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April 1, 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: Capital Expenditures and Carryover Report for the Year Ended December 31, 2024

Enclosed please find Newfoundland and Labrador Hydro's ("Hydro") "Capital Expenditures and Carryover Report for the Year Ended December 31, 2024," filed pursuant to the Board of Commissioners of Public Utilities ("Board") Order No. P.U. 35(2023), and in compliance with Section 41(4) of the *Public Utilities Act*.

This report provides information on Hydro's capital expenditures for all programs and projects proposed and approved as part of its "2024 Capital Budget Application"¹ and additional supplemental capital budgets approved by the Board. As per the "Capital Budget Application Guidelines (Provisional),"² this report provides key performance indicator data as well as details and explanations regarding the reportable variances between budgeted and actual expenditures for programs and projects with expenditures in the 2024 year. This report also provides a listing of budget carried over to future years and specific details regarding the execution of the Remove Safety Hazards (2024) – Various program, the Perform Software Upgrades and Minor Enhancements (2024) program, various In-Service Failures programs, the Boiler Condition Assessment and Miscellaneous Upgrades (2024) – Holyrood program, and the Major Condition Assessment and Miscellaneous Refurbishments Synchronous Condensers 1 and 2 (2023–2024) – Wabush Terminal Station program.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Shirley A. Walsh
Senior Legal Counsel, Regulatory
SAW/kd

¹ "2024 Capital Budget Application," Newfoundland and Labrador Hydro, rev. September 21, 2023 (originally filed July 12, 2023).

² "Capital Budget Application Guidelines (Provisional)," Board of Commissioners of Public Utilities, January 2022.

Encl.

ecc:

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Capital Expenditures and Carryover Report

For the Year Ended December 31, 2024

April 1, 2025

A report to the Board of Commissioners of Public Utilities



Contents

1.0	Overview	1
1.1	Expenditures	1
1.2	Expenditures Compared to Approved Budget	3
1.3	Carryover.....	4
1.4	Key Performance Indicators.....	4
2.0	Capital Budget versus Actual Expenditures 2015–2024	5
2.1	Actual Expenditure Variances from Estimates.....	8
2.2	Work Required to Address In-Service Failures	8
2.3	Work Required to Address Condition Assessments.....	9
2.4	Changes within Continuing Multi-Year Projects	9
2.5	Cancelled Project Scopes of Work	11
2.6	Deferred Project Scopes of Work	12
2.7	Re-Pacing of Programs	12
2.8	Modified Scopes of Work.....	14
3.0	Key Performance Indicators.....	14
3.1	Project Key Performance Indicators	15
3.1.1	Planned versus Completed Projects by Year and Materiality Threshold.....	15
3.1.2	Budget versus Actual Expenditures by Year and Materiality Threshold.....	23
3.2	Program Key Performance Indicators	28
3.2.1	Planned versus Completed Units by Year and Materiality Threshold	29
3.2.2	Estimated versus Actual Weighted Average Unit Cost	32
4.0	Variance Explanations.....	36
4.1	Renewal.....	37
4.1.1	In-Service Failures (2024).....	37
4.1.2	Approved Budgets Over \$5 Million.....	38
4.1.3	Approved Budgets Between \$1 and \$5 Million	44
4.1.4	Approved Budgets Under \$1 Million.....	54
4.2	General Plant	56
4.2.1	Approved Budgets Over \$5 Million.....	56
4.2.2	Approved Budgets Between \$1 Million and \$5 Million	57

4.2.3	Approved Budgets Under \$1 Million.....	59
4.3	System Growth.....	61
4.3.1	Approved Budgets Over \$5 Million.....	61
4.4	Access.....	62
4.4.1	Approved Budgets Between \$1 Million and \$5 Million	62
4.5	Service Enhancement.....	63
4.5.1	Approved Budgets Over \$5 Million.....	63
4.5.2	Approved Budgets Between \$1 Million and \$5 Million	65
4.5.3	Approved Budgets Under \$1 Million.....	66
4.6	Mandatory	66
4.6.1	Approved Budgets Between \$1 Million and \$5 Million	66
4.6.2	Approved Budgets Under \$1 Million.....	67
4.7	Allowance for Unforeseen	67
5.0	Lease/Purchase Approval Approach	67
6.0	Carryover Report.....	68
7.0	Conclusion.....	69

List of Appendices

Appendix A: Financial Schedules

Appendix B: Program Scope Details 2024

1 **1.0 Overview**

2 This report is filed pursuant to correspondence from the Board of Commissioners of Public Utilities
3 (“Board”) in Board Order No. P.U. 35(2023), and in compliance with Section 41(4) of the *Public Utilities*
4 *Act*; it provides information on Newfoundland and Labrador Hydro’s (“Hydro”) capital expenditures for
5 all programs and projects proposed and approved as part of the 2024 Capital Budget Application
6 (“CBA”).¹ As noted within this report, information is also provided on capital expenditures related to
7 additional supplemental capital budgets approved by the Board. As per the “Capital Budget Application
8 Guidelines (Provisional)” (“Provisional Guidelines”),² this report provides key performance indicator
9 (“KPI”) data as well as details and explanations regarding the reportable variances between budgeted
10 and actual expenditures for programs and projects with expenditures in the 2024 calendar year.
11 Appendix A provides the variances by investment classification and Appendix B provides specific details
12 regarding the execution of the following programs:

- 13 • Remove Safety Hazards (2024);
- 14 • Perform Software Upgrades and Minor Enhancements (2024);
- 15 • In-Service Failures for various asset categories;
- 16 • Boiler Condition Assessment and Miscellaneous Upgrades (2024) – Holyrood; and
- 17 • Major Condition Assessment and Miscellaneous Refurbishments Synchronous Condensers 1
18 and 2 (2023–2024) – Wabush Terminal Station.

19 **1.1 Expenditures**

20 Hydro’s 2024 capital expenditures totalled \$154.2 million. Renewal of existing assets was the largest
21 driver of investment in 2024, accounting for \$108.1 million in 2024. General Plant and Service
22 Enhancement investments accounted for \$20.6 million and \$9.2 million, respectively, followed by
23 System Growth (\$6.8 million), Access (\$6.6 million), and Mandatory investments (\$2.9 million).

¹ “2024 Capital Budget Application,” Newfoundland and Labrador Hydro, rev. September 21, 2023 (originally filed July 12, 2023).

² “Capital Budget Application Guidelines (Provisional),” Board of Commissioners of Public Utilities, January 2022.

1 The thermal generation equipment and infrastructure at the Holyrood Thermal Generating Station
2 (“Holyrood TGS”) required 2024 expenditures totalling \$40.0 million, including:

- 3 • \$19.8 million for the overhaul of the Units 1 and 2 turbine, valves and generators, that included
4 replacement of turbine blades;
- 5 • \$7.9 million for the condition assessment and upgrades of the three boilers;
- 6 • \$4.6 million to address in-service failures; and
- 7 • \$4.3 million to inspect and refurbish Fuel Oil Storage Tanks 1 and 4.

8 Invested capital for terminal station infrastructure was \$28.0 million, including:

- 9 • \$8.3 million for the 2023–2024 terminal station renewal program;
- 10 • \$5.0 million in circuit breaker replacements and refurbishments;
- 11 • \$4.8 million in upgrades at the Wabush Terminal Station; and
- 12 • \$2.5 million to address in-service failures.

13 Expenditures to maintain Hydro’s hydraulic generation equipment and infrastructure across the
14 province totalled \$20.7 million and included:

- 15 • \$6.7 million to complete early works for the Penstock 1 life extension;
- 16 • \$5.5 million for the ongoing refurbishment of Ebbegunbaeg Control Structure;
- 17 • \$3.0 million to address in-service failures; and
- 18 • \$1.6 million to replace the powerhouse station service panel at Upper Salmon Hydroelectric
19 Generating Station (“Upper Salmon”).

20 Capital expenditures for distribution assets totalled \$16.3 million and included:

- 21 • \$6.3 million for distribution system in-service failures, miscellaneous upgrades, and street lights;
- 22 • \$6.1 million to provide service extensions;
- 23 • \$1.9 million for the voltage conversion of Labrador City Line L22; and
- 24 • \$1.7 million for upgrades to address worst performing feeders.

1 Diesel generation required 2024 expenditures totalling \$10.2 million, including:

- 2 • \$4.6 million for the replacement of various diesel gensets;
- 3 • \$2.0 million to address in-service failures;
- 4 • \$1.3 million for various diesel unit overhauls; and
- 5 • \$1.1 million to replace the powerhouse building exterior for the Postville Diesel Generating
- 6 Station.

7 Invested capital for combustion turbine (“CT”) generation was \$10.0 million, including:

- 8 • \$7.1 million to address in-service failures; and
- 9 • \$2.5 million to perform the combustor inspection and refurbishment for the Holyrood CT.

10 Hydro’s total capital expenditures of \$154.2 million included unplanned additional work totalling
11 approximately \$27.5 million. Unplanned expenditures included \$2.2 million under the scope of
12 supplemental projects approved in 2024 and a net \$25.3 million more than budget for work to address
13 in-service failures³ and unforeseen levels of required refurbishment identified during planned condition
14 assessments in 2024.

15 **1.2 Expenditures Compared to Approved Budget**

16 Actual expenditures in Hydro’s overall capital campaign for 2024 were over budget by \$20.0 million
17 (14.9%). Hydro completed an analysis of 2024 capital expenditure variances to determine the categories
18 and main drivers of under- and over-expenditure variances from the approved capital budget.

19 The primary driver of capital program and project over-expenditures in 2024 was planned work
20 completed at a net higher cost than the original budget estimates. Most of these over-expenditures are
21 attributed to materials and construction contracts that exceeded the budget estimates, which are due
22 to a general shift in market pricing. Unplanned work completed to address in-service failures, at net
23 higher costs than budgeted, was also a significant contributor to over-expenditures. Similarly,

³ Includes expenditures completed under the Distribution System In-Service Failures, Miscellaneous Upgrades, and Street Lights (2024) program.

1 unanticipated work that was required to address findings of condition assessments, at net higher costs
2 than budgeted, also contributed to over-expenditures.

3 The primary driver of capital program and project under-expenditures in 2024 was work paused to
4 reassess justification or re-evaluate the cost of alternative solutions. Hydro canceled scopes of work in
5 2024 that were no longer justified. In other cases, Hydro confirmed the justification and least-cost
6 alternatives and resumed the work, but with delayed expenditures. Carryover of work as a result of
7 challenges scheduling design and construction labour resources was also a significant contributor to
8 2024 under-expenditures.

9 Sections 2.0 and 4.0 of this report provide more details on under- and over-expenditures.

10 **1.3 Carryover**

11 In 2024, Hydro carried over \$29.7 million of budget to future years; this includes carryover of
12 \$12.6 million associated with the deferred completion of scopes previously planned for completion in
13 2024 and \$17.1 million associated with reallocation of cost-flow within the years of approved projects
14 and programs. For comparison, the average carryover amount for the previous nine years 2015–2023
15 was \$26.6 million. Section 6.0 provides the overall carryover amount for the ten years 2015–2024.

16 Hydro’s analysis of 2024 expenditures concluded that the main drivers of carryover from 2024 to future
17 years are:

- 18 • Unforeseen challenges that arose during the detailed planning and design stage of work scopes;
- 19 • Work delayed as a result of challenges scheduling design and construction labour resources;
- 20 • Work paused to reassess justification or re-evaluate the cost of alternative solutions;
- 21 • Unavailability of equipment outages required to safely complete work scopes; and
- 22 • Delayed delivery of new equipment from vendors.

23 **1.4 Key Performance Indicators**

24 As set out in the Provisional Guidelines approved by the Board, Hydro has introduced a summary of KPIs
25 for capital expenditures specific to projects and programs in Section 3.0 of this report. The Provisional
26 Guidelines require the inclusion of ten years of data for each KPI. The Provisional Guidelines introduced
27 a new definition for programs and, as Hydro did not track the required metrics for each indicator prior

1 to the approval of the Provisional Guidelines, Hydro has provided this data beginning with 2023 and will
 2 continue to add data with each subsequent annual report.

