2025. The annual maintenance outage for Unit 1 in 2026 will have time allotted to complete the repairs.
- 9 To mitigate risk should a similar incident occur this coming winter, Hydro has a response plan in place,
- and has proceeded with the procurement of required materials to ensure they are on hand in the event
- 11 a repair is required.

5.4.2 Optical Ground Wires Tower Peak and Top Plate Design

- 13 Since 2022, several incidents of damage to the optical ground wires ("OPGW") tower peaks occurred in
- 14 heavy ice loading conditions, and there were two failures at the connection of the OPGW top plate
- during an icing event on the line in December 2022. The incidents involving these tower components did
- 16 not cause a prolonged LIL outage; however, brief outages were required to repair the damage.³⁵
- As a result, a new design to reinforce tower peaks and replace the impacted top plates has been
- 18 completed. Installation work to rectify the tower peaks and two remaining top plates is expected to
- begin in 2026 with expected completion in 2028.³⁶ To mitigate risk to near-term reliability, Hydro has its
- 20 Emergency Response Plan in place, and has proceeded with the procurement of required materials to
- 21 ensure they are on hand in the event a repair is required.

³⁶ Analysis confirmed that 63 towers across two tower types (A3 and A4) were identified to have top plates replaced; as of the end of 2024, 61 of 63 were replaced, which represents all A3 towers. The two remaining top plates are on A4 tower types.



newfoundland labrador

³⁵ As the OPGW relates to communications functionality, Hydro does not anticipate that further occurrences of similar damage would result in a prolonged power interruption or customer outage.

5.4.3 Electrode Conductors

- 2 During December 2022, March 2024, and January 2025 there were issues with the electrode conductor
- 3 during significant ice loading, the root cause of which was determined to be overloading due to ice and
- 4 ice shedding.

1

- 5 Three alternative suspension clamp designs were installed on the electrode conductor at ten structures,
- 6 and will be inspected yearly for performance. An assessment of the electrode suspension assembly and
- 7 a re-design of the assembly was completed in 2025, with the assemblies to be purchased and installed
- 8 as required through a capital project. Additional conductor testing has been completed from these
- 9 incidents, with further recommendations outlined within the most recent investigation report.³⁷
- 10 To mitigate risk to near-term reliability, Hydro has its Emergency Response Plan in place, and has
- 11 proceeded with the procurement of required materials to ensure they are on hand in the event a repair
- is required.

13

5.4.4 DCCT Cold Weather Operation

- 14 In 2023, the OEM and Hydro determined that extremely low air temperatures were influencing the
- 15 measurement accuracy of some Direct Current Current Transformers ("DCCT"), resulting in false
- protection trips and power control issues on the LIL. The OEM identified the root cause of the issue to
- 17 be a manufacturing defect with the Delay Coil Fiber Optical Cable located within the DCCTs; this issue
- 18 occurred with a select batch of fiber optic cables, affecting six DCCTs at the Muskrat Falls HVdc
- 19 Converter Station, which have since been replaced.³⁸
- 20 In addition, General Electric ("GE") is preparing a revised plan to address DCCTs which have low risk
- 21 indicators of the issues related to cold weather operation. GE has indicated that the plan will be
- 22 provided in the fourth quarter of 2025. Hydro will continue to work with the OEM to ensure proper
- 23 mitigation of the issue.

³⁷ For further information, please refer to Attachment 1 of "Quarterly Report on Asset Performance in Support of Resource Adequacy for the Twelve Months Ended September 30, 2025", Newfoundland and Labrador Hydro, October 31, 2025.

³⁸ One of these DCCTs has an operation rating to -40°C, and will be replaced with a DCCT rated to -50°C in 2025.



5.4.5 Cable Switching 1

- As reported in Hydro's final 2024–2025 Winter Readiness Report,³⁹ new equipment was successfully 2
- 3 installed to mitigate cable switching transients at the LIL Transition Compounds in mid-October 2024.
- 4 Since that time, Hydro has identified an icing issue with transition compound disconnects that can
- 5 impact cable switching in winter conditions. A solution to resolve this issue will be finalized in November
- 6 in consultation with GE, with plans for installation prior to the end of December 2025. In the interim,
- 7 Hydro is developing operating procedures to ensure reliable operation in winter conditions.

5.4.6 Synchronous Condenser Brush Gear Assemblies 8

- 9 Brush equipment performance on the Soldiers Pond synchronous condensers decreased in
- 10 December 2023, resulting in several scheduled outages to replace damaged brushes, springs and brush
- 11 holders.
- 12 Hydro, in consultation with the OEMs for the brush equipment and the synchronous condensers, has
- 13 been working to identify the root cause of the brush performance issues. Hydro has continued with the
- 14 modified brush configurations and operational controls to ensure optimal operating conditions for
- 15 patina development. These changes have had positive results with regards to brush performance in
- 16 2025.
- 17 In spring 2024, the existing slip ring was removed from synchronous condenser 1 ("SC1"), and sent for
- 18 machining to correct a runout causing excessive brush vibration. At this time, a modified brush with the
- ability to operate in a higher vibration environment was also provided by the OEM and installed. These 19
- modifications have resulted in improved performance to date. Hydro will continue to monitor the 20
- 21 overall impact of these changes.
- 22 GE has been working with a different brushgear manufacturer; however, given the positive brush gear
- 23 performance in 2025, both GE and Hydro recommended not changing the design at this time. As
- 24 performance of a new brush and holder is unknown until they are installed and tested, the
- 25 recommendation is to continue to operate under the existing design. GE has provided Hydro with
- 26 operational limits based on the number of brushes installed per ring to help maintain patina film.

³⁹ Reliability and Resource Adequacy Study Review – 2024–2025 Winter Readiness Planning Report – Final Report," Newfoundland and Labrador Hydro, December 10, 2024.



- 1 Corrective actions on all three units have yielded positive results, and changes performed in 2024 have
- 2 aided in achieving acceptable brush performance across all three synchronous condensers.

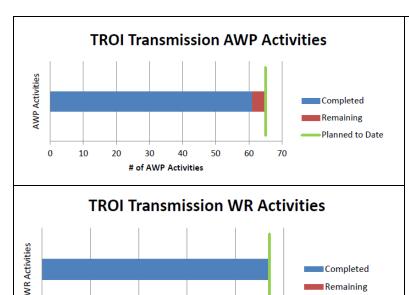
3 6.0 Transmission and Terminal Stations

4 6.1 Annual Work Plan and Winter Readiness Status

- 5 The status of AWP and WR execution for transmission line and terminal station facilities on both the
- 6 Island Interconnected System and the Labrador Interconnected System is summarized in the following

Planned to Date

7 charts. All planned WR activities are scheduled for completion by December 1, 2025.



Transmission and Rural Operations Island ("TROI") Transmission

Forecast Completion Status:

Target Achieved

Comments and Schedule Notables:

- Overall AWP completion status is 93.8% to date.
- WR status is 100.0% complete for 2025.
- All remaining AWP activities are scheduled for completion prior to December 31, 2025.



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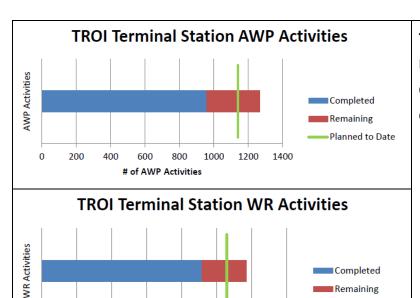
20

of WR Activities

30

40

50



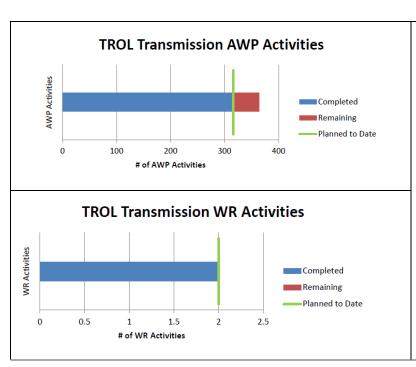
TROI Terminal Stations

Forecast Completion Status:

On Target

Comments and Schedule Notables:

- Overall AWP completion status is 75.5% to date.
- WR status is 78.1.% complete for 2025.
- Several equipment outages planned in November.
- All remaining WR activities are scheduled for completion prior to December 1, 2025.



Transmission and Rural Operations Labrador ("TROL") Transmission

Forecast Completion Status:

On Target

Remaining

1400

1200

-Planned to Date

Comments and Schedule Notables:

- Overall AWP completion status is 86.3% to date.
- WR status is 100.0% complete for 2025.
- All remaining AWP activities are scheduled for completion prior to December 31, 2025.



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400

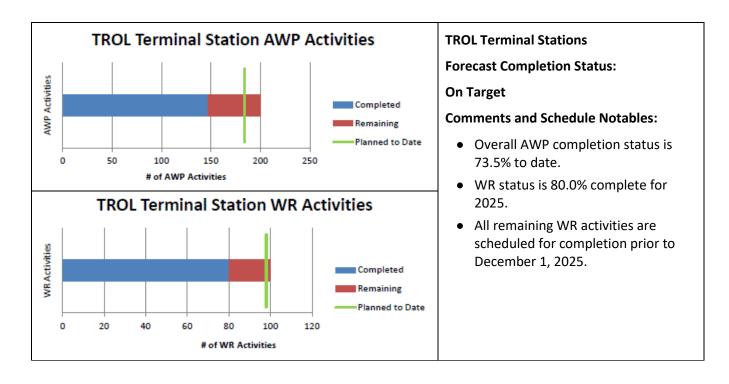
600

of WR Activities

800

1000

0



6.2 Plant and Equipment Testing

- 2 The AWPs for both transmission and terminal stations are predominantly comprised of PMs and CMs,
- 3 which inherently involve inspection and testing.⁴⁰ Examples of WR activities that are included in the
- 4 AWP work scopes include the following:
- Transformer PMs and CMs;

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6

7

- Annual exercises on all high-voltage circuit breakers;
- Exercise of 230 kV circuit breakers from protection during PM inspections;
- Infrared scans at all terminal stations;
- Annual ultrasonic leak testing on all terminal station air systems; and
- Annual helicopter patrol of transmission lines prior to the winter season.

⁴⁰ The "Terminal Station Asset Management Strategy – 2025 Update" document outlines the maintenance, refurbishment, and replacement criteria used by Hydro for terminal station assets. For the most recent report please refer to the "2026 Capital Budget Application," Newfoundland and Labrador Hydro, July 15, 2025, sch. 1, app. F.



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1 6.3 Risk and Risk Mitigation

- 2 Existing risk to WR and/or reliable operations related to Hydro's Transmission and Terminal Station
- 3 assets are discussed in the sections that follow.

4 6.3.1 Generator Step-Up Transformer Spares

- 5 Generator Step-Up Transformer 6 was repaired by the OEM in January 2024 following its failure in July
- 6 2023, and is available for use as a spare at Bay d'Espoir, Granite Canal, or Upper Salmon.⁴¹
- 7 Hydro does not currently have a spare for the Holyrood TGS generator step-up transformers, and is in
- 8 the process of procuring a spare.⁴² This spare is not expected to be delivered until the third quarter of
- 9 2028 due to increasing power transformer lead times.

10 11

6.3.2 Western Avalon Terminal Station – Replace Bushing Connecting the Gas Insulated Switchgear to Transmission Line TL267

- 12 The Western Avalon Terminal Station C phase bushing connecting the gas insulated switchgear to
- 13 Transmission Line TL267 experienced a failed top terminal seal in July 2023. Leakage of its SF₆ insulating
- 14 gas was stopped using a temporary seal of a metal repair composite material. While this temporary seal
- 15 has been effective since its implementation in October 2023, if the leak was to reoccur prior to receiving
- the replacement bushing, it can be repaired through a short outage to TL267.
- 17 Hydro placed an order with the supplier in March 2024 and expected to receive the bushings in time for
- 18 2025 installation; however, the order was not properly processed by the supplier. This error has since
- 19 been corrected and the new expected delivery date is September 2026. Once received, Hydro plans to
- 20 install the bushings in 2026 when system conditions allow. To mitigate the risk of failure prior to the
- 21 completion of the bushing replacement work, Hydro performs regular visual inspections, and will apply
- 22 additional repair material as necessary.

⁴² "Purchase Spare Generator Step-Up Transformer," Newfoundland and Labrador Hydro, September 21, 2023, approved in Board Order No. P.U. 28(2023).



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⁴¹ Cat Arm also has a spare on site; however, the spare can only be used at that facility due to the connection to the Gas Insulated Switchgear at that location.

7.0 Operational Technology

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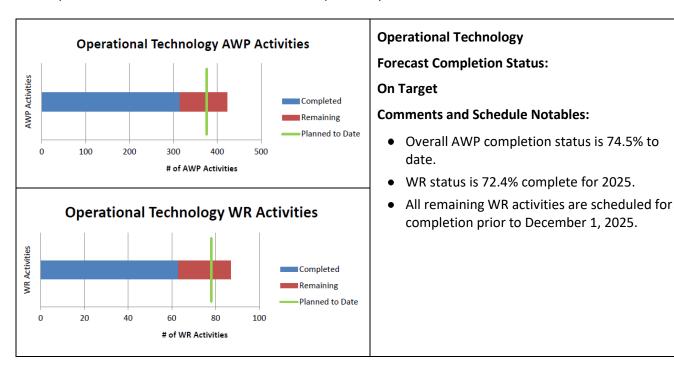
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7.1 Annual Work Plan and Winter Readiness Status

- 3 The status of AWP and WR execution for Operational Technology is summarized in the following charts.
- 4 All planned WR activities are scheduled for completion by December 1, 2025.



7.2 Plant and Equipment Testing

- 6 The AWP for Operational Technology is comprised of PMs and CMs, which inherently involve inspection
- 7 and testing of various assets and systems. Examples of WR activities that are included in the AWP work
- 8 scopes include the following:
 - Annual Preventative Maintenance on all 48V battery banks; and
- Replenish nitrogen and generator fuel reserves at all microwave repeater sites.

8.0 Status of Winter Readiness for Capital Projects and Programs

- 13 The status of 2025 planned capital project and program scopes of work related to 2025–2026 WR for the
- 14 Island Interconnected System and the Labrador Interconnected System are provided in Appendix A.
- 15 Table 5 summarizes the status of the WR scope of these projects and programs by asset category. A



- 1 discussion of the risk and risk mitigation associated with each capital project and program expected to
- 2 be completed after December 1, 2025 has been provided within the sections above by operating area.

Table 5: Status of Planned Capital Projects and Programs with WR Scope

	Complete as of	Incomplete, Expected Completion before	Incomplete, Expected Completion after	
Asset Category	October 31, 2025	December 1, 2025	December 1, 2025	Total
Regulated Hydraulic Generation	-	1	2	3
Regulated Thermal Generation	2	2	2	6
Regulated Terminal Stations	2	1	-	3
Muskrat Falls Generation Assets ⁴³	-	-	-	-
Muskrat Falls Transmission Assets ⁴⁴	1	-	-	1
Total	5	4	4	13

- 3 As of October 31, 2025, WR scope for five of the thirteen planned capital projects and programs is
- 4 complete. WR scope for an additional four projects and programs is expected to be completed by
- 5 December 1, 2025. A portion of the WR scope within four projects and programs is expected to be
- 6 completed after December 1, 2025, including:
 - Overhaul Hydraulic Units (2025) Bay d'Espoir⁴⁵
- Overhaul Turbine and Valves Unit 3 (2025) Holyrood⁴⁶
- Perform Level 2 Condition Assessment Stage 1 & 2 Cooling Water Sump Structures (2025) –
 Holyrood⁴⁷
- Penstock 1 Life Extension⁴⁸
- 12 In addition to the planned scopes of work required for WR, Hydro is executing two unplanned scopes
- under In-Service Failures Programs that are expected to be completed after December 1, 2025:

⁴⁸ Return to service of Bay d'Espoir Units 1 and 2 upon completion of the Penstock 1 Life Extension project is now expected December 5, 2025.



-

7

⁴³ There are currently no capital projects or programs that will impact 2025–2026 WR for Muskrat Falls Generation Assets.

⁴⁴ The Muskrat Falls Transmission assets include the LIL, LTA, and SOP SC.

⁴⁵ A portion of the overhaul scope for Bay d'Espoir Unit 2 will now be completed during the 2026 unit annual outage. Deferral of this work does not impose additional risk to unit operation.

⁴⁶ The expected return to service of Unit 3 is early-February, 2026.

⁴⁷ The expected completion date of the WR scope associated with this project is December 17, 2025.

- Western Avalon Terminal Station Replace Gas Insulated Switchgear TL267 Phase C Wall
 Bushing⁴⁹
 - Hardwoods Gas Turbine Spare Engine Overhaul⁵⁰

9.0 System Energy Capability

- 5 In order to reliably serve customers, Hydro maintains minimum limits for aggregate energy storage in its
- 6 major hydroelectric reservoirs on the Island Interconnected System. These limits are developed annually
- 7 to ensure that Hydro is capable of meeting customer demands throughout the year in the event of a
- 8 repeat of Hydro's critical dry sequence. 51 The limits are established such that Hydro will have sufficient
- 9 hydraulic storage to be able to meet load in this critical sequence, or another less severe sequence,
- 10 through the use of Island hydraulic production supplemented with maximized deliveries of energy to the
- 11 Island from Labrador over the LIL. This includes energy from Muskrat Falls as well as recapture energy
- available to Hydro from the Churchill Falls Hydroelectric Generating Station.
- 13 The established limits assume that two Holyrood TGS units will be online, operating at minimum output
- 14 (70 MW) during winter 2025–2026, and do not include the use of standby thermal generation to support
- 15 reservoir storage, or the third unit at Holyrood TGS. The minimum storage methodology ensures Hydro's
- 16 reservoirs can continue to provide reliable least-cost service to customers in an environmentally
- 17 responsible manner by supporting Island load with hydroelectric energy instead of thermal energy to
- 18 the extent possible.⁵²

3

4

- 19 Since May 2025, Hydro's Island reservoirs have experienced persistent below average inflows, as
- 20 reported in Hydro's Monthly Energy Supply reports. The entirety of the island portion of the province
- 21 has experienced some level of drought conditions throughout the summer and early fall. The portions of
- 22 the province where Hydro's reservoirs are located have experienced moderate to severe drought
- 23 conditions as of the end of September based on the Canadian Drought Monitor published by Agriculture

⁵¹ Hydro's long-term critical dry sequence is defined as January 1959 to March 1962 (39 months). Other dry periods are also considered during this analysis to ensure that no other shorter-term historic dry sequence could result in insufficient storage. ⁵² The limits also do not consider the availability of imports over the Maritime Link, though imports can provide an additional opportunity to supplement storage and economically reduce the amount of thermal generation required to maintain sufficient energy in storage in the event that import opportunities arise.



⁴⁹ Hydro plans to install the bushings in 2026 when system conditions allow.

⁵⁰ The engine is expected to be returned from the overhaul facility in mid-to-late December 2025.

- 1 and Agri-Food Canada. Overall inflows to the reservoirs of the Island Interconnected System were 68%
- 2 below the historical average from May 2025 to October 2025.
- 3 Since mid-May, Island system storage has steadily declined due to ongoing low inflows. As of October
- 4 31, 2025, aggregate reservoir storage was 1,007 GWh, which is 55% of the maximum operating level and
- 5 94% of (approximately 62 GWh below) the minimum storage limit. However, as of November 5, 2025,
- 6 total system storage had increased by 39 GWh due to a significant storm that impacted the province on
- 7 November 4 and 5, 2025.
- 8 Figure 1 plots the 2024 and 2025 storage levels, minimum storage limits, maximum operating level
- 9 storage, and the 20-year average aggregate storage for comparison. Please note that the minimum
- storage limits for 2025–2026 have been updated as of September 30, 2025 utilizing the LIL transmission
- 11 limits associated with the "full" or final under-frequency load shedding ("UFLS") scheme as opposed to
- the previously presented and "interim" UFLS scheme, as work is ongoing to implement the final UFLS
- scheme in November.⁵³ The final UFLS scheme allows for incrementally more LIL energy to be brought to
- the Island without conversely needing to export more energy over the Maritime Link export path. This
- resulted in a small adjustment downwards of the monthly minimum storage limits.

⁵³ This work is being completed in conjunction with Newfoundland Power.



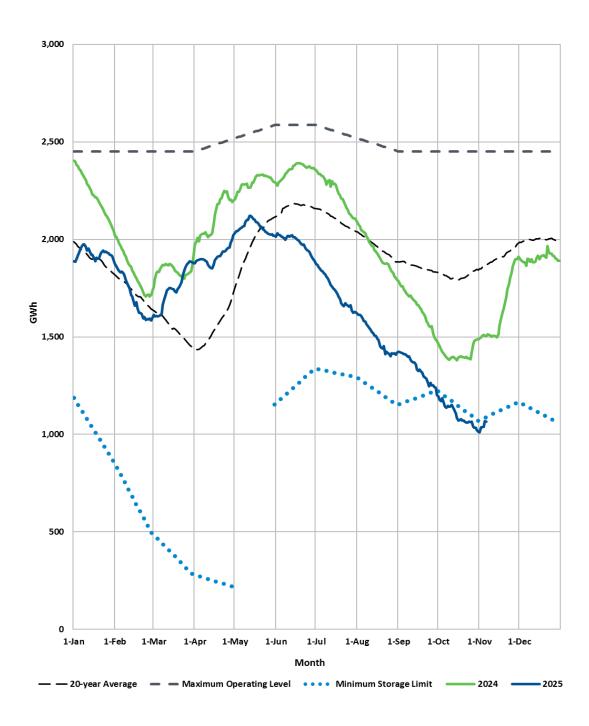


Figure 1: Total System Energy Storage⁵⁴

⁵⁴ Data points in Figure 1 represent storage at the beginning of each day. The body of the report text reports the end-of-day storage value, which results in a small difference between the storage data presented in the text and Figure 1.



- 1 Deliveries of energy to the Island Interconnected System from Labrador via the LIL continue to be
- 2 maximized to the extent possible to support Island reservoir storage. During planned monopole outages,
- 3 Hydro has implemented "Economic Monopole Operation" when system conditions permit, which allows
- 4 for additional energy delivery to the Island during monopole operation. While this mode of operation
- 5 inherently introduces a risk of Under-Frequency Load Shedding ("UFLS") in the event of a trip,
- 6 scheduling and operation while in that mode is carried out to limit the customer impact to UFLS blocks
- 7 down to and including 58.4 Hz block.
- 8 Hydro also engaged Energy Marketing to seek imports over the Maritime Link to supplement reservoir
- 9 storage during a planned de-rate of the LIL to support transmission line maintenance. Imports were
- authorized for the period October 27, 2025 to October 30, 2025. Approximately 1.3 GWh of non-firm
- 11 energy was imported to the Island during this period. Exports from Island sources have been placed on
- 12 hold since July 2025.
- Holyrood TGS Units 1 and 2 were online during the month of October and operating above minimum, as
- 14 system conditions allowed, to support reservoir storage. Total energy production from Holyrood TGS for
- the month was 94.2 GWh.
- 16 On October 1, 2025, Hydro entered into a third six-month power purchase agreement with Corner Brook
- 17 Pulp and Paper Limited ("CBPP") as directed by the Government of Newfoundland and Labrador. The
- 18 power purchase agreement with CBPP provides Hydro with 80 GWh of non-firm energy from
- 19 October 1, 2025 through March 31, 2026 inclusive.
- 20 Currently, the Exploits firm capacity is derated to conserve reservoir storage. This is subject to change as
- 21 precipitation events occur and inflows into the reservoir increase.
- 22 Hydro will continue to closely monitor Island storage and inflows at both the overall system and the
- 23 individual reservoir levels to ensure its hydroelectric assets can operate through the winter season at
- 24 full rated output. Weather forecast models are indicating a high potential for multiple rain events over
- 25 the coming weeks, this combined with the strategies noted above for injection of energy into the island
- 26 system is expected to bring the total system energy in storage back above the minimum storage limits.
- 27 At this time, the use of standby generation is not deemed to be required to support reservoir storage.



1 10.0 Conclusion

- 2 Hydro is confident in its ability to serve its customers during the 2025–2026 winter season, and is
- 3 progressing towards completion of its AWP and WR activities. Hydro's critical spares status leading into
- 4 the 2025–2026 winter season is strong. For Holyrood TGS, CTs, and hydraulic generation, 2,550 critical
- 5 spares have been identified by Hydro's three generation operations areas. Of this total, 2,522 items are
- 6 in stock (>98%) and 28 items are in the procurement process, and Hydro considers the risk to WR
- 7 associated with critical spares which are not in stock to be low.
- 8 Additionally, for the Muskrat Falls generation assets, 1,431 critical spares have been identified; 1,032
- 9 items are in stock and 399 items are in the procurement process. As previously reported, a significant
- 10 fire this spring in the community of Happy Valley-Goose Bay resulted in the total loss of the storage
- 11 facility housing Hydro's Muskrat Falls generation critical spares.
- 12 Hydro anticipates the full availability of all regulated generating sources by December 1, 2025, with the
- 13 exception of Unit 3 at the Holyrood TGS, and Bay d'Espoit Units 1 and 2. Unit 3 is undergoing major
- overhaul of the steam turbine and valves, and its return to service date has been extended to early-
- 15 February 2026. Hydro is working with the contractor to explore opportunities to expedite the return to
- service date. Bay d'Espoir Units 1 and 2 are expected to return to service December 5, 2025 upon
- 17 completion of the Penstock 1 Life Extension project. Due to a period of low inflows in its reservoirs,
- 18 Hydro continues to utilize its portfolio of assets to manage reservoir levels. Hydro will continue to
- 19 monitor progress and mitigate work execution and operational risks.
- 20 Hydro will continue to monitor the risks to WR and provide a further update in its next 2025–2026
- 21 Winter Readiness Planning Report, to be filed on December 10, 2025.



Appendix A

Status of Capital Projects and Programs Related to Winter Readiness





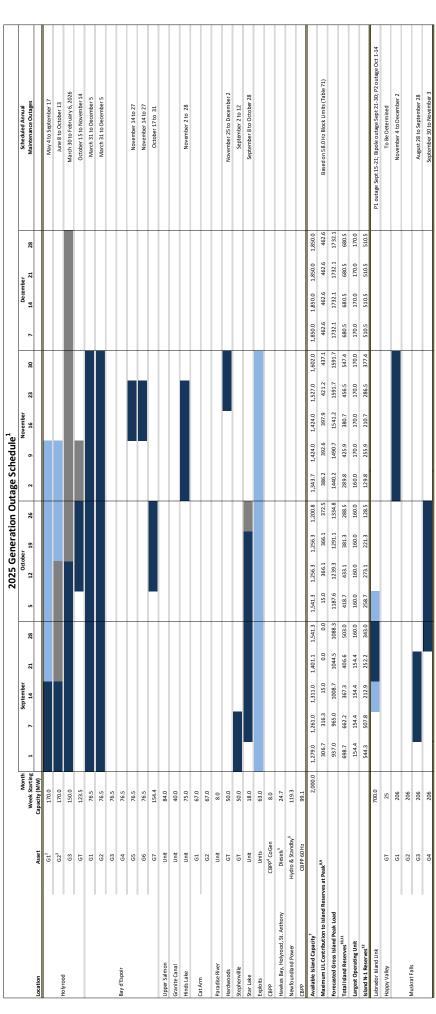
Status of Planned Winter Readiness Scope in 2025 Capital Projects and Programs on the Island and Labrador Interconnected Systems

		Expected Completion of
Assat Catagoni	Duniant au Dunguam Titla	Winter Readiness Scope (31-Oct-2025 Update)
Asset Category Regulated Hydraulic	Project or Program Title Bay d'Espoir - Refurbish Intake 1 (2024-2025)	12-Nov-2025
,		
Generation	Bay d'Espoir - Overhaul Hydraulic Units (2025)	2026 TBD
	Penstock 1 Life Extension	5-Dec-2025
Regulated Thermal	Holyrood - Upgrade Unit 1 Control System (2024-2025)	Complete
Generation	Holyrood - Overhaul Unit 1 Turbine Valves and Generator (2024)	Complete
	Holyrood - Perform Boiler Condition Assessment and Miscellaneous Upgrades (2025)	27-Nov-2025
	Holyrood - Overhaul Major Pumps (2025)	1-Dec-2025
	Holyrood - Perform Level 2 Condition Assessment – Stage 1 & 2 Cooling Water Sump Structures (2025)	17-Dec-2025
	Holyrood - Overhaul Turbine and Valves - Unit 3 (2025)	6-Feb-2026
Regulated Terminal	Various Locations - Replace Terminal Station Battery Banks and Chargers (2024-2025)	Complete
Stations	Wabush - Perform Major Inspection – Synchronous Condenser 2 (2025–2026)	Complete
	Various Locations - Upgrade Power Transformers (2024-2025)	21-Nov-2025
Muskrat Falls Transmission Assets	Various Locations – Replace Turnbuckles and Install Airflow Spoilers	Complete

Appendix B

Master Generation Outage Schedule





Holyrood G1 derated to 100 MW due to issue with the main steam control valve sticking. Holyrood G1 will be taken offline to complete repairs as system conditions Holyrood G2 derated to 163 MW due to water flow issues. Investigation is ongoing. Preventive maintenance items that require short duration outages are not reflected. They are planned in conjuction with system operation for an appropriate time.