3 **2.0 Capital Budget versus Actual Expenditures 2015–2024**

4 Appendix A provides a summary of capital expenditures related to programs and projects that were
 5 active in 2024, with associated expenditures broken out annually for the periods 2020–2024 (actual) and
 6 2025 and beyond (forecast). Table 1 and Chart 1 provide a summary of Hydro’s capital budget variances
 7 for the years 2015–2024.

Table 1: Capital Budget vs. Actual Expenditures 2015–2024

Year	Approved Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)	Variance (%)
2024	134,200	154,176	19,976	14.9
2023	146,403	148,876	2,473	1.7
2022	138,136	103,408	(34,728)	(25.1)
2021	136,304	113,492	(22,812)	(16.7)
2020	134,752	87,555	(47,197)	(35.0)
2019	164,194	126,575	(37,619)	(22.9)
2018	213,050	156,985	(56,065)	(26.3)
2017	340,501	340,741	240	0.1
2016	350,601	203,941	(146,660)	(41.8)
2015	311,177	125,119	(186,058)	(59.8)

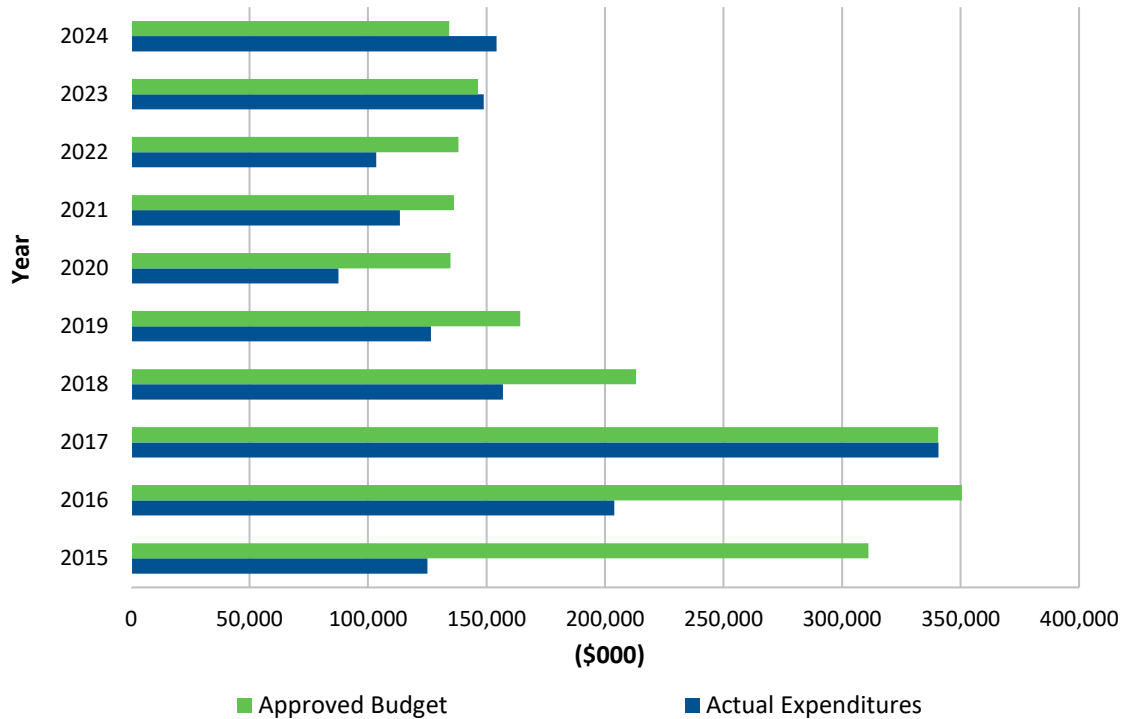


Chart 1: Capital Budgets vs. Actual Expenditures 2015–2024

1 In 2024, actual expenditures were above budget in Hydro’s overall capital campaign by \$20.0 million
 2 (14.9%), as shown in Table 1 and Chart 1. Variance explanations for individual projects and programs are
 3 provided in Section 4.0. Hydro completed an overall analysis of the expenditure variances for the 2024
 4 capital campaign to determine the major drivers or categories of variances from the approved capital
 5 budget.

6 The main drivers of the 2024 program and project over-expenditures were identified as:

- 7 • Work completed for a net higher cost than the original budget estimates;
- 8 • Work completed to address in-service failures at a net higher cost than budgeted; and
- 9 • Work completed to address the findings of condition assessments at a net higher cost than
 10 budgeted.

- 1 The main drivers of the 2024 program and project under-expenditures were identified as:
 - 2 • Work paused to reassess justification or re-evaluate the cost of alternative solutions, resulting in
 - 3 cancelled or delayed expenditures; and
 - 4 • Carryover of work as a result of challenges scheduling design and construction labour resources.
- 5 The results of Hydro’s analysis are summarized in Chart 2 and discussed in more detail herein.⁴

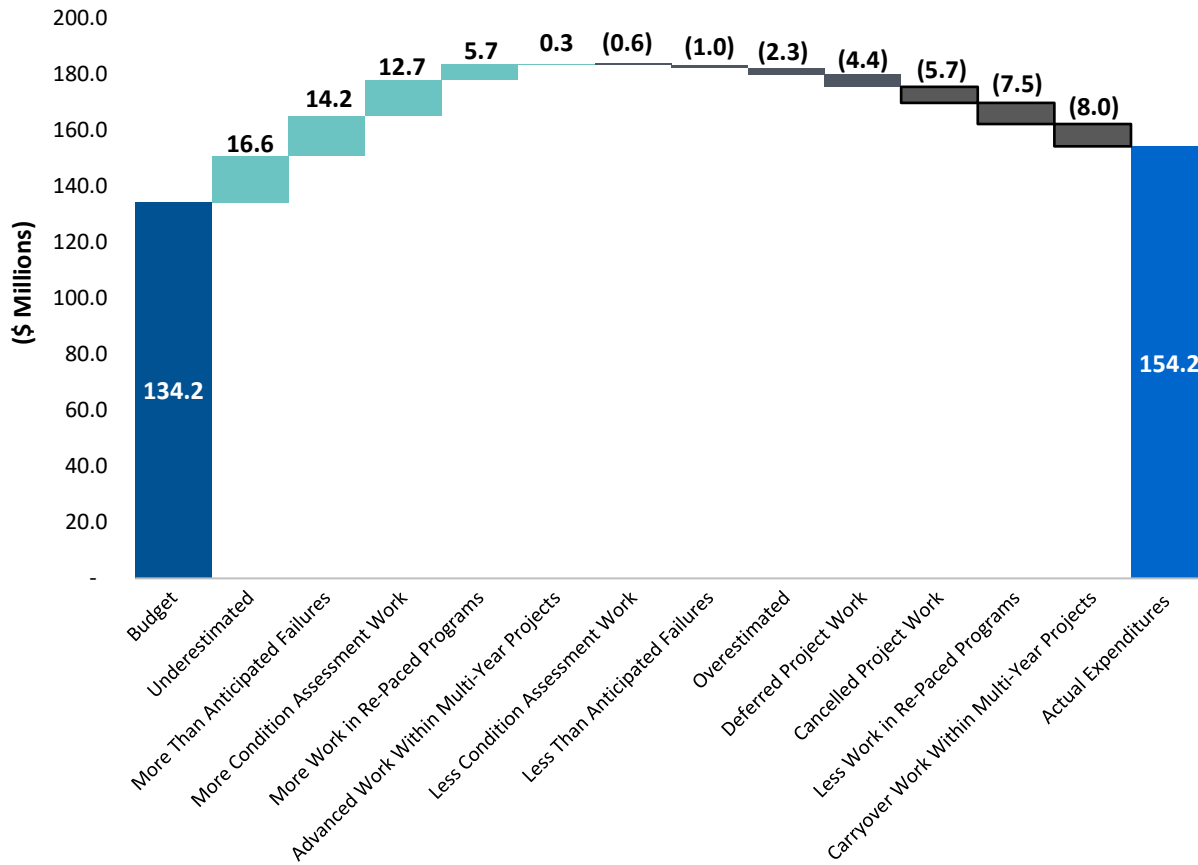


Chart 2: Analysis of 2024 Budget to Actual Capital Expenditures⁵

⁴ Projects and programs with a material variance (at least \$100,000 and 10%) are listed within their respective sections herein. Per the Provisional Guidelines, variance explanations for underspent projects and programs are not required; however, underspent projects and programs are listed and a brief description of the factors contributing to underspend are provided within this section.

⁵ Numbers may not add due to rounding.

1 **2.1 Actual Expenditure Variances from Estimates**

2 As shown in Chart 2, capital program and project work completed in 2024 for more than the original
3 budget estimates accounted for approximately \$16.6 million of over-expenditure and work completed in
4 2024 for less than the original budget estimates accounted for \$2.3 million in under-expenditure, for a
5 net over-expenditure of \$14.2 million associated with estimates. The majority of these over-
6 expenditures associated with estimates are attributed to materials and construction contracts that
7 exceeded the budget estimates, which may be indicative of a general shift in market pricing.

8 The programs and projects with material over-expenditures are:

- 9 • Refurbish Ebbegunbaeg Control Structure (2021–2025);
- 10 • Replace Metering System (2022–2024);
- 11 • Wabush Terminal Station Upgrades (2021–2024);
- 12 • Wood Pole Line Management (2024);
- 13 • Overhaul Unit 2 Turbine and Valves (2023) – Holyrood;
- 14 • Replace Protective Relays (2023–2024);⁶
- 15 • Circuit Breakers Renewal Program (2023–2024).

16 **2.2 Work Required to Address In-Service Failures**

17 In-Service Failures programs for various asset classifications have undefined scopes of work at the time
18 of budget estimate preparation. Budget estimates for these programs are typically based on historical
19 expenditures and engineering judgement. As well, Hydro’s annual capital budget includes \$1.0 million in
20 the Allowance for Unforeseen Items account, as another mechanism for expenditures to address in-
21 service failures.

22 In 2024, as shown in Chart 2, programs to address failures with expenditures in excess of the estimates
23 accounted for \$14.2 million in over-expenditures. There were no programs for in-service failures in 2024
24 with fewer expenditures than estimated in 2024. The \$1.0 million in Chart 2 represents the Allowance
25 for Unforeseen Items account, which was not utilized in 2024. The net over-expenditure for work to

⁶ Replace Protective Relays (2023–2024) was a sub-program within the Terminal Station Renewal Program (2023–2024).

1 address in-service failures was therefore \$13.2 million. The programs in this category with material over-
2 expenditures are:

- 3 • Gas Turbine In-Service Failures (2024);
- 4 • Distribution System In-Service Failures, Miscellaneous Upgrades, and Street Lights (2024);
- 5 • Diesel In-Service Failures (2024);
- 6 • Hydraulic In-Service Failures (2024);
- 7 • Terminal Station In-Service Failures (2024); and
- 8 • Thermal In-Service Failures (2024).

9 **2.3 Work Required to Address Condition Assessments**

10 Some programs and projects involve taking assets out-of-service for condition assessment to determine
11 the extent of refurbishment required. For these programs and projects, budget estimates are typically
12 based on historical expenditures and engineering judgement. In 2024, as shown in Chart 2, programs
13 and projects required to address condition assessments with expenditures in excess of the estimates
14 accounted for \$12.7 million in over-expenditures and programs and projects of this nature with fewer
15 expenditures than estimated accounted for \$0.6 million in under-expenditures, for a net over-
16 expenditure of \$12.1 million. The programs and projects in this category with material over-
17 expenditures are:

- 18 • Overhaul Unit 1 Turbine, Valves and Generator (2024) – Holyrood;
- 19 • Boiler Condition Assessment and Miscellaneous Upgrades (2024) – Holyrood; and
- 20 • Holyrood Fuel Tank 1 Inspection and Refurbishment (Supplemental).⁷

21 **2.4 Changes within Continuing Multi-Year Projects**

22 Schedule changes are made to some multi-year projects without affecting the project completion date
23 but impacting the annual cost flow. As shown in Chart 2, expenditures that are now expected to be
24 incurred in future years within multi-year projects accounted for \$8.0 million in 2024 under-

⁷ In Board Order No. P.U. 30(2022), the Board approved Hydro's request to modify Order No. P.U. 24(2022) to approve the refurbishment of Tank 1 rather than Tank 2.

1 expenditures while costs advanced from future years into 2024 accounted for \$0.3 million in over-
2 expenditures, for a net under-expenditure of \$7.7 million.⁸

3 Two main drivers of changes within continuing multi-year projects have been identified.

4 **1) Design and Construction Resource Challenges:** Some activities in multi-year projects have
5 carried over to 2025 as a result of challenges recruiting, retaining and scheduling internal design
6 and construction resources. The projects with material under-expenditures due to resource
7 challenges are:

- 8 • **Additions for Load - Wabush Substation Upgrades:** Construction planned for 2024
9 was not completed due to a re-alignment of internal and external labour resources
10 causing a delay with civil construction and downstream procurement activities. The
11 civil design was originally to be completed internally but internal resources were
12 over-committed. The delay in transferring this to external resources and subsequent
13 challenges in competing the required field survey resulted in carryover.
- 14 • **Replace MDR8000 Microwave Radios:** Internal telecommunications labour
15 resources were not available to complete testing of the microwave communications
16 system that was required before ordering some of the materials for the new radio
17 system. Procurement costs originally expected in 2024 are now expected in 2025.

18 **2) Work Paused to Reassess Justification or Re-evaluate Alternatives:** When information comes
19 available during execution of a project that may impact the project justification or change the
20 least-cost alternative solution, Hydro may pause the project for further assessment of the
21 justification or re-evaluation of alternatives. Such pauses have resulted in carryover of
22 expenditures within some multi-year projects. The projects with material 2024 under-
23 expenditures of this nature are:

- 24 • **Purchase Spare Generator Step-Up (“GSU”) Transformer:** Hydro issued a tender in
25 the spring of 2024 which resulted in no compliant bidders. In accordance with public
26 procurement legislation, Hydro proceeded to re-tender the GSU transformer
27 specification. On evaluation of tender bids received, Hydro determined that there

⁸ Numbers may not add due to rounding.

1 was one compliant bid. Due to increased commodity pricing, current original
2 equipment manufacturer (“OEM”) shop loading, and the specific arrangement
3 required for the spare GSU transformer to be able to be utilized in various locations,
4 there was a significant forecast cost increase for this project. In January 2025, Hydro
5 paused the project to confirm justification and subsequently submitted a request to
6 the Board to change or modify Board Order No. P.U. 28(2023)—Approval of Capital
7 Expenditures for the Purchase of a Spare GSU Transformer—to account for the
8 higher cost. Approval was received in Board Order No. P.U. 8(2025) and Hydro is
9 proceeding with the project. The project pause resulted in the initial transformer
10 procurement payment carrying over from 2024 to 2025.

- 11 • **Replace VHF⁹ Radio System:** The scope of this 2024-2025 project is to replace the
12 functionality previously provided by the VHF radio system with a combination of
13 mobile and fixed PTT¹⁰-capable satellite phones as well as a small number of fixed
14 cellular phones. During detailed project planning in 2024, Hydro became aware of
15 recent changes in technology that may impact the selection of the type of
16 equipment to replace the VHF Radio system. Time required to further evaluate
17 solutions has resulted in carryover of a portion of the procurement and equipment
18 installation activity from 2024 to 2025.¹¹

19 **2.5 Cancelled Project Scopes of Work**

20 Following approval by the Board, projects may be cancelled in whole, or in part, when new information
21 or conditions impact the original project justification. As shown in Chart 2, cancelled scopes of work
22 resulted in approximately \$5.7 million in 2024 under-expenditure. There were three projects with
23 material cancelled scopes:

- 24 • Upgrades for Future Retirement of Stephenville Gas Turbine (2021–2022);
- 25 • Refurbish Superstructure (2023–2024) – Salmon River Spillway; and
- 26 • Replace Diesel Shop Building (2023–2025) – Bishop’s Falls.

⁹ Very high frequency (“VHF”).

¹⁰ Push-to-talk (“PTT”).

¹¹ Hydro will notify the Board of any material change in scope or budget.

2.6 Deferred Project Scopes of Work

As shown in Chart 2, several projects planned for completion in 2024 have had scopes of work carried over to 2025, resulting in 2024 under-expenditures of \$4.4 million. Two main themes related to these deferrals were identified:

1) Planning and Design Challenges: During the detailed planning and design phase of projects, Hydro sometimes encounters unforeseen challenges that delay the execution. The following project encountered significant challenges that resulted in material carryover of expenditures from 2024 to 2025:

- Upgrade Water and Fire Suppression Systems (2023-2024) – Bishop's Falls

2) Equipment Outages Not Available: A portion of Hydro's capital project scopes of work require equipment outages to safely complete the work. At times, due to system conditions, it is not possible for equipment outages to proceed, resulting in the carryover of work. The following project could not be executed in 2024 due to unavailability of the required equipment outage, resulting in material carryover of expenditures from 2024 to 2025:

- **Inspect Fuel Tank (2024) – Hardwoods Gas Turbine:** The inspection of the fuel storage tank for the Hardwoods Gas Turbine requires all fuel to be removed from the tank. It was originally anticipated that enough fuel would be consumed at Hardwoods and Holyrood gas turbines through the winter of 2023–2024 to allow remaining fuel at Hardwoods to be transferred to Holyrood in 2024. However, the gas turbines did not operate as much as anticipated and there remained too much fuel in the Hardwoods tank in 2024. The work has been deferred from 2024 to 2025.

2.7 Re-Pacing of Programs

The pace of work within programs impacted Hydro's 2024 capital expenditures. As shown in Chart 2, programs with less work completed in 2024 compared to the budget estimate accounted for an under-expenditure of \$7.5 million while programs with more work completed in 2024 compared to the budget estimate accounted for an over-expenditure of \$5.7 million, for a net under-expenditure of \$2.0 million.¹² Three main drivers of the re-pacing of program work to future years have been identified.

¹² Numbers may not add due to rounding.

1 **1) Supply Chain Challenges:** Supply chain challenges resulted in the delayed delivery of some new
2 equipment, preventing Hydro from completing capital work for some programs in 2024. In
3 particular, Hydro is experiencing long lead times for diesel gensets and heavy-duty vehicles,
4 impacting program pacing. The programs with material under-expenditures due to delayed
5 delivery of equipment are:

- 6 • **Diesel Genset Replacement Unit 2012 – L'Anse-Au-Loup:** Delayed delivery of the new
7 genset; and
- 8 • **Replace Light- and Heavy-Duty Vehicles (2023–2025):** Delayed delivery of the new
9 heavy-duty vehicles.

10 **2) Design and Construction Resource Challenges:** Some capital program activities have carried
11 over to 2025 as a result of challenges scheduling internal design and construction labour
12 resources or securing external resources. The programs with material under-expenditures due
13 to resource challenges are:

- 14 • **Replace Protective Relays (2024–2025):** Hydro is experiencing challenges in scheduling
15 sufficient internal and external protection and control resources, for both engineering
16 and construction, leading to the carryover of some scopes of work within the Replace
17 Protective Relays program.
- 18 • **Perform Software Upgrades and Minor Enhancements (2024):** Hydro depends on
19 software vendors for the upgrade of externally designed software systems and, at times,
20 the vendor's resources are unavailable to complete scheduled upgrades. This was the
21 case for a portion of the planned upgrades within the Perform Software Upgrades and
22 Minor Enhancements (2024) program.
- 23 • **Upgrade Energy Management System (2024):** Hydro depends on the software vendor
24 for the upgrade of its Energy Management System. The vendor's resources were
25 unavailable to complete the scheduled upgrades in 2024.

26 **3) Work Paused to Reassess Justification:** When information comes available during execution of
27 program scopes of work that may impact the project justification, Hydro may pause the work for
28 further assessment of the justification. There was one program in this category that had a
29 material under-expenditure in 2024:

- 1 • **Renew Distribution Feeders (2024–2025):** This program to renew the St. Brendan’s
2 distribution feeder was paused in 2024 to confirm the justification. In 2024, there was
3 uncertainty regarding the future electrical system requirements for St. Brendan’s,
4 following reports that the community’s fuel oil supplier may no longer deliver to
5 residential customers in the area. Any significant electrical system load changes would
6 have meant that the current system design may not meet future requirements. As a
7 result of this pause, the planned setting of wood poles has carried over from 2024 to
8 2025.

9 The decreased pacing of some programs in 2024 was partially offset by higher pacing of other programs.

10 The programs with higher pacing that contributed materially to over-expenditures in 2024 are:

- 11 • Provide Service Extensions (2024)
12 • Circuit Breakers Renewal Program (2023–2024)
13 • Refurbish and Upgrade Power Transformers (2023–2024)¹³
14 • Replace Light- and Heavy-Duty Vehicles (2024–2026)

15 **2.8 Modified Scopes of Work**

16 Following approval of the Board, scopes of work within projects and programs may be modified if new
17 information or conditions impact the selection of the preferred alternatives. There was one such
18 instance within active projects and programs in 2024. Specifically, the scope of work was modified for
19 the replacement of Unit 2053 and replacement or upgrade of associated equipment at the Hopedale
20 Diesel Generating Station, within the Diesel Genset Replacement Program (2023–2025). As reflected in a
21 budget update in the 2024 CBA, Hydro changed the scope to a lower-cost alternative. Hydro is
22 proceeding with that alternative.

23 **3.0 Key Performance Indicators**

24 As set out in the Provisional Guidelines, this report includes a summary of KPIs for capital expenditures
25 specific to projects and programs for the last ten years.

¹³ Refurbish and Upgrade Power Transformers (2023-2024) was a sub-program within the Terminal Station Renewal Program (2023–2024).

1 The KPIs for projects are:

- 2 • The number of projects planned and completed by materiality threshold; and
- 3 • The original budget value of projects completed, and the final cost of projects completed by
- 4 materiality threshold.¹⁴

5 The KPIs for programs are:

- 6 • The number of units planned and completed by materiality threshold; and
- 7 • The estimated average unit cost and actual average unit cost.

8 Hydro began tracking its capital expenditures in a manner to allow reporting of these KPIs in 2023. KPI

9 data is now available and presented herein for the two-year period 2023–2024.

10 **3.1 Project Key Performance Indicators**

11 **3.1.1 Planned versus Completed Projects by Year and Materiality Threshold**

12 In this section, Hydro has provided table and graphical representations, both in aggregate and for each

13 Investment Classification, of the planned versus completed projects by materiality threshold.¹⁵ Hydro

14 completed 35 of 54 projects planned for completion in 2024. The primary contributing factors for

15 projects planned for completion but not completed in 2024 were internal resource challenges,

16 procurement challenges, unavailable equipment outages, and projects paused to re-evaluate the

17 justification. Hydro has assessed the risks associated with delayed completion of these projects and,

18 where necessary, has applied appropriate mitigations. As such, none of the projects carried over into

19 2025 represent a significant risk to the supply of electricity to customers.

¹⁴ Does not include ongoing projects.

¹⁵ For the purposes of this metric, a project is deemed complete when the full project scope is complete, all assets are in service, and the project is closed. For projects that have multiple assets planned to go in service, some assets may be in service when planned while others may have carried over. In 2024, 11 projects counted as incomplete in this metric had some assets placed in service, 5 of which were over 50% complete.