Corner Brook Pulp and Paper Limited ("CBPP").

24.7 MW includes Hawkes Bay (5 MW), Holyrood Diesels (10 MW), and St. Anthony (9.7 MW). 1193 MW includes Newfoundland Power hydro (77.8 MW) and Newoundland Power Standby (41.5 MW).

Maximum IL contribution to island reserves at peak is a function of island load, ILl operating mode, number of available. Maskrat Falls un'ts and Maritime Link exports, and is measured at Sodder's Pand.
9 NL Hydro has the option to use the UL economic limits during a monopale outage, which are based on Table 67 limits and would increase the "Maximum LL Contribution to island Reserves at Peak". Available Island Capacity only includes Island Resources and does not include any contribution from Soldiers Pond Labrador Island Link, Happy Valley or Muskrat Falls Units.

November and December Total Island Reserves include CBPP Capacity Assistance (80 MW) and System Voltage Reduction (20 MW).

The available N-1 reserves are the result of available generation and the forecasted Island peak load. Outages are granted to proceed

Appendix C

Critical Spares Status Listing for Thermal Generation



Critical Spares - Thermal Generation¹

	Asset			Critical Spare		
System	Sub-System	Asset	Defined Spare	Notes	Inventory Description	Inventory Status
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Sodium Monitor	Non-Stock is OK since there are non critical uses for this TX which can be "borrowed)	ANALYZER,ORION 2111LLEN	Procurement Ongoing
Units 1 & 2 Air & Flue Gas	Rotary Air Heaters	Drive System	Coupling		COUPLING, STEELFLEX 1- 1/8 S-4	Procurement Ongoing
Units 1 & 2 Fuel Oil System	Fuel Oil Pumps	Fuel Oil Pumps	PUMP,IMO C324		MO C324 ETE)	Procurement Ongoing
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Boiler Feed Pumps - Unit 1 E & W	Element Assembly (Volute) Rebuildable Item	ock, it is out for rebuild.	E/ROTATING	Procurement Ongoing
Turbine Generator System Stage 2	Governor	Governor	Bushing		BUSHING, HITACHI	Procurement Ongoing
Turbine Generator System Stage 2	Governor	Governor	Bushing		BUSHING, HITACHI	Procurement Ongoing
Turbine Generator System Stage 2	Governor	Governor	Bearing		BEARING, HITACHI LOAD LIMIT	Procurement Ongoing
Turbine Generator System Stage 2	Governor	Governor	Bearing		BEARING, HITACHI LOAD LIMIT	Procurement Ongoing
Turbine Generator System Stage 2	Governor	Governor	Piston		PISTON RING, HITACHI	Procurement Ongoing
Turbine Generator System Stage 2	Governor	Governor	Bearing		BEARING, BALL HITACHI	Procurement Ongoing
Turbine Generator System Stage 2	Governor	Governor	Bearing		BEARING, BALL HITACHI	Procurement Ongoing
Turbine Generator System Stage 2	Governor	Governor	Oil Seal		OIL SEAL, HITACHI	Procurement Ongoing
Turbine Generator System Stage 2	Turbine Lube Oil System	Shaft Driven Oil Pump	O-Ring		O-RING,HITACHI	Procurement Ongoing
Turbine Generator System Stage 2	Turbine Lube Oil System	Shaft Driven Oil Pump	Ring		RING, HIT 10P 067-551-13 Procurement Ongoing	Procurement Ongoing
Turbine Generator System Stage 2	Turbine Lube Oil System	Shaft Driven Oil Pump	Ring		RING, HIT 10P 067-551-17 Procurement Ongoing	Procurement Ongoing
Turbine Generator System Stage 2	Turbine Lube Oil System	Shaft Driven Oil Pump	Ring		RING, HIT 10P 067-551-18 Procurement Ongoing	Procurement Ongoing
Turbine Generator System Stage 2	Turbine Lube Oil System	Auxiliary Oil Pump	Motor	Refurbishable item. If it is not in stock, it MOTOR,AUX OIL is out for refurbishment.	MOTOR,AUX OIL YELLOW	Procurement Ongoing
Turbine Generator System Stage 2	Main Steam Chest Assembly	Control Valve - Lower	Crosshead		CROSSHEAD, HIT 10P0612283	Procurement Ongoing
Turbine Generator System Stage 2	Main Steam Chest Assembly	Stop Valves	Gasket		GASKET, HIT 10P-038-197-Procurement 16	Procurement Ongoing
Turbine Generator System Stage 2	Main Steam Chest Assembly	Stop Valves	Gasket		GASKET, HIT 10P-038-197-Procurement 71 Ongoing	Procurement Ongoing
Turbine Generator System Stage 2	Main Steam Chest Assembly	Stop Valves	Seal Ring		SEAL RING,10P-038- 197/14	Procurement Ongoing



Critical Spares - Thermal Generation¹

	Asset			Critical Spare		
System	Sub-System	Asset	Defined Spare	Notes	Inventory Description	Inventory Status
Turbine Generator System Stage 2	Reheat Steam Chest Assembly	Reheat/ICV Valves	Bushing		BUSHING, HIT 10P0611582	Procurement Ongoing
Turbine Generator System Stage 2	Reheat Steam Chest Assembly	Reheat/ICV Valves	Bushing		BUSHING, HIT 10P0611586	Procurement Ongoing
Turbine Generator System Stage 2	Reheat Steam Chest Assembly	Reheat/ICV Valves	Bushing		BUSHING, HIT 10P06115814	Procurement Ongoing
Turbine Generator System Stage 2	Reheat Steam Chest Assembly	Reheat/ICV Valves	Rivet		RIVET, HIT 10P-061-158- Procurement 63	Procurement Ongoing
Turbine Generator System Stage 2	Reheat Steam Chest Assembly	Reheat/ICV Valves	Pin		PIN,HIT 10P06115872	Procurement Ongoing
Unit 3 H.P. Feedwater System	Boiler Feed	DA Recirculation Block Valve	Body		BODY, VALVE MASON 37- Procurement 79264 Ongoing	Procurement Ongoing

¹ A detailed listing of all critical spares for Thermal Generation is available within Appendix C of "Reliability and Resource Adequacy Study Review - 2025–2026 Winter Readiness Planning Report," Newfoundland and Labrador Hydro, October 14, 2025. ("October WR Report").



Appendix D

Status of Winter Readiness Testing of Plant and Equipment Testing for Thermal Generation





22-0ct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

Plant: Holyrood Operations				
Following Annual Outages, Unit is Run Up, Synchronized and all Systems Verified Before Operating Status Determined, as per Energy Control Centre ("ECC"), Prior to Coming Winter Operating Season to Ensure Preparedness. A Unit Load Test is Performed at This Time.	n/s	n/s	n/s	N/A
Black Start Test of the Black Start Systems is Performed Prior to the Winter Operating Season	N/A	N/A	N/A	>
Perform Megger Testing of 600 V Motors Prior to the Winter Operating Season	N/A	N/A	N/A	N/A
Safetv				
Boiler Service Pressure Test Performed as Required by Regulator	>	>	n/s	A/N
Safety Valves Testing as Required (Post Start-Up)	n/s	n/s	n/s	A/N
Boiler Operational Offline High/Low Drum Level Trip Tests	>	\	n/s	A/N
Hydrogen ("H ₂ ") Emergency Venting Valving	λ	λ	n/s	N/A
Breaker and Disconnect Operation Verified by Operations Department and Whitbourne Crew	>	>	n/s	A/N
All Stationary Air Compressors Available	N/A	N/A	V/N	Z
All Portable Air Compressors Available	N/A	N/A	N/A	>
Air Compressor Operational Checks Performed (e.g., Oil Levels, Cooling Water, etc.)	N/A	N/A	W/A	٨
Air Compressor Standby/Sequencing Capability	N/A	N/A	N/A	X
Raw and Makeup Water System				
Quarry Brook Dam Integrity	N/A	N/A	W/A	٨
Raw Water Sump Water Supply Control Valve Operational	N/A	N/A	V/N	٨
Raw Water Pumps Operational	N/A	N/A	W/W	٨
Adequate Supply of Chemicals (1172, 1179, Polymer, etc.)	N/A	N/A	W/A	\
1172, 1179, Polymer Injection Pumping Sets, Pumps, Valves, Lines, Agitators, etc. Operational	λ	λ	λ	٨
Portable Diesel Pump Check of Emergency Plant Water Supply from Quarry Brook Dam	N/A	N/A	W/W	٨
Adequate and Readily Available Supply of Hoses for the Portable Diesel Pump from Quarry Brook Dam to	A/N	A/N	A/N	>
Plant		, ,	/	•

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.

newfoundland labrador hyddro

Holyrood Thermal Generating Station Winter Readiness Testing

22-0ct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

Raw and Makeup Water System and Water Treatment Plant				
Instrumentation and Controls Operational	Υ	٨	n/s	N/A
Analytical Rack Sample Cooler Filters Cleaned/Replaced as Required	γ	٨	n/s	N/A
Analytical Rack Sample Coolers Cooling Water In Service	\	>	n/s	N/A
Two Sample Cooling Water Pumps Availability	N/A	N/A	N/A	٨
Clarifier				
Clarifier Recirculator, Variable Frequency Drive ("VFD") Motor, VFD Controller	N/A	N/A	N/A	>
Clarifier Recirculator Scraper	N/A	N/A	N/A	٨
Clarifier Badger Meter and Clearwell Instrumentation	N/A	N/A	N/A	Υ
Sand Filters				
Sand Filters (Nos. 1, 2 and 3) Resin Integrity	N/A	N/A	N/A	٨
Sand Filters (Nos. 1, 2 and 3) Valve Operation (Normal and Backwashing, etc.)	N/A	N/A	N/A	Υ.
Two Clearwell Pumps Available	N/A	N/A	N/A	٨

Demineralization System				
Cation and Anion Trains (A, B and C) Resin Integrity	N/A	N/A	N/A	٨
Adequate Supply of Chemicals (Caustic Soda, Sulphuric Acid, 1172, 1179, Polymer, etc.)	N/A	N/A	N/A	٨
Sulphuric Acid and Caustic Soda Transfer Pumps, Valves, Lines, etc.	N/A	N/A	N/A	٨
Sulphuric Acid and Caustic Soda Regeneration Sets, Pumps, Valves, Lines, etc.	N/A	N/A	N/A	Z
Caustic Injection Pumping Sets, Pumps, Valves, Lines, Agitators, etc.	N/A	N/A	N/A	У
Brine Injection Pumping Sets, Pumps, Valves, Lines, Agitators, etc.	N/A	N/A	N/A	٨

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.

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hydro

Holyrood Thermal Generating Station Winter Readiness Testing

22-0ct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

Reserve Feedwater System ("RFW")				
RFW Transfer Pump Oil Normal Operating Level	>	>	>	N/A
RFW Transfer Pumps Operational	Υ	\	n/s	N/A
Circulating Water ("CW") and Screen Wash System				
Vacuum Seal Pits Operational	٨	٨	n/s	N/A
All CW Travelling Screens Operational	>	>	n/s	N/A
CW Pump Motorized Discharge Valves 'Manual' and 'Auto', 'Cracked' Position Operation Verified	٨	>	n/s	N/A
CW Pump Motors Oil Normal Operating Level	>	>	n/s	N/A
CW Pumps Operational	٨	٨	n/s	N/A
CW Pump Discharge Vacuum Breakers Operational	Y	γ	n/s	N/A
CW Travelling Screens Wash Pumps Operational	٨	>	n/s	N/A
Condenser Flushed	>	>	n/s	N/A
Condenser Backwashed	٨	\	n/s	N/A
General Service ("GS") Coolers Backwashed, Cleaned, etc.	٨	٨	n/s	N/A
Turbine/Generator ("TG") Coolers Backwashed, Cleaned, etc.	>	>	n/s	N/A
Vacuum Pump Coolers Backwashed, Cleaned, etc.	٨	\	n/s	N/A

Boiler				
Pre-Outage Valve Survey Conducted of Boiler Drains	У	γ	٨	N/A
Service Pressure Test on Boiler for Tube Leaks	Υ	γ	n/s	N/A
Condenser Air Extraction System				
Vacuum Pumps Available and Tested for Standby 'Auto-Start'	У	γ	n/s	N/A

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Vacuum Pump Seal Water Tank Water Level Controller Operational

Vacuum Pump Seal Water Pump Operational Condenser Vacuum Breakers Operational

Y - Test completed.

hydro

Holyrood Thermal Generating Station Winter Readiness Testing

22-0ct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

High Pressure ("HP") Feedwater System				
Boiler Feed Pumps				
Boiler Feed Pumps Available	>	>	n/s	N/A
Boiler Feed Pump Oil Tank Normal Operating Level and Checked for Moisture Content	٨	>	n/s	N/A
Boiler Feed Pump Auxiliary Oil Pumps Available	γ	>	n/s	N/A
Boiler Feed Pump Suction Valves and Limit Switches	>	>	n/s	N/A
Boiler Feed Pump Emergency Gland Seal Injection Pump Available	\	>	n/s	N/A
Boiler Feed Pump Emergency Gland Seal Pump Oil Normal Operating Level	٨	>	n/s	N/A
Boiler Feed Pump Gland Seal Water Available from the Emergency Pump and Condensate Extraction Pumps	Υ	>	n/s	N/A
Boiler Feed Pump Gland Seal Water Control Valve Operational	>	>	n/s	N/A
Boiler Feed Pump Gland Seal Water Drains Tank Level Float Operated Valve Operational (Units 1 and 2)	γ	γ	N/A	N/A
Boiler Feed Pump Gland Seal Water Transfer Pumps Operational (Units 1 and 2)	٨	>	N/A	N/A
Boiler Feed Pump Gland Seal Water Drains Tank Level Control Valve Operational (Unit 3)	N/A	N/A	n/s	N/A
Boiler Feed Pump Gland Seal Water Transfer Pumps Operational (Unit 3)	N/A	N/A	n/s	N/A
Boiler Feed Pump Recirculation Control Valves Operational	٨	٨	n/s	N/A
Boiler Feed Pump Motorized Discharge Pilot and Main Valves Operational	٨	>	n/s	N/A
Low Load Feedwater Isolator and Control Valves Operational	Υ	>	n/s	N/A
Main Feedwater Isolator and Control Valves Operational	γ	٨	n/s	N/A
HP Heater Motorized Valves (Inlet, Outlet and Bypass) Checked for Proper Operation, Sequencing, etc.	γ	٨	n/s	N/A

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.