Table 2: Planned vs. Completed Projects – Aggregate

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Projects	Completed Projects	Planned Projects	Completed Projects	Planned Projects	Completed Projects
2024	37	24	12	8	5	3
2023	37	29	12	6	2	0

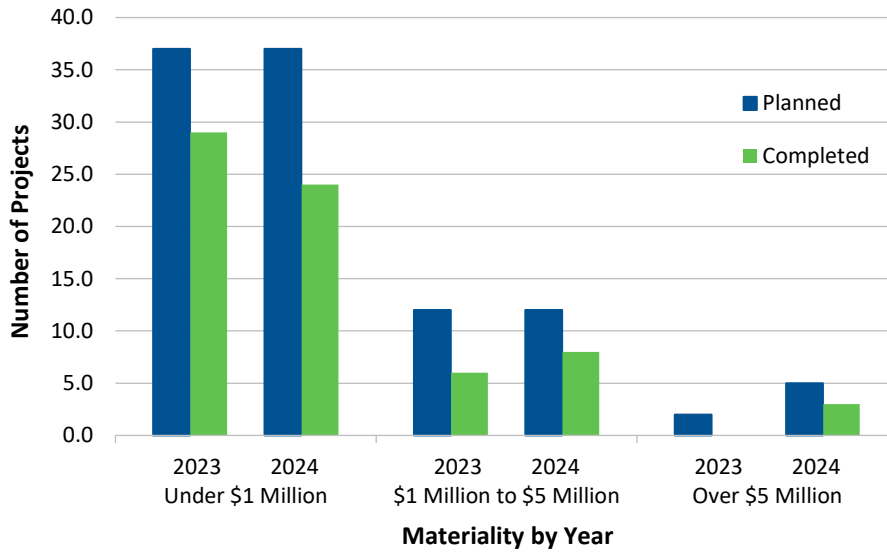


Chart 3: Planned vs. Completed Projects – Aggregate¹⁶

¹⁶ Does not include projects that were advanced and completed in 2024.

1 **Renewal**

Table 3: Planned vs. Completed Projects – Renewal

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Projects	Completed Projects	Planned Projects	Completed Projects	Planned Projects	Completed Projects
2024	14	7	6	3	1	1
2023	23	18	8	5	N/A	N/A

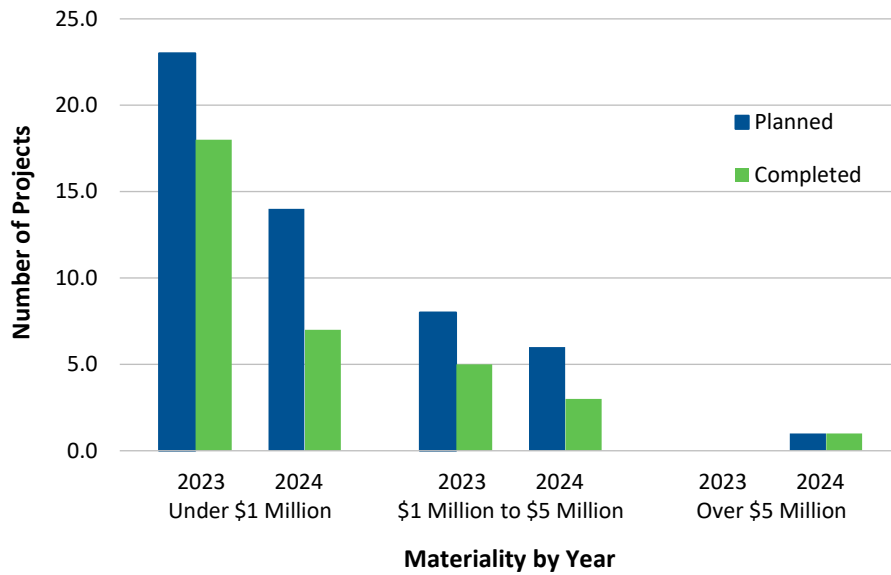


Chart 4: Planned vs. Completed Projects – Renewal

1 **General Plant**

Table 4: Planned vs. Completed Projects – General Plant

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Projects	Completed Projects	Planned Projects	Completed Projects	Planned Projects	Completed Projects
2024	14	10	3	2	N/A	N/A
2023	5	5	2	1	N/A	N/A

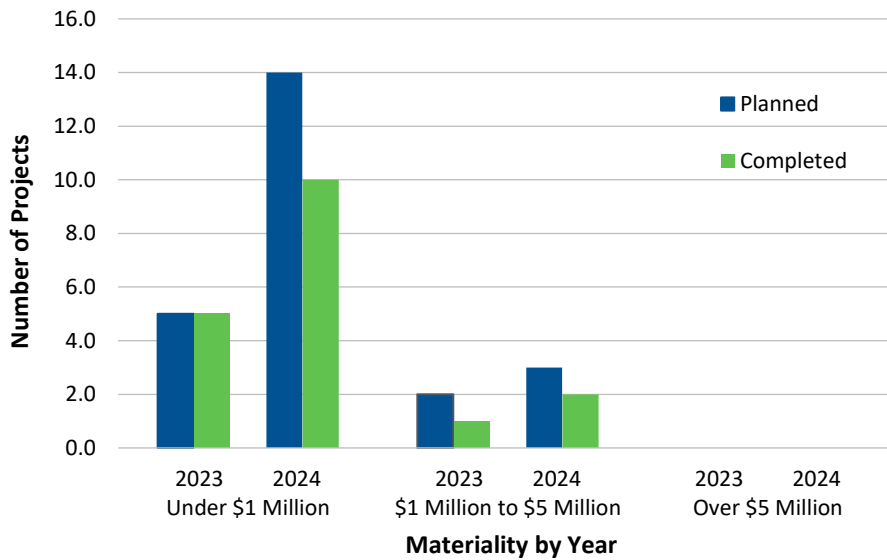


Chart 5: Planned vs. Completed Projects – General Plant

1 **System Growth**

Table 5: Planned vs. Completed Projects – System Growth

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Projects	Completed Projects	Planned Projects	Completed Projects	Planned Projects	Completed Projects
2024	1	0	N/A	N/A	1	0
2023	1	0	N/A	N/A	N/A	N/A

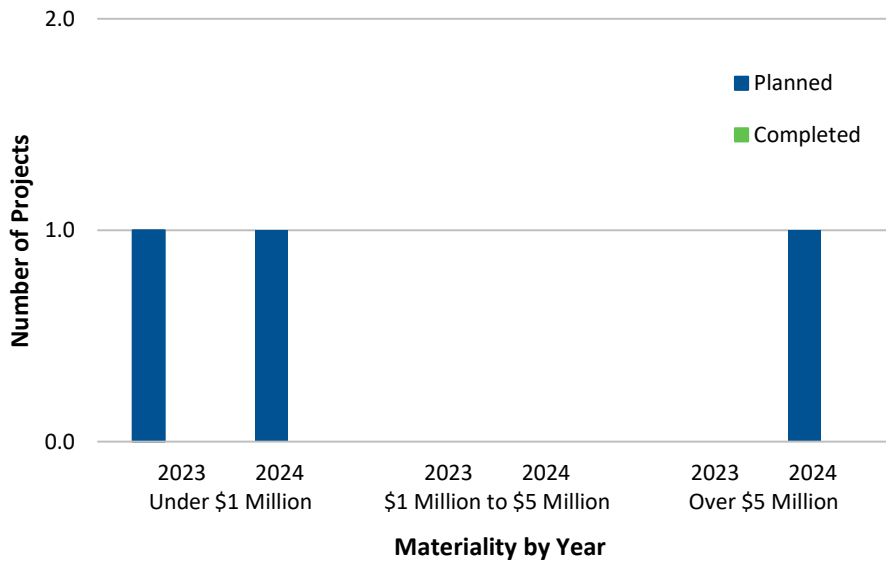


Chart 6: Planned vs. Completed Projects – System Growth

1 Access

Table 6: Planned vs. Completed Projects – Access

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Projects	Completed Projects	Planned Projects	Completed Projects	Planned Projects	Completed Projects
2024	N/A	N/A	N/A	N/A	1	1
2023	1	1	N/A	N/A	1	0

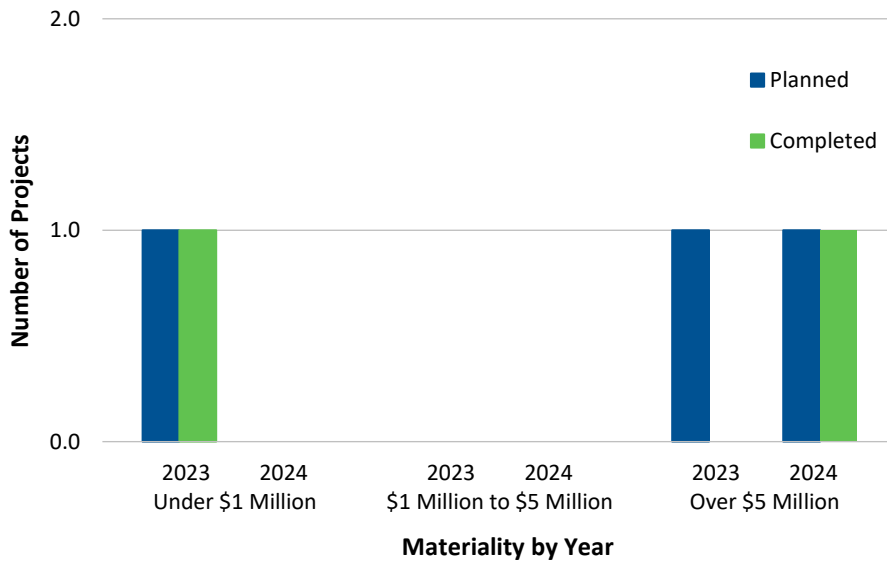


Chart 7: Planned vs. Completed Projects – Access

1 **Service Enhancements**

Table 7: Planned vs. Completed Projects – Service Enhancements

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Projects	Completed Projects	Planned Projects	Completed Projects	Planned Projects	Completed Projects
2024	7	7	2	2	2	1
2023	7	5	2	0	1	0

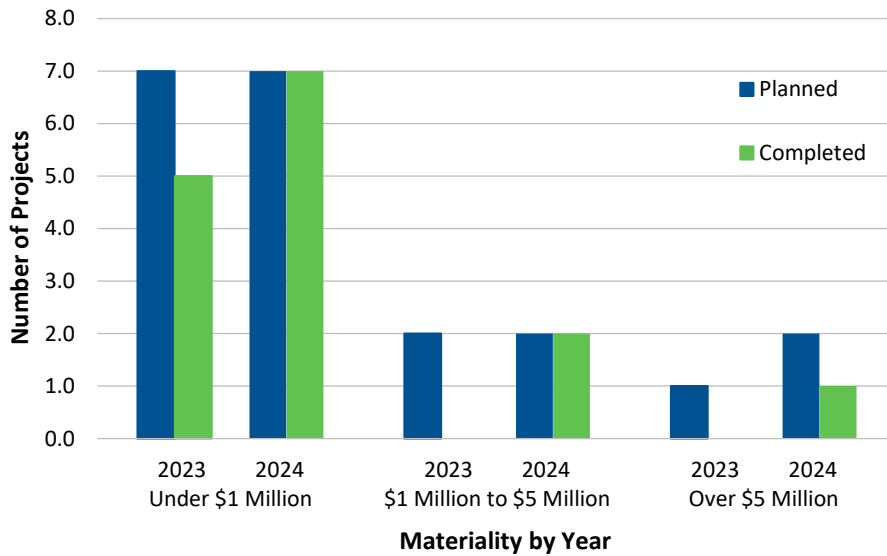


Chart 8: Planned vs. Completed Projects – Service Enhancements

1 **Mandatory**

Table 8: Planned vs. Completed Projects – Mandatory

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Projects	Completed Projects	Planned Projects	Completed Projects	Planned Projects	Completed Projects
2024	1	0	1	1	N/A	N/A
2023	N/A	N/A	N/A	N/A	N/A	N/A

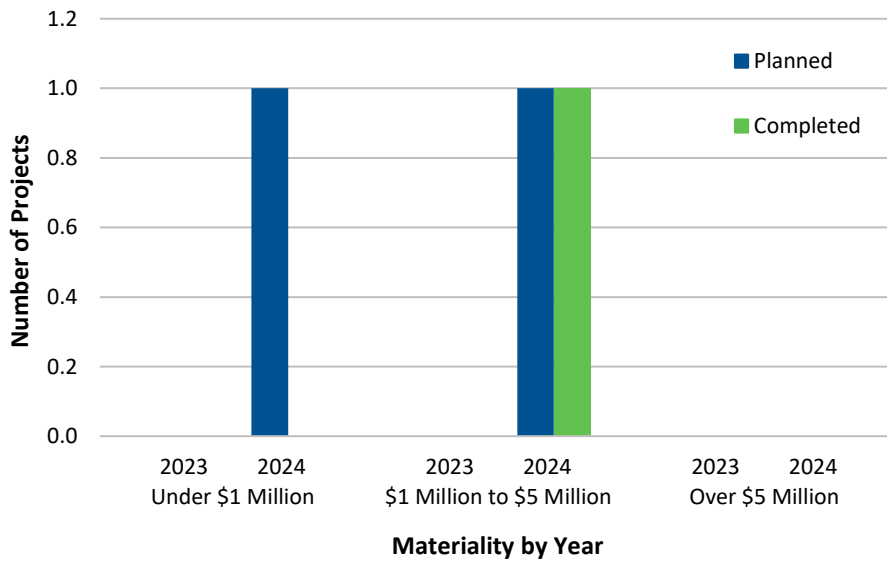


Chart 9: Planned vs. Completed Projects – Mandatory

1 **3.1.2 Budget versus Actual Expenditures by Year and Materiality Threshold**

2 In this section, Hydro has provided tables and graphical representations, both in aggregate and for each
 3 Investment Classification, of the planned budget versus actual expenditure for completed projects by
 4 materiality threshold. The actual expenditures for projects in these tables include total expenditures
 5 across all years of the projects. Major drivers of project variances are discussed in Section 2.0 and
 6 detailed discussion of variances exceeding \$100,000 and 10% are provided in Section 4.0.

Table 9: Budget vs. Actual Expenditures – Completed Projects – Aggregate (\$000)¹⁷

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures
2024	10,384	10,877	13,962	19,146	29,631	27,937
2023	9,406	10,470	12,816	17,834	N/A	N/A

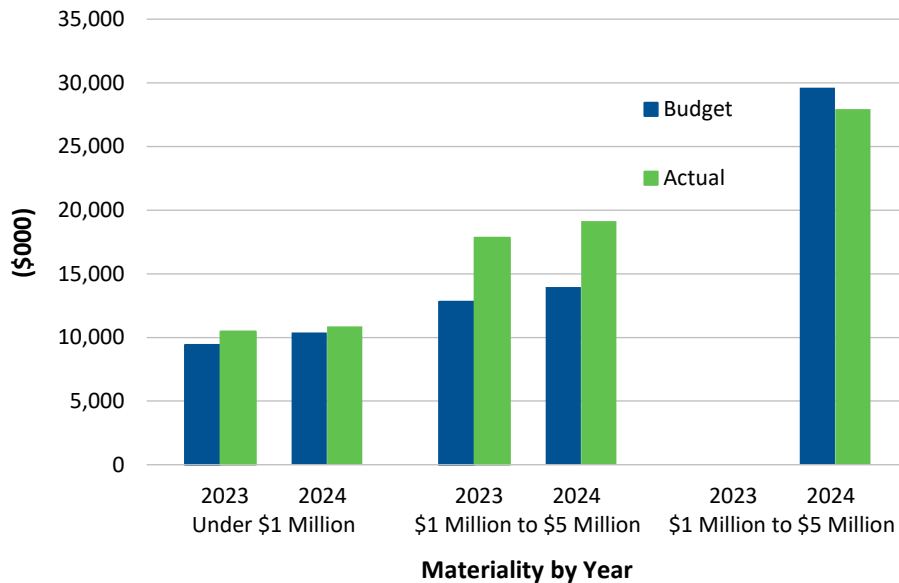


Chart 10: Budget vs. Actual Expenditures – Completed Projects – Aggregate

¹⁷ Aggregate budgets and expenditures may not add due to rounding.

1 **Renewal**

Table 10: Budget vs. Actual Expenditures – Completed Projects – Renewal

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures
2024	3,267	3,029	5,738	9,411	6,409	6,673
2023	6,875	7,480	11,680	16,349	N/A	N/A

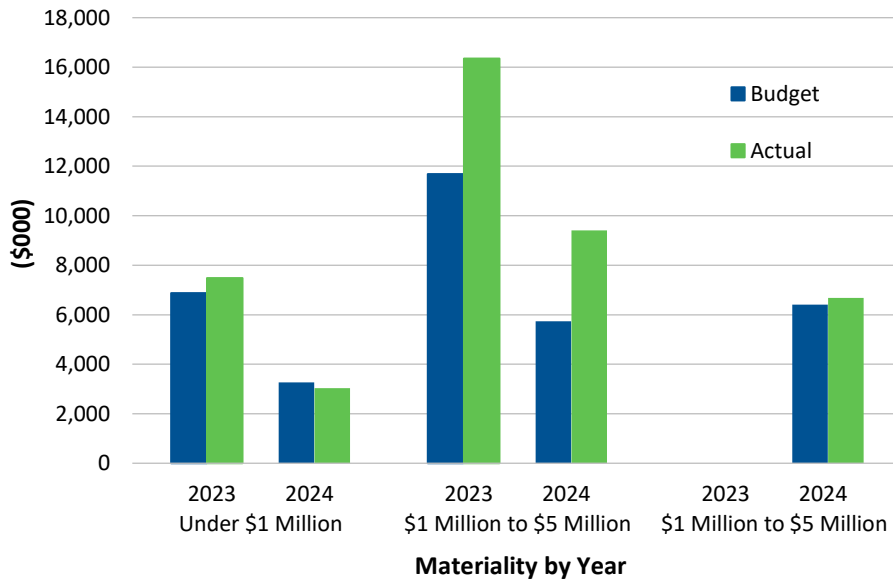


Chart 11: Budget vs. Actual Expenditures – Completed Projects – Renewal

1 **General Plant**

Table 11: Budget vs. Actual Expenditures – Completed Projects – General Plant

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures
2024	4,866	5,245	3,060	4,282	N/A	N/A
2023	857	1,166	1,136	1,485	N/A	N/A

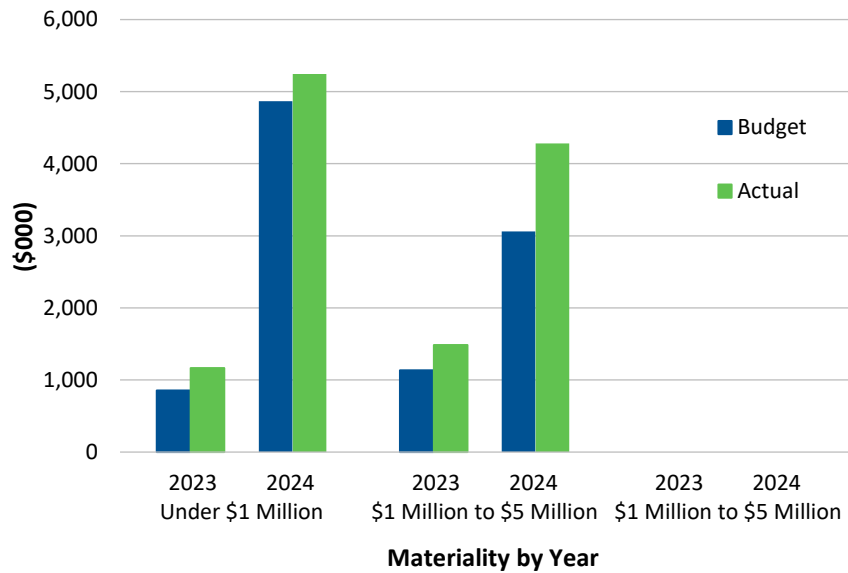


Chart 12: Budget vs. Actual Expenditures – Completed Projects – General Plant

1 System Growth

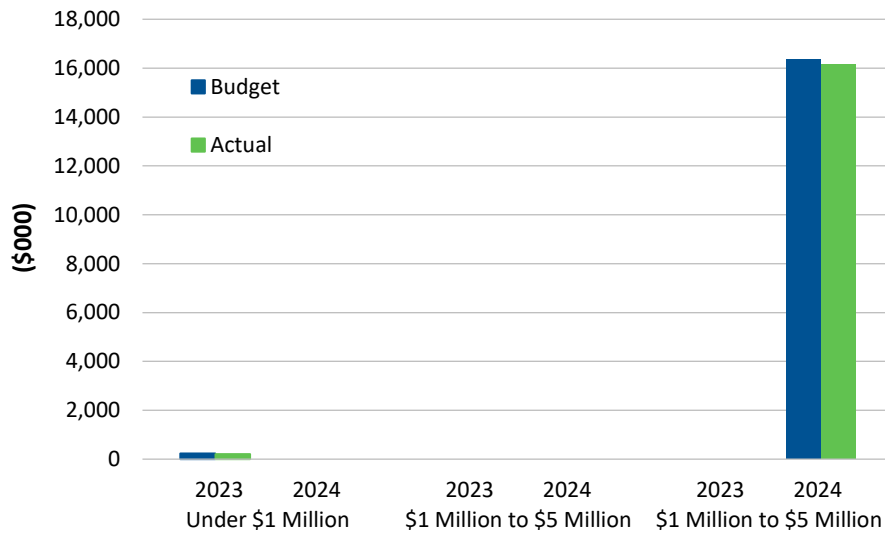
2 There were no projects planned or completed in 2023 or 2024 in the System Growth Investment

3 Classification.

4 Access

Table 12: Budget vs. Actual Expenditures – Completed Projects – Access

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures
2024	N/A	N/A	N/A	N/A	16,347	16,149
2023	227	203	N/A	N/A	N/A	N/A



Materiality by Year

Chart 13: Budgets vs. Actual Expenditures – Completed Projects – Access

1 **Service Enhancements**

Table 13: Budget vs. Actual Expenditures – Completed Projects – Service Enhancements

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures
2024	2,250	2,602	3,244	3,302	6,875	5,116
2023	1,448	1,620	N/A	N/A	N/A	N/A

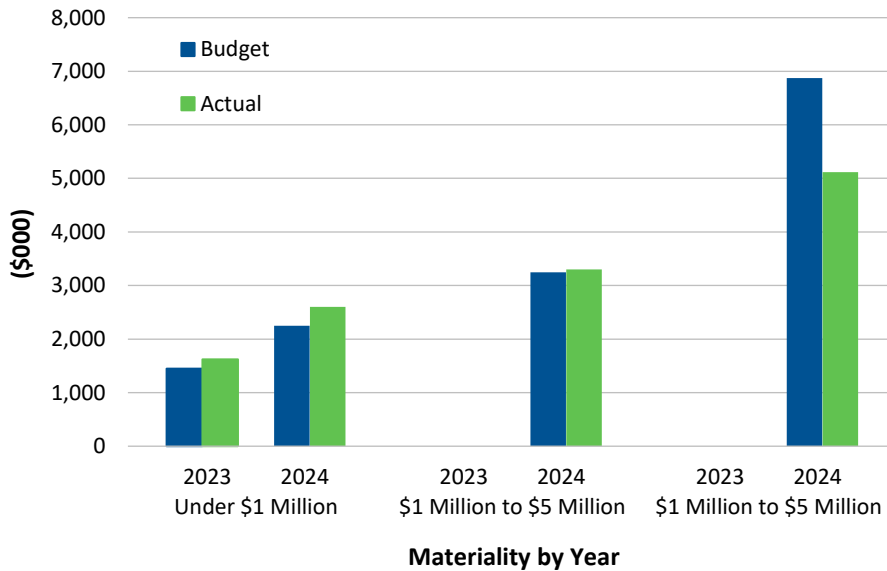


Chart 14: Budget vs. Actual Expenditures – Completed Projects – Service Enhancements

1 **Mandatory**

Table 14: Budget vs. Actual Expenditures – Completed Projects – Mandatory

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures	Total Budget	Actual Expenditures
2024	N/A	N/A	1,920	2,151	N/A	N/A
2023	N/A	N/A	N/A	N/A	N/A	N/A