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Balance of Plant

Status of Test

Unit 2

Unit 1

Miscellaneous				
Economizer 'Manual' Operated Valve Operational	>	\	n/s	A/N
Economizer Motorized Recirculation Valve Operational (Unit 3)	N/A	N/A	n/s	N/A
Boiler Drum Level Instrumentation Operational	>	>	n/s	N/A
HP Heater Bled Steam Check Valves Operational	>	>	n/s	N/A
Start-Up Desuperheater Steam and Water Valving Operation/Position Verified	*	Υ	n/s	N/A
Main Steam and Reheat Steam Desuperheater Spray Water Isolators and Control Valves Operational	*	Υ	n/s	N/A
Auxiliary Steam Desuperheater Spray Water Control Valve Operational	>	>	n/s	A/N

Low Pressure ("LP") Feedwater System				
Condenser				
Condenser Hotwell Makeup/Surplus Control Valves Operation Verified	٨	\	n/s	N/A
Condenser Hotwell Makeup Motorized Isolating Valve Operation Verified	Α	\	n/s	N/A
Condenser Dye Test for Leaks, as Required		>	s/n	N/A

Ammonia and Cortrol System				
Adequate Supply in Place	У	٨	n/s	N/A
Pumps Operational	γ	٨	s/n	N/A
Control Instrumentation Operational	γ	Υ	s/n	N/A

Condensate Extraction Pumps				
Condensate Extraction Pumps Available	\	Υ	n/s	N/A
Condensate Extraction Pump Motors Bearing Oil Normal Operating Level	\	γ	n/s	N/A
Condensate Extraction Pump Motor Cooling Water Available (Unit 3)	N/A	N/A	n/s	N/A

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.

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Status of Test
Unit 1 Unit 2 Unit 3 Balance of Plant

Condensate Polishers				
Resin Integrity Verified	٨	λ	n/s	N/A
Two Polishers Rinsed and Available	٨	λ	n/s	N/A
Valve Operation (Normal and Regenerating, etc.)	>	>	n/s	N/A
Regeneration System Skids Available (Valving, Pumps, Plowers, Tanks, etc.)	>	>	n/s	N/A
Condensate Polisher Bypass Control Valve Operational	٨	γ	n/s	N/A
LP Heaters				
Low Load Recirculation Control Valve Operation	Α	Υ	n/s	N/A
Deaerator				
Deaerator Normal Operating Level	λ	γ	n/s	N/A
Deaerator Steam Coil Operational	\	\	n/s	N/A
Deaerator Pegging Steam Operational	λ	Υ	n/s	N/A
Deaerator Low Level Trip Test	٨	٨	n/s	N/A

Miscellaneous				
Condenser Flash Tank Control Valve Operation/Position	Υ	γ	n/s	N/A
Turbine LP Exhaust Hood Spray Motorized Valve Operation	٨	γ	n/s	N/A
Start-Up Desuperheater Steam and Water Valving Operational (Units 1 and 2)	٨	γ	N/A	N/A
LP Heater Bled Steam Check Valves Operational	Υ	γ	n/s	N/A

Bled Steam and Heater Drains System				
LP and HP Instrumentation and Control Operational	٨	γ	n/s	N/A
LP and HP Heater Level Control Operational	\	\	n/s	N/A
LP Heater Condensate Drains Pumps Operational	Z	Z	Z	N/A
#4 HP Heater Condensate Drains Pump Operational	z	γ	s/n	N/A

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.

V ∀ V ∀ V/A



Holyrood Thermal Generating Station Winter Readiness Testing

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Balance of Plant

Status of Test Unit 3

Unit 2

Unit 1

Air and Flue Gas System				
Instrumentation and Control Operational	λ	Υ	n/s	N/A
Forced Draft ("FD") Fans and Air Dampers				
Two FD Fans Available	>	\	n/s	N/A
Bearing Oil Normal Operating Level	>	>	n/s	N/A
Cooling Water on to Fans	>	>	n/s	N/A
Stroke Variable Inlet Vanes	>	>	n/s	N/A
Stroke Discharge Dampers	>	٨	n/s	N/A
FD Fan Motor Variable Speed Drives Operational	N/A	N/A	N/A	N/A
All Burner Auxiliary Air Dampers/Positioners Operation (Units 1 and 2)	>	>	N/A	N/A
All Elevation Air Flow Dampers/Positioners Operation (Unit 3)	N/A	N/A	n/s	N/A
Rotary Air Heaters				
Rotary Air Heaters Operational	Υ	γ	n/s	N/A
Rotary Air Heaters Bearing Oil (Top and Bottom) Normal Operating Level	٨	γ	n/s	N/A
Rotary Air Heaters Bearing Cooling Water On	>	٨	n/s	N/A
Rotary Air Heaters Electric Motor Drives Operational	*	٨	n/s	N/A
Rotary Air Heaters Air Supply to Air Heater Air Motor Drives Open	٨	γ	n/s	N/A
Rotary Air Heaters Start-Up of Air Motor Drive Upon Loss of Alternating Current ("AC") Power Supply to the Normal Operating Electric Drive Motor	*	>	n/s	N/A
Rotary Air Heaters Steam Supply Control Valves Operational (*Note: Two Steam Supplies on Units 1 and 2)	>	>	n/s	N/A
Rotary Air Heaters Sootblowers Operational	\	٨	n/s	N/A

Sootblower Control Panel Operational	>	>	S/N
Sootblowers Steam Supply Control Valve Operational	Υ	λ	n/s
Sootblowers Overhauled During Annual Outage Verify Operation (e.g., Rotation, Travel Advancing/Retracting	>	>	11/3
from Furnace, Leaks, etc.) First Time Unit is Placed Online	-	-	0/6
S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.			

N/A - Not Applicable for specific unit or Balance of Plant, as indicated. Y - Test completed.

Boiler Sootblowing System



22-Oct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

Light Fuel Oil System				
Hydro Pad Operational	>	\	n/s	N/A
Light Oil Pumps Available	\	٨	n/s	N/A
Pumps, Valves (Including Control and Trip), Lines, Strainers, Pressure (Locally and UCB)	>	>	n/s	N/A
Check Light Oil Supply and Return Lines to/from Plant Respectively	>	>	n/s	N/A
Suction Strainers Cleaned with Covers Secured	\	٨	n/s	N/A
Ignitors Cleaned, Securely in Place with Associated Lines Securely Fastened	٨	٨	n/s	N/A
Ignitors all Checked for Operation During Unit Start-Up (e.g. Ignitor Control Box, Valve Operation, Lighting, etc.)	>	>	n/s	N/A

Fuel Oil Delivery System, Auxiliary Steam and Fuel Oil Piping System				
Adequate Heavy Oil Storage	N/A	N/A	N/A	٨
Heavy Oil Piping from Dock to Tankfarm, Tankfarm to Plant Day Tank and Day Tank to Heavy Oil Sets	N/A	N/A	N/A	٨
Adequate Light Oil Storage	N/A	N/A	N/A	٨
Light Oil Piping from Road Tanker Transfer Pump to Tanks and from Tanks to Light Oil Sets in Plant	N/A	N/A	N/A	N/A
All Storage Tanks Suction Heaters Available when Required	N/A	N/A	N/A	٨
All Storage Tanks Flatform Heaters Available when Required	N/A	N/A	N/A	N/A
Auxiliary Steam for Suction Heaters Available	N/A	N/A	N/A	Υ
Auxiliary Steam for Flatform Heaters Available	N/A	N/A	N/A	N/A
Auxiliary Steam for Heat Tracing Available	N/A	N/A	N/A	Υ
Electrical Heat Tracing for Fuel Oil Lines Available	N/A	N/A	N/A	٨
Day Tank Supply Line Trip Valve Tested	N/A	N/A	N/A	٨
Day Tank Available to Receive Oil	N/A	N/A	N/A	Υ
Day Tank Steam Coil Available	N/A	N/A	N/A	Υ

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.

22-0ct-25



Balance of Plant V ∀ V/A ΑN N/A ΑN ۸ ۸ ۸ ۸ V ∀ N/A V ∀ Status of Test Unit 3 S/N S/U N/S S/N S/N S/N S/U N/S N/s N/S N/s Unit 2 z > > > Unit 1 z Suction Strainers Cleaned (including standby and extras) with Covers Secured Fuel Oil Heaters Temperature Steam Control Valve Operational Steam Supply to Heavy Oil Set Heaters Available as Required Header Pressure Control Valve Operational Fuel Oil Heaters Cleaned and Inspected Fuel Oil Accumulator Operational Pumps 'Auto-Start' Check Offline Fuel Oil Meter Operational Fuel Oil Heaters Available Fuel Oil Pumps Available Fuel (Heavy) Oil System Fuel Oil Heating Sets

Fuel Oil Supply Control, Trip, Long and Short Recirculation Valves				
Fuel Oil Supply Control Valve Operational	У	٨	n/s	N/A
Fuel Oil Trip Valve Operational	٨	γ	n/s	N/A
Fuel Oil Long Recirculation Valve Operational (Units 1 and 2)	٨	٨	N/A	N/A
Fuel Oil Short Recirculation Valve Operational (Units 1 and 2)	\	٨	N/A	N/A
Elevation Fuel Oil Trip Valves Operational (Unit 3)	N/A	N/A	n/s	N/A
Elevation Fuel Oil Minimum Supply Control Valves Operational (Unit 3)	N/A	N/A	n/s	N/A
Elevation Fuel Oil Supply Control Valves Operational (Unit 3)	N/A	N/A	n/s	N/A
Main Fuel Oil Recirculation Valve Operational (Unit 3)	N/A	N/A	n/s	N/A
Elevation Recirculation Valves Operational (Unit 3)	N/A	N/A	n/s	N/A

Burners				
All Burners Cleaned, Securely in Place with Associated Lines Securely Fastened	γ	γ	n/s	N/A
All Burners Checked for Operation During Unit Start-Up (e.g. Advancing/Retracting, Valve Operation, Lighting,	\	\	n/s	A/N
etc.)			- /-	
All Burner Tilts Checked for Operation (Units 1 and 2)	γ	Υ	N/A	N/A

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.

V ∀

N/S

TG Pumps Available and Tested for Standby 'Auto-Start'

land labrador

Holyrood Thermal Generating Station Winter Readiness Testing

22-0ct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

Fuel Additive System				
Adequate Supply Available	N/A	N/A	N/A	N/A
Pumps Available	A/N	N/A	N/A	A/N
Tanks, Agitators, etc. Available	N/A	N/A	N/A	N/A
GS System				
GS Heat Exchangers Backwashed, Cleaned, etc.	>	>	n/s	A/N
Stage I GS Plate Cooler Strainers Cleaned	>	>	n/s	A/N
Stage I GS 'Auto-Clean' Strainer Operational	N/A	N/A	N/A	A/N
Stage I GS Duplex Strainers Cleaned	>	>	N/A	N/A
GS Pump Suction Strainers Cleaned	٨	γ	n/s	N/A
GS Pump Oil Normal Operating Level	٨	Υ	n/s	N/A
GS Pumps Available and Tested for Standby 'Auto-Start'	\	٨	S/U	N/A
TG Auxiliary Cooling System				
TG Head Tank Normal Operating Level	\	٨	n/s	A/N
Turbine Lube Oil Coolers Operational	>	>	n/s	A/N
TG Heat Exchangers Backwashed, Cleaned, etc.	>	\	n/s	N/A
TG Pump Oil Normal Operating Level	\	٨	n/s	A/N

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.

hewfoundland labrador hydrology

Holyrood Thermal Generating Station Winter Readiness Testing

22-0ct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

o system				
Hydraulic System Units 1 and 2				
Hydraulic System Accumulators Operational	>	\	A/N	N/A
Hydraulic System Storage Tank Normal Operating Level and Checked for Moisture Content	>	>	A/N	N/A
Hydraulic System Storage Tank Air Purging of Moisture in Place	>	>	A/N	N/A
Hydraulic Set Primary, Secondary Filter Indications Ok	>	>	A/N	N/A
Two Hydraulic Fluid Pumps Availability	>	>	A/N	N/A
Hydraulic Pump Auto-Start Testing	>	>	A/N	N/A
Two Hydraulic Fluid Pump Coolers Availability	>	>	N/A	N/A

Valves				
Pre-Outage Valve Survey Conducted of Boiler Drains	γ	γ	n/s	N/A
Turbine Main Stop Valve Testing (Units 1 and 2)	λ	γ	N/A	N/A
Turbine Two Main Stop Valves Testing (Unit 3)	N/A	N/A	n/s	N/A
Turbine 'Left-Hand' and 'Right Hand' Reheat Stop and Intercept Control Valve Testing Verified	λ	n/s	n/s	N/A
Turbine Six Main Control Valve Operation (Units 1 and 2)	n/s	γ	N/A	N/A
Turbine Four Main Control Valve Operation (Unit 3)	N/A	N/A	n/s	N/A
Turbine Blowdown Valve Operation	γ	Υ	s/n	N/A

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.

hydro

22-Oct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

Lube Oil Tank Vapor Extractor Operation Lube Oil Tank Vapor Extractor Operation Value Oil Tank Vapor Extractor Operation	-			
peration	_	>	=/>	N/A
peration			0 5	2,714
	N/A	N/A	N/A	N/A
	X	Υ	s/n	N/A
Bowser Oil Conditioner Vapor Extractor Operation (Units 1 and 2)	n/s	n/s	N/A	N/A
Two ac Lube Oil Pumps Available and Tested for Standby 'Auto-Start' (Units 1 and 2)	\	Υ	N/A	N/A
Direct Current ("DC") Pump Testing and Starting from UCB (Units 1 and 2)	\	Υ	N/A	N/A
Verify Discharge Pressure of Each AC Lube Oil Pumps (Locally and UCB) (Units 1 and 2)	>	\	N/A	N/A
Verify Discharge Pressure of DC Lube Oil Pump (Locally and UCB) (Units 1 and 2)	Υ	Y	N/A	N/A
Jacking Oil Pump Testing and Starting from UCB (Unit 3)	N/A	N/A	s/n	N/A
Verify Discharge Pressure of Jacking Oil Pump (Locally and UCB)	N/A	N/A	n/s	N/A
Auxiliary Oil Pump ("AOP") Testing and Starting from UCB and Turbine Lube Oil Tank (Unit 3)	N/A	N/A	n/s	N/A
Verify Discharge Pressure of AOP Pump (Locally and UCB) (Unit 3)	N/A	N/A	n/s	N/A
AC Pump Testing and Starting from UCB and Turbine Lube Oil Tank (Unit 3)	N/A	N/A	n/s	N/A
Verify Discharge Pressure of AC Flushing Oil Pump (Locally and UCB) (Unit 3)	N/A	N/A	n/s	N/A
DC Pump Testing and Starting from UCB and Turbine Lube Oil Tank (Unit 3)	N/A	N/A	n/s	N/A
Verify Discharge Pressure of DC Flushing Oil Pump (Locally and UCB) (Unit 3)	N/A	N/A	s/n	N/A

Barring/Turning Gear				
Turning Gear Operation Verified	λ	γ	n/s	N/A
Perform Trip Test of Turning Gear	γ	Υ	n/s	N/A

Miscellaneous				
Steam Seal Regulator Operational	γ	γ	n/s	N/A
Operational Online/Offline Overspeed Trip Tests	Υ	γ	n/s	N/A

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.