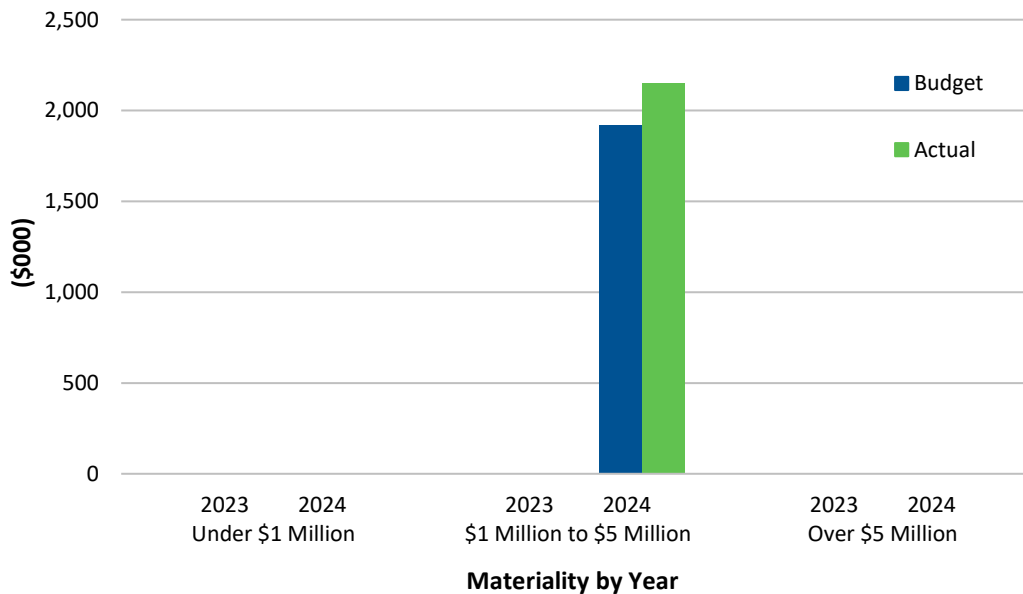


Chart 15: Budget vs. Actual Expenditures – Completed Projects – Mandatory

2 **3.2 Program Key Performance Indicators**

3 Planned versus completed units and budget versus actual weighted average unit costs for programs in
 4 2024 are presented in Sections 3.2.1 and 3.2.2, respectively.¹⁸ Some programs do not lend themselves to
 5 unitization, despite otherwise meeting the definition of a program; therefore they are excluded from
 6 the program KPIs herein.

7 Further, if there were no assets planned for completion within a program in 2024, it was also excluded
 8 from Sections 3.2.1 and 3.2.2.

¹⁸ Hydro notes that KPI data is presented for programs beginning in 2023 and is not available for programs that were proposed prior to the implementation of the Provisional Guidelines.

1 In total, Hydro completed the installation or refurbishment of 2,084 units, compared to 1,878 planned
 2 units in 2024. The additional units completed are primarily attributed to greater-than-anticipated
 3 replacements for mobile devices and personal computers.¹⁹

4 **3.2.1 Planned versus Completed Units by Year and Materiality Threshold**

5 In this section, Hydro will provide table and graphical representations, both in aggregate and for each
 6 Investment Classification, of the planned number of units versus the actual number of units completed
 7 by year and materiality threshold.

8 Hydro began tracking its capital expenditures in a manner to allow reporting of these KPIs in 2023. KPI
 9 data is now available and presented herein for the two-year period 2023–2024, unless otherwise noted.

Table 15: Planned vs. Completed Program Units – Aggregate

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Units	Completed Units	Planned Units	Completed Units	Planned Units	Completed Units
2024	1810	1988	68	96	N/A	N/A
2023	341	450	53	53	N/A	N/A

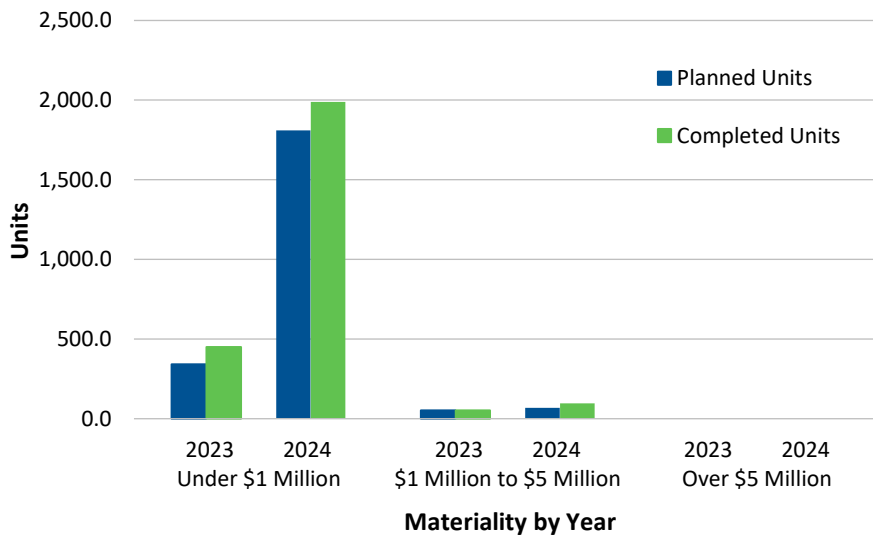


Chart 16: Planned vs. Completed Program Units – Aggregate

¹⁹ Increased procurement of personal computers in 2024 was primarily due to unexpected replacements required after the November 2023 fire on the fourth floor of Hydro Place, and to supply new personnel hires. Increased procurement of mobile devices was primarily related to new personnel hires.

1 **Renewal**

Table 16: Planned vs. Completed Program Units – Renewal

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Units	Completed Units	Planned Units	Completed Units	Planned Units	Completed Units
2024	165	305	36	53	N/A	N/A
2023	31	34	14	15	N/A	N/A

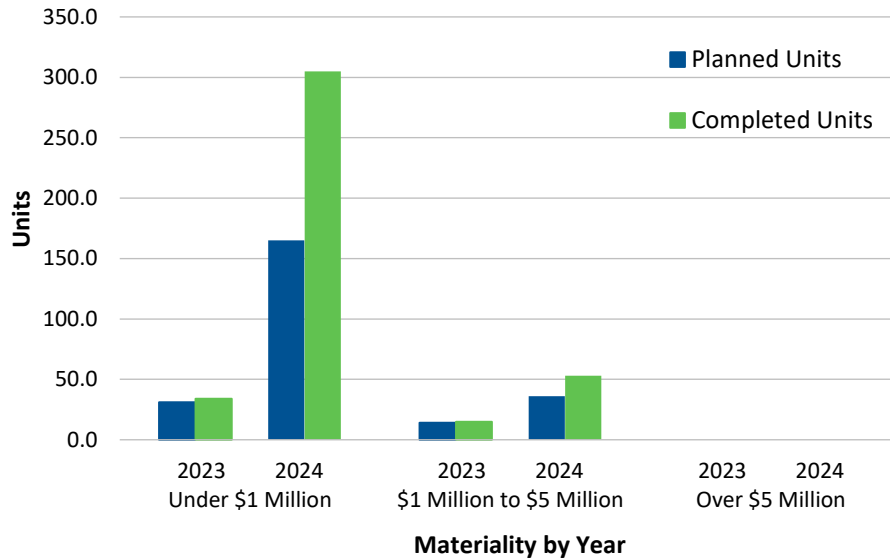


Chart 17: Planned vs. Completed Program Units – Renewal

1 **General Plant**

Table 17: Planned vs. Completed Program Units – General Plant

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Units	Completed Units	Planned Units	Completed Units	Planned Units	Completed Units
2024	253	291	32	43	N/A	N/A
2023	310	416	39	38	N/A	N/A

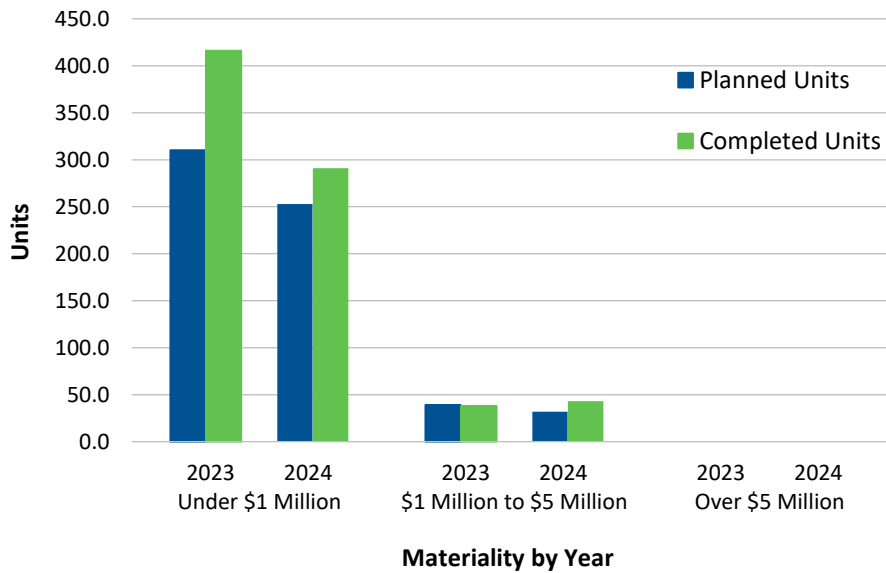


Chart 18: Planned vs. Completed Program Units – General Plant

1 **Access**

Table 18: Planned vs. Completed Program Units – Access²⁰

Year	Under \$1 Million		\$1 Million to \$5 Million		Over \$5 Million	
	Planned Units	Completed Units	Planned Units	Completed Units	Planned Units	Completed Units
2024	1392	1392	N/A	N/A	N/A	N/A

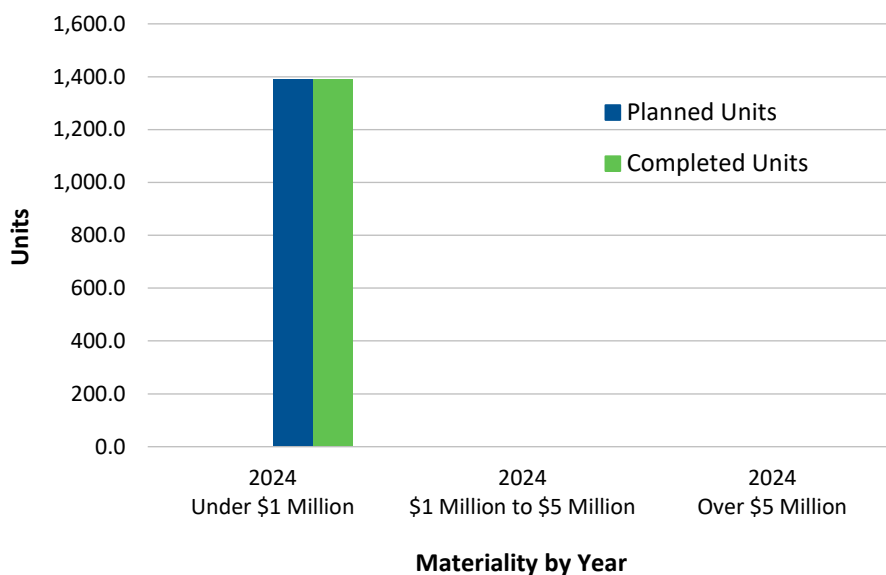


Chart 19: Planned vs. Completed Program Units – Access

2 **3.2.2 Estimated versus Actual Weighted Average Unit Cost**

3 In this section, Hydro will provide table and graphical representations, both in aggregate and for each
 4 Investment Classification, of the estimated weighted average unit cost versus the actual weighted
 5 average unit cost by year. The primary drivers of lower weighted average unit costs were lower than
 6 anticipated unit costs for pump overhauls, mobile equipment, peripheral infrastructure, and 48V battery
 7 banks and chargers.

8 Hydro began tracking its capital expenditures in a manner to allow reporting of these KPIs in 2023. KPI
 9 data is now available and presented herein for the two-year period 2023–2024, unless otherwise noted.

²⁰ As detailed in Section 3.2, some programs do not lend themselves to unitization and have been excluded from the program KPIs herein; as such, no data was available for the Access programs in 2023.

Table 19: Estimated vs. Actual Weighted Average Unit Cost – Aggregate (\$000)

Year	Estimated Weighted Average Unit Cost	Actual Weighted Average Unit Cost
2024	15.7	11.2
2023	24.1	21.0

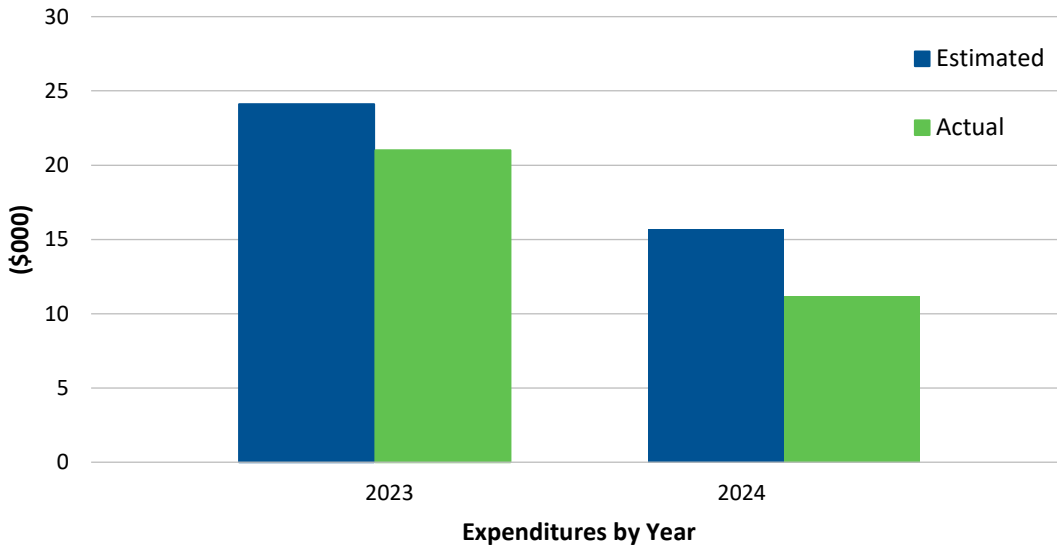


Chart 20: Estimated vs. Actual Weighted Average Unit Cost – Aggregate

1 **Renewal**

Table 20: Estimated vs. Actual Weighted Average Unit Cost – Renewal (\$000)

Year	Estimated Weighted Average Unit Cost	Actual Weighted Average Unit Cost
2024	116.5	50.6 ²¹
2023	123.3	134.5

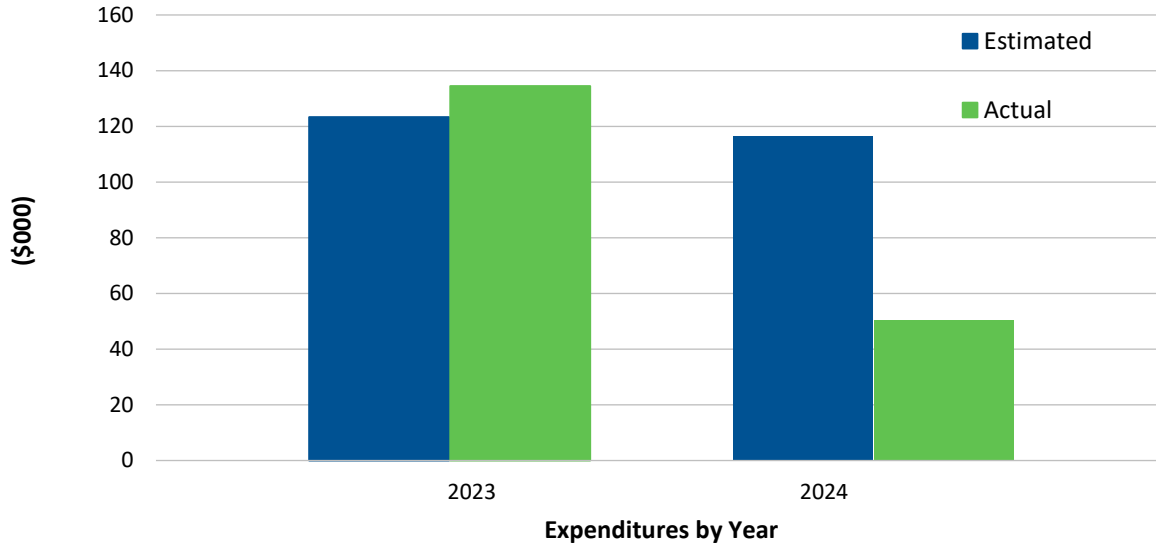


Chart 21: Estimated vs. Actual Weighted Average Unit Cost – Renewal

²¹ Low actual unit cost in 2024 is primarily related to mobile devices, which were incorrectly categorized as Renewal in the 2024 CBA. Mobile Devices are categorized as General Plant in the 2025 CBA and will continue to be into the future.

1 **General Plant**

Table 21: Estimated vs. Actual Weighted Average Unit Cost – General Plant (\$000)

Year	Estimated Weighted Average Unit Cost	Actual Weighted Average Unit Cost
2024	19.7	14.1
2023	11.4	8.7

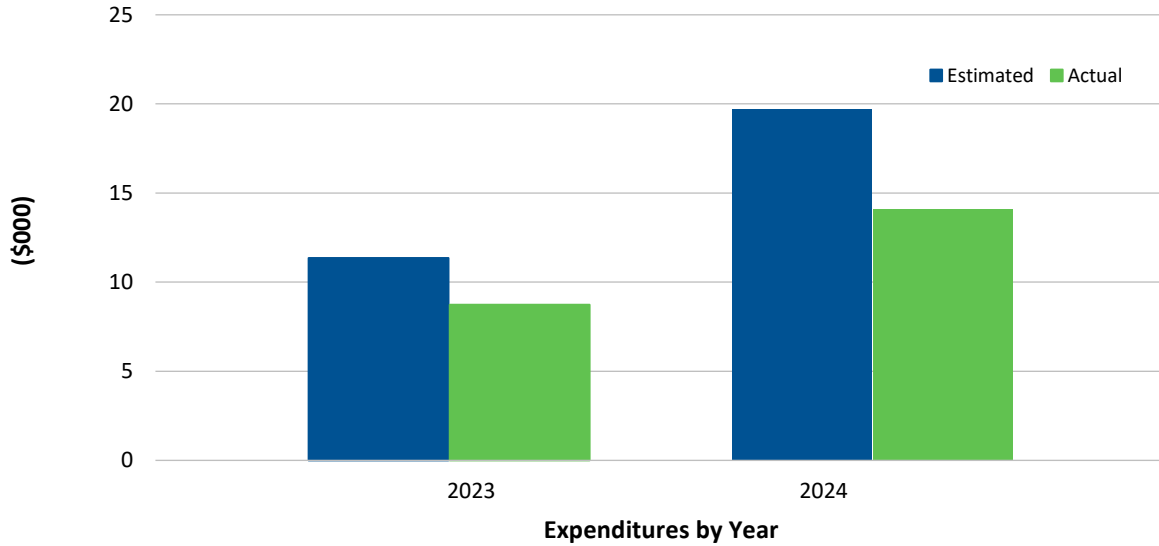


Chart 22: Estimated vs. Actual Weighted Average Unit Cost – General Plant

1 **Access**

Table 22: Estimated vs. Actual Weighted Average Unit Cost – Access (\$000)²²

Year	Estimated Weighted Average Unit Cost	Actual Weighted Average Unit Cost
2024	0.34	0.29

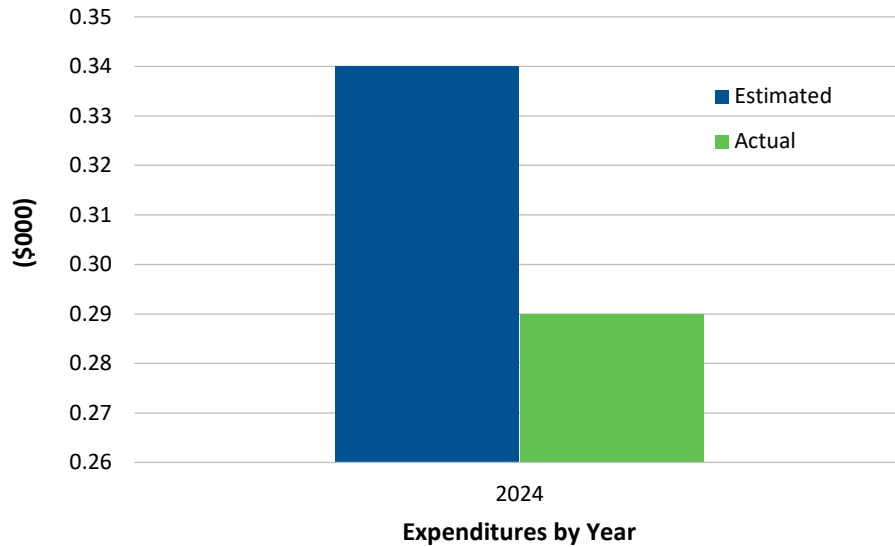


Chart 23: Estimated vs. Actual Weighted Average Unit Cost – Access

2 **4.0 Variance Explanations**

3 As per the Provisional Guidelines set forth by the Board, Hydro is required to report on actual capital
 4 expenditure variances that exceed the approved total program or project budget by more than 10% and
 5 \$100,000. Hydro has also included variance explanations for projects or programs continuing beyond
 6 2024 with forecasted variances exceeding the threshold, and for 2024 programs or projects where
 7 expenditures exceeded the approved 2024 budget by more than 10% and \$100,000. For multi-year
 8 projects and programs, annual and overall variances are reported.²³ For programs and projects that
 9 commenced in 2023 or 2024 and were budgeted under \$750,000, Hydro has included variance
 10 explanations if the actual or forecast expenditures exceeded \$750,000. Explanations are also provided

²² As detailed in Section 3.2, some programs do not lend themselves to unitization and have been excluded from the program KPIs herein; as such, no data was available for the Access programs in 2023.

²³ In cases where actual expenditures of only one of the annual and overall project/program budgets meets the reporting thresholds (exceeding the budget by 10% and 100,000), only the applicable variance includes an explanation.

1 for projects and programs for which Hydro has cancelled or significantly reduced the scope of work. The
 2 programs and projects are ordered in the sections below based on investment classification and
 3 materiality thresholds, then alphabetically.

4 **4.1 Renewal**

5 **4.1.1 In-Service Failures (2024)²⁴**

Program	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Gas Turbine	358.0	7,101.7	6,743.7
Distribution	4,345.4	6,346.5	2,001.1
Diesel	488.3	1,984.5	1,496.2
Hydraulic	1,500.0	2,973.9	1,473.9
Terminal Station	1,300.0	2,459.2	1,159.2
Thermal	3,508.7	4,587.8	1,079.1
Telecommunications	91.4	253.8	162.4
Transmission	158.5	162.2	3.7
Total²⁵	11,750.3	25,869.6	14,119.3

6 In-Service Failures are one-year programs (2024) that closed in 2024. The scope of these programs
 7 included refurbishment and replacement work due to the occurrence of actual failures, the
 8 identification of incipient failures, or the determination of faster-than-anticipated equipment
 9 deterioration for Hydro’s assets and include the procurement of capital spares required to support such
 10 work.²⁶ Budget estimates for In-Service Failure programs are based on historical averages, along with
 11 Hydro’s experience and engineering judgement. As many of these programs are new or have been
 12 introduced in recent years and have limited historical data, Hydro expects that it may take several years
 13 of implementation to determine an appropriate baseline estimate for annual in-service failure
 14 expenditures. The variances in 2024 were primarily attributed to greater scopes of work required in
 15 2024 than anticipated at the time of the original budget estimates, and the nature of failures in 2024
 16 requiring more material expenditure to address. Hydro experienced a number of failures necessitating

²⁴ While some individual In-Service Failure programs did not meet the threshold for reportable variance, all 2024 In-Service Failures programs are listed herein for completeness.

²⁵ Numbers may not add due to rounding.

²⁶ The Distribution System In-Service Failures, Miscellaneous Upgrades, and Street Lights program also includes distribution system upgrades and the installation of LED street lights in addition to in-service failures.

1 material investment in 2024; further detail on material expenditures for In-Service Failure programs is
 2 provided in Appendix B.