22-Oct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

H ₂ and Carbon Dioxide ("CO ₂ ") System				
H ₂ Generation and Storage System				
System in Operation	N/A	N/A	N/A	>
Electrolyzer/H ₂ Generator Operational	N/A	N/A	N/A	N/A
Chiller Operational	N/A	N/A	N/A	A/N
DI Water Purifier Operational	N/A	N/A	N/A	N/A

N/A

V\ ∀

N/A

Adequate H₂ Bulk Packs on Hand for Contingency Purposes

H₂ and CO₂ Bulk Packs

CO ₂ Adequate Bulk Packs on Hand	N/A	N/A	N/A	٨
Generator				
Generator Exciter Operation Checked Offline and Online	Υ	γ	n/s	N/A
Seal Oil System Tested with 'Air' on Generator in Preparation for Leak Testing	>	>	n/s	N/A
Seal Oil Regulator Operational	>	>	n/s	N/A
AC Seal Oil Pumps Available and Tested for Standby 'Auto-Start' (Units 1 and 2)	\	\	N/A	N/A
AC Seal Oil Pump Available (Unit 3)	N/A	N/A	n/s	N/A
DC Seal Oil Pump Available and Tested for Standby 'Auto-Start'	٨	γ	n/s	N/A
Seal Oil Vacuum Pumps Available	γ	γ	n/s	N/A
Vacuum Tank Level Control Operational	γ	γ	n/s	N/A
H ₂ System in Operation and/or Adequate Bulk Packs on Hand for Contingency Purposes	N/A	N/A	N/A	>
CO ₂ Adequate Bulk Packs on Hand	N/A	N/A	N/A	>
Leak Testing Performed Prior to 'Gassing Up' Generator	٨	γ	S/N	N/A
Purity, Dew Point, etc. Instrumentation Operation Verified	٨	٨	s/n	N/A

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.



22-0ct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

sge I and II Stage I and II Re I and II Stage I and II Stage I and II Stage I and II Plies ("UPS") Batteries, Cooling Fans, etc., Checked Senerators Tested for Emergency Stop Generators Tested for Manual and Auto-Start Operation along with Auto N/A N/A IVerified N/A	> > > > > > > > > > > > > > > > > > >	> > > > > > > > > > > > > > > > > > >
I Closing of Breakers N/A N/A N/A N/A N/A N/A N/A N/		> > > > > > > > > > >
Ing Fans, etc., Checked Sted for Emergency Stop Sted for Manual and Auto-Start Operation along with Auto I Closing of Breakers N/A N/A N/A		> > > > :
Sted for Emergency Stop ssted for Emergency Stop ssted for Manual and Auto-Start Operation along with Auto I Closing of Breakers N/A N/A N/A N/A		> > >
In Stans, etc., Checked Sted for Emergency Stop Sted for Manual and Auto-Start Operation along with Auto I Closing of Breakers N/A N/A N/A		> > > :
Sted for Emergency Stop I Closing of Breakers N/A N/A N/A N/A N/A N/A N/A	+	> > > > > > > > > > >
Sted for Emergency Stop I Closing of Breakers N/A N/A N/A N/A N/A N/A N/A		>
oling Fans, etc., Checked Y ested for Emergency Stop ested for Manual and Auto-Start Operation along with Auto I Closing of Breakers N/A N/A N/A		> :
oling Fans, etc., Checked ssted for Emergency Stop ested for Emergency Stop Sted for Manual and Auto-Start Operation along with Auto I Closing of Breakers N/A N/A N/A	\mathbb{H}	> :
g Batteries, Cooling Fans, etc., Checked Y Generators Tested for Emergency Stop I Generators Tested for Manual and Auto-Start Operation along with Auto Singency Manual Closing of Breakers On Verified N/A vice		<i>≻</i> ;
I Generators Tested for Emergency Stop I Generators Tested for Manual and Auto-Start Operation along with Auto Start Operation along with Auto N/A on Verified vice		;
I Generators Tested for Emergency Stop I Generators Tested for Manual and Auto-Start Operation along with Auto Stency Manual Closing of Breakers On Verified N/A N/A N/A		;
N/A N/A N/A		,
N/A N/A N/A	/A N/A	Υ.
N/A N/A		>
N/A N/A N/A	Ψ/N	>
s in Service N/A	/A N/A	>
s in Service N/A		
ice N/A		
	A/N A/A	Y
Fire Control/Alarm Panel Status N/A N/A N/A N/A	/A N/A	٨
Fire Alarm Beacons Operational N/A N/A N/A	A/N A/	\
Diesel Fire Pump Checked for 'Manual' and 'Auto' Start, etc.		Y
Diesel Fire Pump Controller, Charger and Battery Check	/A N/A	Y
Electric Fire Pump Checked for 'Manual' and 'Auto' Start, etc.	/A N/A	٨
Electric Fire Pump Controller Check N/A N/A N/A	/A N/A	٨
Public Address System Status N/A N/A N/A	/A N/A	\

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage.

Y - Test completed.

newfoundiand labrador hyddro

Holyrood Thermal Generating Station Winter Readiness Testing

22-0ct-25

Balance of Plant

Status of Test

Unit 2

Unit 1

Holyrood Main Powerhouse				
Backup ECC and Guardhouse Propane Generator	N/A	N/A	N/A	Υ
Plant Air Conditioning System				
Control and Relay Rooms	N/A	N/A	N/A	>
UPS #1 Room	N/A	N/A	N/A	٨
Generator Excitation and UPS #'s 2, 3 and 4 Room (Unit 3)	N/A	N/A	N/A	Υ
Plant Heating Steam				
All Systems Operational for When Remited	V/N	V/ N	V/ N	>

S/U - Final confirmation completed during Start Up. When possible, test also completed during annual outage. Y - Test completed.

Appendix E

Critical Spares Status Listing for Hydraulic Generation



Critical Spares Stock Status¹

hydro	Hydraul 25	Hydraulic Generation 25-Oct-25		
Critical Spare Component	Stock Status	Comments	Status Update October 2025	Expected Delivery Date
USL - Transformer T2	Procurement	Unit was shipped to Turkey in 2022 to be	N/A	Nov-25
	Ongoing	repaired and tested. The anticipated return		
		date to USL was Q2 2023 however the		
		transformer remained at the factory in		
		Turkey due to unsuccessful Factory		
		Acceptance Testing (FAT). The transformer		
		was shipped to site in Q4 2024 but failed		
		testing. Additional testing and		
		troubleshooting was completed in May		
		2025 with progress made on identifying		
		issues. Plans were developed and materials		
		ordered to make repairs with lead times on		
		materials estimated 6-10 weeks. Repairs		
		and testing planned for completion in Q4		
		2025.		

¹ A detailed listing of all critical spares for Hydraulic Generation is available within Appendix F of "Reliability and Resource Adequacy Study Review - 2025–2026 Winter Readiness Planning Report," Newfoundland and Labrador Hydro, October 14, 2025. ("October WR Report").

Appendix F

Status of Winter Readiness Testing of Plant and Equipment for Hydraulic Generation



Bay d'Espoir Hydraulic Generating Facility 23-Oct-25

hydro hydro	
2	

								Balance of Blant	Ralance of Plant
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Powerhouse 1	Powerhouse 2
Following Annual Outages, Unit is Run Up, Synchronized and all Systems Verified Before Operating Status Determined, as per Energy Control Centre, Prior to Coming Winter Operating Season to Ensure Preparedness. A Unit Load Test is Performed at this Time.	30-Nov	30-Nov	>	`	14-Nov	14-Nov	2-Nov	N/A	N/A
All Alternate Sources of Station Service Tested and Available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<i>></i>	<i>></i>
Spherical Valves									
Turbine Main Stop Valve Annual PM Complete	30-Nov	30-Nov	>	>	14-Nov	14-Nov	N/A	N/A	N/A
Turbine Main Stop Valve Operational	30-Nov	30-Nov	^	`	14-Nov	14-Nov	N/A	N/A	N/A
Service Air and Instrument Air Systems Compressors									
All Stationary Air Compressors Available	N/A	N/A	N/A	A/N	N/A	N/A	N/A	<i>></i>	<i>></i>
Air Compressor Operational Checks Performed (e.g., Oil Levels, Cooling Water, etc.)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<i>*</i>	>
Air Compressor Sequencing Capability Available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	^	>
High Pressure Compressors Available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	^	^
Low Pressure Compressor Available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	^	^
Instrumentation Control and Alarms Operational	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	^
Turbine/Generator ("TG") Cooling Water Systems									
Cooling Water Pumps Available	^	^	^	^	^	^	N/A	N/A	N/A
Emergency Cooling Water Available Penstock Supply	^	^	<i>^</i>	^	^	^	N/A	N/A	N/A
Cooling Water System Available	^	^	^	^	^	^	^	N/A	N/A
Shaft Seal System Available	^	^	^	^	^	^	^	N/A	N/A
Cooling Water Strainers Inspected and Available	>	1	^	^	^	<i>></i>	^	N/A	N/A

TG Governor System									
Hydraulic System Accumulators Operational	>	>	>	>	>	^	>	N/A	N/A
Governor System Annual PM Complete	30-Nov	30-Nov	>	>	14-Nov	14-Nov	2-Nov	N/A	N/A
Governor System Available	>	>	>	>	>	>	>	N/A	N/A
Hydraulic Pump(s) Available	>	>	>	>	>	`	>	N/A	N/A
Generator									
Generator Exciter Operation Checked Offline and Online	30-Nov	30-Nov	>	>	14-Nov	14-Nov	2-Nov	N/A	N/A
Generator Exciter Available	>	>	>	>	>	`	>	N/A	N/A
Brush Condition Verified	30-Nov	30-Nov	30-Nov	30-Nov	14-Nov	14-Nov	2-Nov	A/N	N/A

S/U - Final confirmation completed during Start-Up. When possible, test also completed during annual outage.

< - Test completed
N/A - Not Applicable

Bay d'Espoir Hydraulic Generating Facility 23-Oct-25

hydro hydro
2

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Balance of Plant Powerhouse 1	Balance of Plant Powerhouse 2
Lubricating System									
Portable Oil Pump (Jacking)	>	>	>	^	^	^	N/A	N/A	N/A
Oil Level System Generator Metering Available	>	>	>	^	`	^	^	N/A	N/A
Oil Level System Turbine Metering Available	>	>	>	>	>	`>	>	N/A	N/A
Alternating Current High Pressure Jacking Oil Pump Available Automatic	N/A	N/A	N/A	N/A	N/A	N/A	>	N/A	N/A
Switchward/Tarminal Geation									
Breakers and Disconnects Operational	>	>	>	>	>	>	>	Δ/Ν	A/N
Operate Breaker PM Complete (TRO)	>	>	>	>	>	>	>	N/A	N/A
Intake									
Water Elevation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	>	>
Trashrack System	>	>	>	>	>	`	`	N/A	N/A
Gate Operation	`	>	^	^	^	^	^	N/A	N/A
Surge Tank									
Heating System	30-Nov	30-Nov	30-Nov	30-Nov	30-Nov	30-Nov	N/A	N/A	N/A
Alarm Systems	30-Nov	30-Nov	30-Nov	30-Nov	30-Nov	30-Nov	N/A	N/A	N/A
Spillway									
Water Elevation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	^	<i>></i>
Gate Heating/Ice Away Unit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	`	N/A
Gate Operation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	>	N/A
Emergency (Backup) Diesel Generator	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<i>^</i>	N/A
Emergency Lift Operation and Tested	N/A	N/A	N/A	N/A	N/A	N/A	N/A	^	N/A
Battery Banks And Battery Chargers									
Plant 129 V System									
129 V Battery Banks Checked	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\	`
129 V Battery Chargers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<i>^</i>	^
129 V Battery Banks Available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	^	^
The section of the se									
Plant Uninterrupted Power Supplies ("UPS")								,	
UPS Power Supplies (Inverter NWS)	∀ /Z	√N 	∀ /Z	A/A	N/A	A/N	Α/N	`	A/N

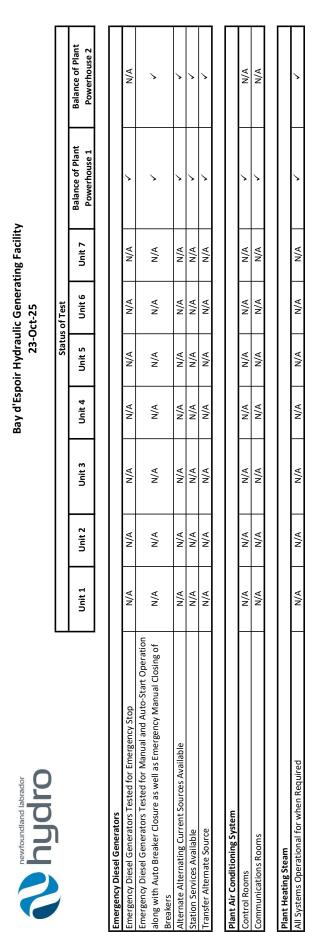
S/U - Final confirmation completed during Start-Up. When possible, test also completed during annual outage.

✓ - Test completed

N/A - Not Applicable

Bay d'Espoir Hydraulic Generating Facility

23
33



N/A - Not Applicable

S/U - Final confirmation completed during Start-Up. When possible, test also completed during annual outage. \checkmark - Test completed

N/A N/A N/A N/A

N/A

N/A

N/A

N/A N/A N/A N/A

Hydraulic System Accumulators Operational

TG Governor System

Governor System Annual PM Complete

Hydraulic Pump(s) Available Governor System Available

N/A N/A

N/A N/A

A A A

21-Nov

N/A

Ν



Hydraulic Generating Stations (Remote Units)

23-Oct-25

Balance of Plant

Unit 1

Unit 2

Unit 1

Balance of Plant

Cat Arm

Powerhouse

Paradise River

Granite Canal

Upper Salmon

Hinds Lake

Status of Test

Following Annual Outages, Unit is Run Up, Synchronized and all Systems Verified Before Operating Status Determined, as per Energy Control Centre, Prior to Coming Winter Operating Season to Ensure Preparedness. A Unit Load Test is Performed at this Time.	>	>	۷/۷ ۲	21-Nov	N/A	`	N/A	30-Nov	N/A	>	N/A
All Alternate Sources of Station Service Tested and Available	N/A	N/A	^	N/A	>	N/A	^	N/A	^	N/A	^
Spherical Valves											
Turbine Main Stop Valve Annual PM Complete	^	>	N/A	N/A	N/A	N/A	A/N	N/A	N/A	N/A	N/A
Turbine Main Stop Valve Operational	^	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service Air and Instrument Air Systems Compressors											
All Stationary Air Compressors Available	N/A	N/A	>	N/A	>	N/A	>	N/A	>	N/A	>
Air Compressor Operational Checks Performed (e.g., Oil Levels, Cooling Water, etc.)	N/A	N/A	>	N/A	>	N/A	>	A/N	>	N/A	>
Air Compressor Sequencing Capability Available	N/A	N/A	>	N/A	>	N/A	>	N/A	>	N/A	>
High Pressure Compressors Available	N/A	N/A	>	N/A	>	N/A	>	N/A	^	N/A	>
Low Pressure Compressor Available	N/A	N/A	>	N/A	N/A	N/A	>	N/A	>	N/A	N/A
Instrumentation Control and Alarms Operational	N/A	N/A	`^	N/A	`>	N/A	>	N/A	>	N/A	>
Turbine/Generator ("TG") Cooling Water Systems											
Cooling Water Pumps Available	/	^	N/A	^	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Emergency Cooling Water Available Penstock Supply	<i>^</i>	^	N/A	N/A	N/A	^	^	^	^	^	^
Cooling Water System Available	<i>^</i>	^	N/A	^	N/A	^	N/A	^	N/A	^	N/A
TG Pumps Available and Tested for Auto/Manual Start	N/A	N/A	N/A	^	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Shaft Seal System Available	N/A	N/A	N/A	^	N/A	^	N/A	^	N/A	1	N/A
Rotary Strainer Inspected and Available	^	^	N/A	^	N/A	^	N/A	^	N/A	N/A	N/A

S/U - Final confirmation completed during Start-Up. When possible, test also completed during annual outage.

✓ - Test completed N/A - Not Applicable

Hydraulic Generating Stations (Remote Units) 23-Oct-25

				2	oratus or rest					
	Cat Arm	ا ،	Hind	Hinds Lake	Upper	pper Salmon	Granit	Granite Canal	Paradis	Paradise River
Unit 1	Unit 2	Balance of Plant Powerhouse	Unit 1	Balance of Plant	Unit 1	Balance of Plant	Unit 1	Balance of Plant	Unit 1	Balance of Plant

Generator											
Generator Exciter Operation Checked Offline and Online	>	>	N/A	21-Nov	N/A	>	N/A	>	N/A	>	N/A
Generator Exciter Available	>	>	N/A	`	N/A	>	N/A	>	N/A	>	N/A
Brush Condition Verified	^	^	N/A	^	N/A	^	N/A	^	N/A	N/A	N/A
Lubricating System											
Oil Level System Generator Metering Available	^	^	N/A	^	N/A	^	N/A	^	N/A	^	N/A
Oil Level System Turbine Metering Available	^	>	N/A	>	N/A	^	N/A	>	N/A	>	N/A
Alternating Current High Pressure Jacking Oil Pump Available Automatic	^	^	N/A	^	N/A	^	N/A	^	N/A	N/A	N/A
Miscellaneous											
Breakers and Disconnects Operational	^	^	N/A	^	N/A	/	N/A	^	N/A	^	N/A
Operate Breaker PM Complete (TRO)	^	^	N/A	^	N/A	^	N/A	`	N/A	^	N/A
Control Structure											
Water Elevation	N/A	N/A	N/A	N/A	>	N/A	N/A	N/A	N/A	N/A	N/A
Gate Operation	N/A	N/A	N/A	N/A	>	N/A	N/A	N/A	N/A	N/A	N/A
Intake											
Water Elevation	N/A	A/N	>	N/A	>	N/A	>	N/A	>	N/A	^
Trashrack System	^	`	N/A	>	N/A	>	N/A	>	N/A	>	N/A

Spillway/Bypass											
Water Elevation	N/A	N/A	N/A	N/A	^	N/A	^	N/A	^	N/A	N/A
Gate Heating/Ice Away Unit	N/A	N/A	N/A	N/A	^	N/A	^	N/A	^	N/A	N/A
Gate Operation	N/A	N/A	N/A	N/A	^	N/A	<i>></i>	N/A	^	N/A	N/A
Emergency (Backup) Diesel Generator	N/A	N/A	N/A	N/A	^	N/A	^	N/A	^	N/A	N/A
Emergency Lift Operation and Tested	N/A	N/A	N/A	N/A	^	N/A	^	N/A	^	N/A	N/A

N/A

Gate Operation

S/U - Final confirmation completed during Start-Up. When possible, test also completed during annual outage. \checkmark - Test completed N/A - Not Applicable



Hydraulic Generating Stations (Remote Units) 23-Oct-25

				St	Status of Test	•				
	Cat Arm	n	Hind	Hinds Lake	Upper	Upper Salmon	Granit	Granite Canal	Paradise River	e River
Unit 1	Unit 2	Balance of Plant Powerhouse	Unit 1	Balance of Plant	Unit 1	Balance of Plant	Unit 1	Balance of Plant	Unit 1	Balance of Plant

Battery Banks And Battery Chargers											
Plant 129 V System											
129 V Battery Banks Checked	N/A	N/A	^	N/A	<i>^</i>	N/A	^	N/A	^	N/A	^
129 V Battery Chargers	N/A	N/A	^	N/A	^	N/A	^	N/A	^	N/A	^
129 V Battery Banks Available	N/A	N/A	^	N/A	^	N/A	^	N/A	>	N/A	^
Plant 48 V System (Network Services)											
48 V Battery Banks Checked	N/A	N/A	^	N/A	^	N/A	^	N/A	^	N/A	^
Emergency Diesel Generators											
Emergency Diesel Generators Tested for Emergency Stop	N/A	N/A	>	N/A	>	N/A	>	N/A	>	N/A	>
Emergency Diesel Generators Tested for Manual and Auto-Start Operation											
along with Auto Breaker Closure as well as Emergency Manual Closing of	N/A	N/A	>	N/A	>	N/A	>	N/A	>	N/A	>
Breakers											
Alternate Alternating Current Sources Available	N/A	N/A	^	N/A	^	N/A	^	N/A	^	N/A	^
Station Services Available	N/A	N/A	^	N/A	^	N/A	^	N/A	^	N/A	^
Transfer Alternate Source	N/A	N/A	^	N/A	^	N/A	^	N/A	^	N/A	^
Plant Air Conditioning System											
Control Rooms	N/A	N/A	>	N/A	>	N/A	>	N/A	>	N/A	>
Communications Rooms	N/A	N/A	^	N/A	>	N/A	^	N/A	>	N/A	N/A
Plant Heating Steam											
All Systems Operational for when Beginsed	- V/N	V/N	>	V/N	>	Δ/N	>	Δ/Ν	>	V/N	>

Plant Heating Steam											
All Systems Operational for when Required	N/A	N/A	^								

S/U - Final confirmation completed during Start-Up. When possible, test also completed during annual outage. \checkmark - Test completed N/A - Not Applicable

Appendix G

Critical Spares Status Listing for Muskrat Falls Generation





Critical Spare Component	Stock Status
COIL SPRING, ST14100	Procurement Ongoing
SPRING, COIL ST14110	Procurement Ongoing
SHOE, SIDE GUIDE 60X16 140	Procurement Ongoing
SHOE, SIDE GUIDE 60X16 280	Procurement Ongoing
SHOE, SIDE GUIDE 140X49.150460	Procurement Ongoing
BOLT,COUNTERSINK,M16X70	Procurement Ongoing
SCREW, LOCKING 145-400X30	Procurement Ongoing
PROFILE, EDGE PROTECTION	Procurement Ongoing
PROFILE, EDGE PROTECTION 3D	Procurement Ongoing
BUMPER,HYDRAULIC	Procurement Ongoing
BEARING,SPHERICAL ROLLER Ø260	Procurement Ongoing
SEAL,RADIAL SHAFT 480X520X20	Procurement Ongoing
SEAL,RADIAL SHAFT 300X340X18	Procurement Ongoing
SEAL,RADIAL SHAFT 290X330X18	Procurement Ongoing
BEARING,CYLINDRICAL ROLLER	Procurement Ongoing
BEARING,THRUST ROLLER Ø240	Procurement Ongoing
REDUCER,RATIO: 312	Procurement Ongoing
LOAD CELL,25000LB	Procurement Ongoing
BEARING,CYLINDRICAL ROLLER Ø80	Procurement Ongoing
REDUCER,RATIO: 784.75	Procurement Ongoing
MOTOR,DRE100L4 M1B-TBO-CEK	Procurement Ongoing
MOTOR,DRE100L4 M1A-TB180-CEX	Procurement Ongoing
REDUCER,SHAFT POS: 123	Procurement Ongoing
REDUCER,SHAFT POS: 124	Procurement Ongoing
MOTOR,100HP F1 JUNCTION BOX	Procurement Ongoing
MOTOR,100HP F2 JUNCTION BOX	Procurement Ongoing
BUFFER,CELLULAR BUFFER 160Ø	Procurement Ongoing
COUPLING,ROTARY SWITCH	Procurement Ongoing
REDUCER,KH167 RATIO 109.83	Procurement Ongoing
BUMPER,HYDRAULIC TYPE 21-150	Procurement Ongoing
BEARING,AXIAL CYLINDRICAL	Procurement Ongoing
DRIVE,VARIABLE FREQUENCY 60HP	Procurement Ongoing
POWER SUPPLY,15VDC,SINGLE	Procurement Ongoing
SHOES,COLLECTOR	Procurement Ongoing
BEARING,ROLLER,20MM ID	Procurement Ongoing
COUPLING,MAIN HOIST DRUM	Procurement Ongoing
COUPLING,AUXILIARY HOIST DRUM	Procurement Ongoing
DISC, BRAKE K 145-400X30	Procurement Ongoing
MOTOR, AXIAL PISTON	Procurement Ongoing



Critical Spare Component	Stock Status
MOTOR, AXIAL PISTON	Procurement Ongoing
MOTOR, AXIAL PISTON	Procurement Ongoing
CYLINDER, HYDRAULIC	Procurement Ongoing
CYLINDER, HYDRAULIC	Procurement Ongoing
BEARING, BALL,SINGLE 6005 2RSR	Procurement Ongoing
BEARING,ROTATING UNIT	Procurement Ongoing
BEARING, BALL - LMF NR. 6205	Procurement Ongoing
BEARING, ROLLER - LMF NU 311B	Procurement Ongoing
BEARING, CON. ROD LMF	Procurement Ongoing
BEARING, ROLLER - LMF NR20 314	Procurement Ongoing
BEARING, OUTBOARD SHAFT	Procurement Ongoing
BEARING, INBOARD SHAFT	Procurement Ongoing
TUBE, 12 X 2 6000	Procurement Ongoing
VALVE,CHECK 14 INCH BRAY	Procurement Ongoing
VALVE,CHECK 20 INCH BRAY	Procurement Ongoing
VALVE,CHECK 10 INCH 105MDT	Procurement Ongoing
VALVE,CHECK 12 INCH 105MDT	Procurement Ongoing
VALVE,PRESSURE RELIEF	Procurement Ongoing
VALVE, IN-LINE FLOW CONTROL	Procurement Ongoing
VALVE,PRESSURE RELIEF,2800PSI	Procurement Ongoing
VALVE,SFTY RLF F85-F 1.5X2	Procurement Ongoing
VALVE,SFTY RLF F85-6 0.5X1	Procurement Ongoing
VALVE,FIRE PUMP CASING RELIEF	Procurement Ongoing
VALVE,PRESS RELIEF 3L SERIES	Procurement Ongoing
VALVE,PRESS RELIEF LF530C	Procurement Ongoing
VALVE,DIRECTIONAL CONTROL	Procurement Ongoing
VALVE, SOLENOID 7/16 IN	Procurement Ongoing
SOLENOID VALVE	Procurement Ongoing
VALVE, PROP. DIRECTIONAL	Procurement Ongoing
VALVE,BALL 0.5 INCH V-CONTROL	Procurement Ongoing
VALVE,BALL 0.75 INCH V-CONTROL	Procurement Ongoing
VALVE,BALL 1 INCH V-CONTROL	Procurement Ongoing
VALVE,BALL 1.25 INCH V-CONTROL	Procurement Ongoing
VALVE,BALL 1.5 INCH V-CONTROL	Procurement Ongoing
VALVE,BALL 2 INCH V-CONTROL	Procurement Ongoing



Critical Spare Component	Stock Status
KIT, VALVE DIAPHRAGM	Procurement Ongoing
VALVE,BUTTERFLY 8 INCH	Procurement Ongoing
VALVE,BUTTERFLY 10 INCH	Procurement Ongoing
VALVE,BUTTERFLY 12 INCH	Procurement Ongoing
VALVE,BUTTERFLY 14 INCH	Procurement Ongoing
VALVE,BUTTERFLY 16 INCH	Procurement Ongoing
VALVE,BUTTERFLY 20 INCH	Procurement Ongoing
VALVE,BUTTERFLY 10 INCH	Procurement Ongoing
VALVE,PRESS REDUCING 1.5INCH	Procurement Ongoing
VALVE,PRESS REDUCING 2 INCH	Procurement Ongoing
VALVE,THERMOSTATIC ETV200	Procurement Ongoing
GASKET, K10.020	Procurement Ongoing
GASKET, 60X3 - GUMMI/RUBBER	Procurement Ongoing
GASKET, A27X32 - DIN7603-CU	Procurement Ongoing
GASKET, K8.007-3	Procurement Ongoing
GASKET, AU.050	Procurement Ongoing
GASKET, A18X24, DIN7603-AL	Procurement Ongoing
GASKET, A12X18, DIN7603-AL	Procurement Ongoing
GASKET, A22X27, DIN7603-CU	Procurement Ongoing
GASKET, DIM.1 TYPE A, OILIT	Procurement Ongoing
GASKET, VG01.007	Procurement Ongoing
GASKET, K17.004-3	Procurement Ongoing
GASKET, DICHTRING 21X27X1,5	Procurement Ongoing
GASKET, ND2.011	Procurement Ongoing
GASKET, KD.027 (DIA 185)	Procurement Ongoing
GASKET, VG01.391 (DIA 185)	Procurement Ongoing
GASKET, 105X110X2, DIN7603-CU	Procurement Ongoing
GASKET, KD.027 (DIA 150)	Procurement Ongoing
GASKET, VG01.391 (DIA 150)	Procurement Ongoing
GASKET, 94X100X1, DIN7603-CU	Procurement Ongoing
GASKET, KM.027	Procurement Ongoing
GASKET, VG01.393	Procurement Ongoing
GASKET, 57/62X1, DIN7603-CU	Procurement Ongoing
GASKET, ND1.046	Procurement Ongoing
GASKET, 55X61X1, DIN7603-CU	Procurement Ongoing
GASKET, FLANGE 4" X 1/16"	Procurement Ongoing
GASKET, FLANGE 2 1/2" X 1/16"	Procurement Ongoing
GASKET, ENCLOSURE COVER SEAL	Procurement Ongoing
GASKET	Procurement Ongoing



Critical Spare Component	Stock Status
O-RING, 380mm x 8mm, 1447933	Procurement Ongoing
O-RING, 70mm x 2mm, 49007084	Procurement Ongoing
O-RING, 60mm x 2mm, 444785	Procurement Ongoing
O-RING, 30mm x 2mm, 445653	Procurement Ongoing
O-RING, 99mm x 3mm, 445758	Procurement Ongoing
O-RING, 50mm x 2mm, 444509	Procurement Ongoing
O-RING, PRP 264-VITON	Procurement Ongoing
O-RING,PRP 345-VITON (DIA 185)	Procurement Ongoing
O-RING, PRP 264-VITON	Procurement Ongoing
O-RING,PRP 345-VITON (DIA 150)	Procurement Ongoing
O-RING, PRP 254-VITON (DIA 85)	Procurement Ongoing
O-RING, PRP 228-VITON	Procurement Ongoing
O-RING, PRP 254-VITON (DIA 48)	Procurement Ongoing
O-RING, PRP 238-VITON	Procurement Ongoing
O-RING, PRP 330-VITON	Procurement Ongoing
RING, SEAL T20 280/260 14.6	Procurement Ongoing
SEAL, OIL BASL 39-52-10	Procurement Ongoing
SEAL, OIL BA 52-80-10, VITON	Procurement Ongoing
SEAL, OIL BA 70-100-10, VITON	Procurement Ongoing
SEALS, MECHANICAL	Procurement Ongoing
SEAL, CABLE	Procurement Ongoing
SEAL,SHAFT WATER	Procurement Ongoing
SEAL,AXIAL SHAFT 560ID 15H 25W	Procurement Ongoing
J-SEAL,100X45X15 3400	Procurement Ongoing
ASSEMBLY, S1 GUIDE HEATER	Procurement Ongoing
COOLER, OIL (HEAT EXCHANGER)	Procurement Ongoing
PUMP, 2GPM SUPPLY	Procurement Ongoing
PUMP HEAD, 7GPM REVERSE	Procurement Ongoing
MOTOR, GOV. OIL PUMP	Procurement Ongoing
PUMP, GOV OIL KIDNEY	Procurement Ongoing
PUMP,MOTOR A/C D/C	Procurement Ongoing
PUMP,DIGITAL DOSING	Procurement Ongoing
PUMP,DOM WATER 90GPM	Procurement Ongoing
VALVE, DISCHARGE LMF (DIA 185)	Procurement Ongoing
VALVE, SUCTION LMF (DIA 185)	Procurement Ongoing
VALVE, DISCHARGE LMF (DIA 150)	Procurement Ongoing
VALVE, SUCTION LMF (DIA 150)	Procurement Ongoing
VALVE, DISCHARGE LMF (DIA 85)	Procurement Ongoing
VALVE, SUCTION LMF (DIA 85)	Procurement Ongoing



Critical Spare Component	Stock Status
VALVE, DISCHARGE LMF (DIA 48)	Procurement Ongoing
VALVE, SUCTION LMF (DIA 48)	Procurement Ongoing
PLATE, SPRING-SUCTION VLV 98R1	Procurement Ongoing
PLATE, DAMPER - VALVES 98R1	Procurement Ongoing
PLATE, VALVE - VALVES 98R1	Procurement Ongoing
NUT, MHT - LMF VLVS 60-07H410	Procurement Ongoing
PLATE, SPRING-SUCTION VLV 88R1	Procurement Ongoing
PLATE, DAMPER - VALVES 88R1	Procurement Ongoing
PLATE, VALVE - VALVES 88R1	Procurement Ongoing
PLATE, SPRING-DISCHAR VLV 88R1	Procurement Ongoing
PLATE, SPRING - VALVES 52R2	Procurement Ongoing
PLATE, VALVE - VALVES 52R2	Procurement Ongoing
NUT, MHT - LMF VLVS 60-05H410	Procurement Ongoing
NUT, MHT - LMF VLVS 60-06H410	Procurement Ongoing
PLATE, VALVE - SUC VLV 41CD10	Procurement Ongoing
PLATE, SPRING - SUC VLV 41CD10	Procurement Ongoing
RING, VALVE - DIS VLV 48CDD	Procurement Ongoing
SPRING, DAMPER - DIS VLV 48CDD	Procurement Ongoing
PLATE, DAMPER - DIS VLV 48CDD	Procurement Ongoing
SEPARATOR, FUEL WATER	Procurement Ongoing
ELEMENT, AIR CLEANER PRIMARY	Procurement Ongoing
ELEMENT, AIR CLEANER SECONDARY	Procurement Ongoing
CARTRIDGE, OIL SEPARATOR	Procurement Ongoing
ASSEMBLY, FHP065 NON-BYPASS	Procurement Ongoing
BEARING,WHEEL, DWS 500 EA	Procurement Ongoing
BEARING,FLANGE,40MM,UCFC208	Procurement Ongoing
BEARING,SINGLE 6308 2RSR	Procurement Ongoing
HEATER, COMPART. MAGNUM DS	Procurement Ongoing
HEATER, SPACE - HEATREX	Procurement Ongoing
KIT, FAN (205 CFM, 6" ROUND)	Procurement Ongoing
POWER SUPPLY,CP-C-24/10.0	Procurement Ongoing
PAD, BEARING, TURBINE GUIDE	Procurement Ongoing
KIT REPAIR, SERVOMOTOR	Procurement Ongoing
HOLDER,BRUSH,METRIC,POS 21	Procurement Ongoing
DEVICE, AUTO SYNCHRONIZING	Procurement Ongoing
PISTON RING	Procurement Ongoing
LAMP, UV REPLACEMENT	Procurement Ongoing
ISOLATOR, VIBRATION	Procurement Ongoing
UNIT, CONDENSATE DRAIN	Procurement Ongoing



Critical Spare Component	Stock Status
WHEEL ASSEMBLY	Procurement Ongoing
SWITCH, AIR PRESSURE (LF32-11)	Procurement Ongoing
COIL, AUX RELAY 120VAC 2901912	Procurement Ongoing
CARD, MODBUS COM. MODULE	Procurement Ongoing
VALVE, PROPORTIONAL-GV CONTROL	Procurement Ongoing
SWITCH, LEVEL FLOAT	Procurement Ongoing
TRANSMITTER, PRESSURE	Procurement Ongoing
FLOAT SWITCH LFL2-BK-U-PVC10	Procurement Ongoing
GATEWAY, SUBSTATION	Procurement Ongoing
RELAY, EMERG STOP XPSAR311144	Procurement Ongoing
RELAY, AUX STRUTHERS-DUNN	Procurement Ongoing
RELAY, AUX STRUTHERS-DUNN	Procurement Ongoing
RELAY, AUX STRUTHERS-DUNN	Procurement Ongoing
RELAY,AUX EATON	Procurement Ongoing
RELAY,AUX EATON	Procurement Ongoing
RELAY,LATCHING EATON	Procurement Ongoing
RELAY,TIME DELAY AGASTAT	Procurement Ongoing
HMI, ADVANTECH TPC-1840WP	Procurement Ongoing
KIT, HARNESS	Procurement Ongoing
HMI, MULTI TOUCH PANEL COMP.	Procurement Ongoing
TRANSMITTER, ISOLATED TEMP-T/C	Procurement Ongoing
RTD, SRG BODY/BLOWER ASSEMBLY	Procurement Ongoing
TRANSMITTER, ROTARY / ENCODER	Procurement Ongoing
KIT, LOW COOLANT LEVEL SENSOR	Procurement Ongoing
INDICATOR, DIFF PRESS ASHCROFT	Procurement Ongoing
INDICATOR, DIFF PRESS D464B	Procurement Ongoing
GAUGE, DIFF PRES ASHCROFT	Procurement Ongoing
SENSOR,TEMP MAGNETIC MOUNT	Procurement Ongoing
TRANSMITTER,LEVEL LGC	Procurement Ongoing
TRANSMITTER, LEVEL	Procurement Ongoing
SENSOR, ULTRASONICS FLOW RATE	Procurement Ongoing
FLOWMETER, 2"	Procurement Ongoing
FLOWMETER, 1 1/2"	Procurement Ongoing
RTD - DRYWELL DYNATHERM	Procurement Ongoing
METER, ELECTRONIC HOUR	Procurement Ongoing
LEVEL SWITCH MLS-4EX	Procurement Ongoing
SENSOR, CURRENT (RANGE 0 -10A)	Procurement Ongoing
SWITCH, ULTRASONIC LEVEL	Procurement Ongoing
INDICATOR, DENSITY ABB	Procurement Ongoing



Critical Spare Component	Stock Status
MONITOR, DENSITY ABB	Procurement Ongoing
DEVICE, SF6 FILLING ABB	Procurement Ongoing
DETECTOR, SF6 GAS LEAK ABB	Procurement Ongoing
MONITOR, THREE PHASE ABB	Procurement Ongoing
MONITOR,TRIP COIL E-MAX	Procurement Ongoing
SERVO LVDT RP-S-650M-D60-1-A01	Procurement Ongoing
LVDT RP-S-250M-D60-1-A01	Procurement Ongoing
RECORDER DIGITAL FAULT	Procurement Ongoing
MOTOR, 7GPM REVERSE PUMP	Procurement Ongoing
MOTOR, 1HP TECO-WEST.	Procurement Ongoing
MOTOR,ELECTRIC TEF 3PH 60HP	Procurement Ongoing
MOTOR,1.5HP,3465RPM,600V,60HZ	Procurement Ongoing
MOTOR, ASYNCHRON 3 PHASE	Procurement Ongoing
MOTOR, 20HP BROOK CROMPTON	Procurement Ongoing
MOTOR, 3-PHASE INDUCTION	Procurement Ongoing
STARTER, MOTOR	Procurement Ongoing
BUSHING,HV,GOE1425-1050 1	Procurement Ongoing
BUSHING,LV,ALAMO 25 KV	Procurement Ongoing
BUSHING,NEUTRAL,ALAMO 25 KV	Procurement Ongoing
DEVICE,PRESSURE RELIEF	Procurement Ongoing
XFMR,NEUTRAL GND 110KV BIL	Procurement Ongoing
TRANSFORMER,CT NEUTRAL TC-1093	Procurement Ongoing
TRANSFORMER,CT NEUTRAL TC-1094	Procurement Ongoing
TRANSFORMER,CT SPLIT-PHASE	Procurement Ongoing
REACTOR,LINE 8A 5MH	Procurement Ongoing
REACTOR,LINE 8A 7.5MH	Procurement Ongoing
REACTOR,LINE 18A 1.5MH	Procurement Ongoing
REACTOR,LINE 18A 2.5MH	Procurement Ongoing
REACTOR,LINE 80A 0.4MH	Procurement Ongoing
REACTOR,LINE 80A 0.7MH	Procurement Ongoing
REACTOR,LINE 100A 0.3MH	Procurement Ongoing
REACTOR,LINE 100A 0.45MH	Procurement Ongoing
RESISTOR,NEUTRAL GROUNDING	Procurement Ongoing
MOTOR,OFF LOAD TAP CHANGER	Procurement Ongoing
XFMR, 600/120 200VA MCI	Procurement Ongoing
XFMR, 600/120 100VA HAMMOND	Procurement Ongoing
XFMR, 600/120 300VA MCI	Procurement Ongoing
XFMR, 600/120 100VA MCI	Procurement Ongoing
BUSHING, LV	Procurement Ongoing



Critical Spare Component	Stock Status
BUSHING, HV	Procurement Ongoing
BUSHING, LV	Procurement Ongoing
BUSHING, HV	Procurement Ongoing
XFMR, 600/120 150VA MCI	Procurement Ongoing
ARRESTOR,SURGE, 025W0412BL	Procurement Ongoing
CHAMBER, ARCHING ABB	Procurement Ongoing
MOTOR, COMPOUND DRIVE ABB	Procurement Ongoing
BRUSHES, CARBON ABB	Procurement Ongoing
GEAR, STRAIGHT TOOTH BEVEL ABB	Procurement Ongoing
VALVE, PILOT 110-125VDC ABB	Procurement Ongoing
COILS, OPEN & CLOSE ABB	Procurement Ongoing
DRIVE, MOTOR HECS ABB	Procurement Ongoing
MOTOR, DISCONNECT DRIVE ABB	Procurement Ongoing
MOTOR, DISCONNECT GND SW ABB	Procurement Ongoing
MOTOR, GND SW GCB SIDE ABB	Procurement Ongoing
MOTOR, STATIC START SWITCH ABB	Procurement Ongoing
CONTACT, STATIONARY MAIN	Procurement Ongoing
CONTACT, MOVING MAIN	Procurement Ongoing
SWITCH,1-POLE 15KV NEUTRAL GND	Procurement Ongoing
BREAKER, CIRCUIT (MDS-616)	Procurement Ongoing
BREAKER, CIRCUIT (MDS-632)	Procurement Ongoing
BREAKER, CIRCUIT (MDS-612)	Procurement Ongoing
BREAKER, CIRCUIT (MDS-608)	Procurement Ongoing
CONTACTOR, SCHNEIDER ELECTRIC	Procurement Ongoing
ASSEMBLY, REVERSE CONTACTOR	Procurement Ongoing
RELAY,OVERLOAD	Procurement Ongoing
ASSEMBLY,MAN MOTOR START EATON	Procurement Ongoing
BREAKER, EATON HMCPS015E0S	Procurement Ongoing
ARC CHAMBER	Procurement Ongoing
SWITCH,STATIC TRANSFER,INEX	Procurement Ongoing
SELECTOR, 3 POS 800T-J2KC1ANAX	Procurement Ongoing
SWITCH, 2 POSITION KEYED	Procurement Ongoing
SWITCH, 3 POS. 800HC-JR2KD7B	Procurement Ongoing
SWITCH, 3 POS. 800FP-KM34PX11	Procurement Ongoing
SWITCH, 2 POS. 800FP-KM22PX01	Procurement Ongoing
SELECTOR, 3 POS. 800H-JR2KC1B	Procurement Ongoing
SELECTOR, 3 POS 800T-J2KC1B	Procurement Ongoing
PUSH-BUTTON, RED 800TC-A6B	Procurement Ongoing
SWITCH, OVERTRAVEL LIMIT	Procurement Ongoing



Critical Spare Component	Stock Status
RELAY, VOLTAGE MONITOR 3 PHASE	Procurement Ongoing
RELAY, GAS, MODEL 12	Procurement Ongoing
RELAY, TIMING/POWER OFF DELAY	Procurement Ongoing
BASE, RELAY - 700-HN103	Procurement Ongoing
CONTACT, AUX DPDT 500LG-142C	Procurement Ongoing
RELAY, TIME DELAY ON 11 PIN	Procurement Ongoing
RELAY, TIME DELAY UNDERVOLTAGE	Procurement Ongoing
CONTACT, PIN	Procurement Ongoing
CONTACT, SOCKET	Procurement Ongoing
RELAY.SYNCHROCHECK ABB	Procurement Ongoing
FUSE, TIME DELAY .5A LP-CC-1/2	Procurement Ongoing
FUSE, 6A/600V ABB 652-336-04	Procurement Ongoing
ARRESTER, SURGE MWD	Procurement Ongoing
LVDT CABLE DJ-200-P0	Procurement Ongoing
CAPACITOR,0.25 MICROFARAD-24KV	Procurement Ongoing
INSULATOR, PORCELAIN MR1	Procurement Ongoing
BUSHING, SILICONE RUBBER CX572	Procurement Ongoing
STRIP, STEEL NAX 30	Procurement Ongoing
STRIP, STEEL NAX 30	Procurement Ongoing
JOINT,FLEXIBLE - CX 541A	Procurement Ongoing
BAND, IRON + CLIPS SS	Procurement Ongoing
TUBE, RED SILCONE - WURTH	Procurement Ongoing
PLAIT, FLEXIBLE COPPER	Procurement Ongoing
PLAIT, FLEXIBLE COPPER	Procurement Ongoing
SENSOR, RTD TIR 409	Procurement Ongoing
SHEET, ALUMINUM SP/THK=3MM	Procurement Ongoing
SHEET, ALUMINUM SP/THK=3MM	Procurement Ongoing
GASKET, ADHESIVE ATAG 50X5	Procurement Ongoing
GASKET,SILICONE RUBBER CX 423A	Procurement Ongoing
BAR, THREADED SS M10X200	Procurement Ongoing
WASHER, PLAIN SS M10	Procurement Ongoing
NUT, SS M10	Procurement Ongoing
BOLT, EXPANSION SS TL6X65	Procurement Ongoing
SCREW, TAPPING SS 4,2X16	Procurement Ongoing
PROTECTION, ALUM SP/THK=3MM	Procurement Ongoing
SEAL, BLACK SILICONE	Procurement Ongoing
BOLT, SS TL6X65 M6X20	Procurement Ongoing
NUT, SS M6	Procurement Ongoing
WASHER, PLAIN SS M6	Procurement Ongoing



Critical Spare Component	Stock Status
WASHER, GROWER SS M6	Procurement Ongoing
PANEL, CLASS REI60	Procurement Ongoing
PUTTY, ANTIFIRE SEALING	Procurement Ongoing
SHEET, ALUMINUM SP/THK=3MM	Procurement Ongoing
SHEET, ALUMINUM SP/THK=3MM	Procurement Ongoing
SPRING, STEEL	Procurement Ongoing
GASKET, NEOPRENE SPONGE 30X5	Procurement Ongoing
GASKET, NEOPRENE SPONGE 50X5	Procurement Ongoing
GASKET, SILICONE RUBBER 10X12	Procurement Ongoing
GASKET, SILICONE RUBBER CX423	Procurement Ongoing
GASKET, SILICONE RUBBER 1100X6	Procurement Ongoing
GASKET, SILICONE RUBBER CX540	Procurement Ongoing
GASKET, SILICONE RUBBER CX539	Procurement Ongoing
ADAPTER SLEEVE 401603	Procurement Ongoing
DETECTOR, GROUND FAULT	Procurement Ongoing
SOCKET, TERMINAL	Procurement Ongoing
KIT,VOLTAGE STEP DOWN	Procurement Ongoing
SWITCH,PB ILLUMINATED RED	Procurement Ongoing
INTERLOCK,KEY	Procurement Ongoing
PANEL, TOUCH-SCREEN HMISTO501	Procurement Ongoing
ADAPTER, HIRSCHMAN	Procurement Ongoing
SWITCH, ETHERNET	Procurement Ongoing
CARD, EXPANSION 8X10/10BASET	Procurement Ongoing
CHASIS, 13 SLOT CONTROLLOGIX	Procurement Ongoing
CONTROLLER, CONTROLLOGIX 1MB	Procurement Ongoing
MODULE, DIGITAL INPUT 16 POINT	Procurement Ongoing
MODULE, RELAY OUTPUT 8 POINT	Procurement Ongoing
MODULE, ANALOG INPUT 4 POINT	Procurement Ongoing
MODULE, ANALOG OUTPUT 4 POINT	Procurement Ongoing
POWER SUPPLY, 24VDC INPUT	Procurement Ongoing
CONTROLLER, MICRO 850	Procurement Ongoing
MODULE, ANALOG INPUT 4-CH	Procurement Ongoing
MODULE, MICRO800 4CH INPUT	Procurement Ongoing
SWITCH, ETHERNET	Procurement Ongoing
HAND PROGRAMMERS 253124	Procurement Ongoing
SNUBBER	Procurement Ongoing
SWITCH,ETHERNET HIRSCHMANN	Procurement Ongoing
GATEWAY,SUBSTATION	Procurement Ongoing
CLOCK,PTP CONVERTER	Procurement Ongoing



Critical Spare Component	Stock Status
SWITCH,ETHERNET ALSTOM	Procurement Ongoing
MODULE, STRATIX CONNECTIVITY	Procurement Ongoing
CLOCK,PTP CONVERTER	Procurement Ongoing
HORN STROBE, WEATHER PROOF	Procurement Ongoing
STROBE	Procurement Ongoing
DETECTOR, HEAT 135F	Procurement Ongoing
DETECTOR, REFLECTIVE BEAM	Procurement Ongoing
CONTROLLER, 4100 MASTER	Procurement Ongoing
ANNUNCIATOR, 4100 REMOTE	Procurement Ongoing

¹ A detailed listing of all critical spares for Muskrat Falls Generation is available within Appendix H of "Reliability and Resource Adequacy Study Review - 2025–2026 Winter Readiness Planning Report," Newfoundland and Labrador Hydro, October 14, 2025. ("October WR Report").

Appendix H

Status of Winter Readiness Testing of Plant and Equipment for Muskrat Falls Generation



Muskrat Falls Hydroelectric Generating Station 23-Oct-25

newfoundland labrador		Muskra	Muskrat Falls Hydroelectric Generating Station	ctric Generating	g Station	
			23-0	23-Oct-25		
			Status	Status of Test		
	Unit 1	Unit 2	Unit 3	Unit 4	Balance of Plant System	Spillway
Following Annual Outages, Unit is Run Up, Synchronized and all Systems Verified Before Operating Status Determined, as per Energy Control Centre, Prior to Coming Winter Operating Season to Ensure Preparedness. A Unit Load Test is Performed at this Time.	n/s	>	>	n/s	N/A	N/A
All Alternate Sources of Station Service Tested and Available	s/n	`	>	>	>	Nov-25
Service Air and Instrument Air Systems Compressors						
All Stationary Air Compressors Available	A/N	N/A	N/A	N/A	>	N/A
Air Compressor Operational Checks Performed (e.g., Oil Levels, etc.)	N/A	N/A	N/A	N/A	`	N/A
Air Compressor Sequencing Capability Available	N/A	N/A	N/A	N/A	>	N/A
High Pressure Compressors Available	N/A	N/A	N/A	N/A	^	N/A
Low Pressure Compressor Available	N/A	N/A	V/N	V/N	<i>></i>	N/A
Brake air pressure system & Alternate source's functional	^	1	^	^	/	N/A
Instrumentation Control's functional and Alarms Operational	^	1	^	^	,	N/A
Turbine/Generator ("TG") Cooling Water Systems						
Service Water Pumps Available	N/A	N/A	W/A	N/A	<i>></i>	N/A
Shaft seal sand filter skids functional	N/A	N/A	W/A	N/A	·	N/A
Shaft Seal System Available	^	1	^	^	~	N/A
Cooling Water System Available	`	^	`	>	>	N/A
Cooling Water Strainers Inspected and Available	/	1	^	^	,	N/A
Raw water Bypass strainer function tested	<i>></i>	<i>></i>	^	>	N/A	N/A
TG Governor System						
Unit HMI's functional & alarms cleared	>	^	^	^	N/A	N/A
Hydraulic System Accumulators Operational	<i>^</i>	/	<i>^</i>	<i>^</i>	N/A	N/A
Governor System Annual PM Complete	s/n	1	^	>	N/A	N/A
Governor System Available	<i>^</i>	<i>></i>	<i>^</i>	^	N/A	N/A
Hydraulic Pump(s) Available	<i>></i>	<i>></i>	<i>^</i>	^	N/A	N/A
Generator						
Generator Exciter Operation Checked Offline and Online	n/s	/	^	^	N/A	N/A
Generator Exciter Available	<i>^</i>	1	^	^	N/A	N/A
Brush Condition Verified	`	,	`>	>	N/A	N/A
Excitation ground fault monitor operational & clear	s/n	1	^	^	N/A	N/A

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✓ - Test completed N/A - Not Applicable

Muskrat Falls Hydroelectric Generating Station 23-Oct-25

Status of Test

hydro hydro

			2000			
	Unit 1	Unit 2	Unit 3	Unit 4	Balance of Plant System	Spillway
Lubricating System						
Portable Oil Pump (Jacking)	>	>	>	>	N/A	N/A
Generator Oil Level System Metering Available	>	>	>	>	N/A	N/A
Turbine Oil Level System Metering Available	>	>	>	>	N/A	N/A
Alternating Current High Pressure Jacking Oil Pump Available Automatic	<i>></i>	>	>	>	N/A	N/A
Switchyard/Terminal Station						
Unit Breakers and Disconnects Operational	n/s	>	>	>	N/A	N/A
Unit Breaker PM Complete	s/n	>	,	>	N/A	N/A
Intake						
Water elevation monitoring functional	>	>	>	>	N/A	N/A
Trashrack System	>	>	>	>	N/A	N/A
Gate Operation	>	>	>	>	N/A	N/A
Gate Heating System	>	>	>	>	N/A	N/A
Alarm Systems	>	>	>	>	N/A	N/A
Upstream Ice boom removed	N/A	N/A	N/A	N/A	N/A	^
Spillway						
Water Elevation	N/A	N/A	N/A	N/A	N/A	<i>></i>
Gate Heating	N/A	N/A	N/A	N/A	N/A	<i>></i>
Gate Operation	N/A	N/A	N/A	N/A	N/A	<i>></i>
Emergency (Backup) Diesel Generator	N/A	N/A	N/A	N/A	N/A	<i>></i>
Emergency Lift Operation and Tested	N/A	N/A	N/A	N/A	N/A	^
Battery Banks Chargers						
Plant 48V System						
48 V Battery Banks Checked	/	^	^	^	/	<i>></i>
48 V Battery Chargers functional	<i>^</i>	^	<i>^</i>	^	/	^
48 V Battery Charger alternate sources available	^	^	^	<i>></i>	<i>></i>	^
Plant 125 V System						
125 V Battery Banks Checked	^	^	^	^	^	^
125 V Battery Chargers functional	<i>^</i>	^	^	^	/	^
125 V Battery Charger alternate sources available	>	>	>	>	>	>
Plant Uninterrupted Power Supplies ("UPS")						
Emergency Light UPS	N/A	N/A	N/A	N/A	>	`
UPS Power Supplies (Inverter #1)	N/A	N/A	N/A	N/A	^	^
UPS Power Supplies (Inverter #2)	N/A	N/A	N/A	N/A	^	,

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N/A - Not Applicable

hydrol abrador hydrol

Muskrat Falls Hydroelectric Generating Station 23-Oct-25

Status of Test

	Unit 1	Unit 2	Unit 3	Unit 4	Balance of Plant System	Spillway
Emergency Diesel Generators						
Emergency Diesel Generators Tested for Emergency Stop	N/A	N/A	N/A	N/A	>	>
Emergency Diesel Generators Tested for Manual and Auto-Start Operation		:		:	`	
along with Auto Breaker Closure as well as Emergency Manual Closing of	N/A	V/N	V/N	N/A	>	>
Alternate Alternating Current Sources Available	^	>	^	,	`	>
Station Services Available	>	>	>	>	>	>
Transfer Alternate Source	^	>	>	>	`	>
Plant Air Conditioning/Cooling System						
Mezzanine 2	N/A	N/A	N/A	N/A	>	N/A
Mezzanine 1	N/A	N/A	N/A	N/A	`	N/A
Control room	N/A	N/A	N/A	N/A	`	N/A
Generation floor/ Mimic panel functional	N/A	N/A	N/A	N/A	`	N/A
Turbine floor	N/A	N/A	N/A	N/A	`	N/A
Dewatering gallery	N/A	N/A	N/A	N/A	^	N/A
Plant Heating Steam						
All Systems Operational for when Required	>	>	>	`	>	>
Heat recovery units operational	>	>	>	>	N/A	N/A
Stairwell heaters operational	^	>	>	`	`	>
Trench heat trace operational	N/A	N/A	N/A	N/A	^	>
Gear box heaters operational	N/A	N/A	N/A	N/A	^	>

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✓ - Test completed N/A - Not Applicable