3 **4.1.2 Approved Budgets Over \$5 Million**

4 ***Overhaul Unit 2 Turbine and Valves (2023) – Holyrood***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Annual	2,092.0	3,352.0	1,260.0
Program	9,701.8	12,628.4	2,926.6

5 This is a one-year program (2023) that has carried over into 2025. The program scope is to overhaul the
 6 Unit 2 turbine and valves and complete electrical testing on the generator. The variance in 2024
 7 expenditures and the forecasted variance in overall program expenditures are attributed to the extent
 8 of the turbine rotor refurbishment work that was required following unit disassembly and inspection of
 9 the rotor at the OEM facility. The inspection revealed cracks on the low-pressure turbine blades, which
 10 required the purchase and installation of a new set of blades. The original program budget was based on
 11 historical turbine and valve overhaul expenditures. The extent of the turbine and valve overhaul costs
 12 can only be determined after the unit is removed from service and disassembled for inspection during
 13 the program execution. In this case, the extent of the required refurbishment was greater than originally
 14 estimated. The turbine rotor was overhauled at the OEM facility and returned to the Holyrood TGS in
 15 2023.

16 A number of challenges arose during unit reassembly in 2024 that resulted in schedule delays and costs
 17 that contributed to the expenditures variance:

- 18 • Unit realignment work;
- 19 • Damage to the turbine rotor diaphragm that required refurbishment;
- 20 • Standby charges for contract resources related to delays as a result of inclement weather and
 21 permitting;
- 22 • Lost time due to inclement weather delays; and
- 23 • Unit start-up issues including high turbine vibration levels, turbine valve operational issues, and
 24 miscellaneous issues with the balance of plant.

1 There are no viable alternatives for this program and Hydro proceeded with execution. After returning
 2 Unit 2 to service in 2024, vibration levels on the turbine bearings were within the acceptable range, but
 3 higher than the vibration levels prior to completing the turbine overhaul. The program was carried over
 4 into 2025 to enable the collection of further vibration data for analysis by the OEM and determination if
 5 action is required to reduce vibration levels.

6 **Overhaul Unit 1 Turbine, Valves and Generator (2024) – Holyrood**

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Annual	5,181.4	11,195.0	6,013.6
Program	5,181.4	11,735.0	6,553.6

7 This is a one-year program (2024) that has carried over into 2025. The program scope is to overhaul the
 8 Holyrood Unit 1 turbine valves and generator. The valve overhauls consist of dismantling the control
 9 valves, main stop valve, combined re-heat stop and intercept valves, extraction non-return valves, and
 10 blowdown valves for inspection and refurbishment or replacement of components as required. The
 11 generator overhaul consists of dismantling the generator end shields, hydrogen seals and bearings,
 12 removal of the rotor from the stator, electrical testing of the rotor and stator windings, inspection, and
 13 refurbishment/replacement of components as required.

14 The variance in 2024 expenditures and forecasted variance in overall project expenditures are attributed
 15 to unanticipated additional scope required to refurbish the steam turbine. The original program budget
 16 was based on historical turbine valve and generator overhaul expenditures. The full extent of
 17 refurbishment work can only be determined after the unit is removed from service and disassembled for
 18 inspection, during the program execution. In this case, significant additional refurbishment was
 19 required.

20 As part of the supplemental Replace Unit 1 and 2 Last Stage Turbine Blades – Holyrood, project,²⁷ the
 21 turbine rotor was removed and sent to the OEM facility to replace the last stage turbine blades. While at
 22 the facility, inspection revealed extensive damage on the rotor diaphragms and bearing journals which
 23 required refurbishment and replacement of the L-1 (second-last stage) turbine blades. Hydro proceeded

²⁷ Approved in Board Order No. P.U 12(2023).

1 with this additional refurbishment work while the turbine rotor was at the OEM’s facility and
 2 determined that it was most appropriate to execute this scope as part of the “Overhaul Unit 1 Turbine
 3 Valves and Generator (2024)” program, as outlined in the 2024 CBA. The additional turbine rotor
 4 refurbishment work was completed at the OEM facility and the rotor was returned to the Holyrood TGS
 5 in 2024. Installation and commissioning of the unit continued into 2025. There are no viable alternatives
 6 for this program and Hydro proceeded with execution.

7 **Refurbish Ebbegunbaeg Control Structure (2021–2025)**

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Annual	2,305.3	5,494.1	3,188.8
Project	17,679.0	22,126.6	4,447.6

8 This is a five-year project (2021–2025) that commenced in 2021. The project scope is to refurbish the
 9 three water control gates and associated equipment at the Ebbegunbaeg Control Structure.

10 The variance in 2024 expenditures was attributed to a change in the work sequence for 2024 and 2025.
 11 The refurbishment of Gates 1 and 3 screw hoists was originally planned for 2024, and the refurbishment
 12 of Gate 2 was planned for 2025. Due to the long lead time on materials for Gates 1 and 3 screw hoists,
 13 materials could not be procured in time for 2024 construction. The refurbishment of Gate 2 was then
 14 advanced to 2024, and the construction for the Gates 1 and 3 screw hoists deferred to 2025. The Gate 2
 15 refurbishment is more costly than the Gates 1 and 3 screw hoist refurbishments, resulting in the
 16 variance in 2024 expenditures.

17 The forecasted variance in overall project expenditures is attributed to:

- 18 • Contract tendered pricing that was higher than what was included in the budget estimate for
 19 refurbishment work completed on Gates 1 and 2 in 2023 and 2024 respectively;
- 20 • The forecasted cost increase to refurbish Gates 1 and 3 screw hoists and the upstream stoplog
 21 gains for all three (3) bays; and
- 22 • Internal engineering, construction management, and project management effort required
 23 during construction and commissioning of the work in 2023 and 2024.

1 There are no alternatives to the refurbishment of the Ebbegunbaeg Control Structure and Hydro is
 2 proceeding with the project.

3 **Terminal Station Renewal Program (2023–2024)**

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	5,883.6	8,301.9	2,418.3
Program	7,318.2	9,736.5	2,418.3

4 This was a two-year program (2023–2024) that closed in 2024. The program scope was to replace or
 5 refurbish failing or failed terminal station assets including instrument transformers, disconnect switches,
 6 power transformers, battery banks and chargers, and protective relays. The variances in 2024 and
 7 overall program expenditures were primarily associated with the programs for protective relays and
 8 power transformers. These were primarily attributed to:

- 9 • Higher-than-originally-estimated labour and materials costs for protective relay replacements
 10 and transformer refurbishments completed in 2023 and 2024; and
- 11 • A net increase in the number of power transformer refurbishment scopes of work completed in
 12 2023 and 2024 compared to the scopes of work assumed for the original program estimate.

13 **Terminal Station Refurbishment and Modernization (2022–2023)**

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	33.8	156.2	122.4

14 This is a two-year program (2022–2023) to replace or refurbish failing or failed terminal station assets
 15 including instrument transformers, disconnect switches, power transformers, terminal station lighting,
 16 battery banks and chargers, equipment foundations, fire suppression systems in control buildings, and
 17 protection, control, and monitoring systems. All these sub-programs were closed in 2023 with the
 18 exception of a portion of the program for protection, control, and monitoring systems. Specifically,
 19 installation of a digital fault recorder in the Wabush Terminal Station to improve the analysis of system
 20 events has carried over into 2025.

1 The variance in 2024 expenditures was attributed to extra work required to complete the installation of
 2 the digital fault recorder in the Wabush Terminal Station. Additional alarm points had to be
 3 incorporated into the data alarm system, resulting in the requirement for additional alarm marshalling
 4 equipment and time for construction, which has extended into 2025. The additional alarm points were a
 5 result of i) discrepancies between available drawings and actual field conditions; and ii) recent other
 6 projects that added new equipment.

7 The overall Terminal Station Refurbishment and Modernization (2022–2023) program is expected to
 8 close with actual expenditures lower than the approved budget.

9 ***Hydraulic Generation Refurbishment and Modernization (2022–2023)***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Program	6,759.5	7,722.0	962.5

10 This is a two-year program (2022–2023) that has carried over into 2025. The program scope is to replace
 11 or refurbish failing or failed assets at hydraulic generating facilities, and includes sub-programs for
 12 generating units, hydraulic structures, reservoirs, site buildings and services and common auxiliary
 13 systems. All these sub-programs were closed in 2023 with the exception of the draft tube deck
 14 substructure Level 2 condition assessment - Powerhouse 1 for the Bay d’Espoir Hydroelectric Generating
 15 Station, within the site buildings and services sub-program.

16 The forecasted variance in overall program expenditures is primarily attributed to the draft tube deck
 17 substructure condition assessment. There was additional construction costs associated with a
 18 requirement to schedule the in-water inspections in stages, necessitated by unforeseen challenges in
 19 taking the Bay d’Espoir generating units offline so that inspection work could be completed safely.
 20 Crews were mobilized to site to perform the inspections in 2022 and 2024; however, work was unable to
 21 be completed due to unforeseen circumstances and resulted in mobilization, standby, and
 22 demobilization contract costs. The in-water inspection work was deferred in 2022 as a result of the
 23 closure of the Bay d’Espoir Highway; again in 2023 as a result of outage availability; and work was
 24 deferred in 2024 as a result of the unanticipated delay in return to service of Bay d’Espoir Unit 7. The
 25 unit outages could not be rescheduled to complete the in-water inspections later in the year. Hydro is

1 planning to complete in-water inspections of the draft tube deck substructure for Units 1 to 4 in 2025
 2 and will use these results to form assumptions on the condition of Units 5 to 6.

3 The variance is also associated with the additional refurbishment work required for the overhaul of
 4 Unit 6 at the Bay d’Espoir Hydroelectric Generating Station, completed in 2022. More refurbishment
 5 work was required for the turbine runner and various components of the generator rotor than
 6 anticipated at the time of budget estimate preparation.

7 **Hydraulic Generation Refurbishment and Modernization (2021–2022)²⁸**

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	72.7	185.3	112.5

8 This was a two-year program (2021-2022) that carried over and was completed in 2024. The program
 9 scope was to replace or refurbish failing or failed assets at hydraulic generating facilities, and includes
 10 sub-programs for generating units, hydraulic structures, reservoirs, site buildings and services and
 11 common auxiliary systems. All these sub-programs were closed prior to 2024 with the exception of the
 12 annunciator replacement at the Hinds Lake Hydraulic Generating Station, within the common auxiliary
 13 equipment sub-program.

14 The variance in 2024 expenditures was attributed to additional project management, engineering, and
 15 internal trades effort during construction and commissioning of the annunciator replacement at Hinds
 16 Lake. Additional effort was required to address technical issues. The overall Hydraulic Generation
 17 Refurbishment and Modernization (2021–2022) program was completed for lower than the approved
 18 budget amount.

²⁸ Numbers may not add due to rounding.

1 **4.1.3 Approved Budgets Between \$1 and \$5 Million**

2 ***Boiler Condition Assessment and Miscellaneous Upgrades (2024) – Holyrood***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	3,957.8	7,864.5	3,906.7
Program	3,957.8	7,864.5	3,906.7

3 This was a one-year program (2024) that was closed in 2024. The program scope was to perform a
 4 Level 2 Condition Assessment on the internal components of the boilers and associated high-energy
 5 piping and to complete refurbishment work required before the 2024-2025 winter operating season.
 6 The variances in 2024 and overall program expenditures were primarily attributed to the extent of the
 7 required boiler refurbishment work. Upon disassembly and assessment of the boilers in 2023 and 2024,
 8 the level of necessary refurbishment identified for execution in 2024 was greater than anticipated at the
 9 time of the original budget estimate.²⁹ Hydro has not identified any viable alternative strategies for the
 10 continued safe and reliable operation of the boilers for Units 1, 2, and 3 and associated high-energy
 11 piping through the Bridging Period³⁰ until the capacity of Holyrood TGS can be adequately replaced, and
 12 therefore proceeded with execution.

13 ***Circuit Breakers Renewal Program (2023–2024)***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	3,178.2	4,944.9	1,766.7
Program	3,812.0	5,578.7	1,766.7

14 This was a two-year program (2023-2024) that closed in 2024. The program scope was to refurbish or
 15 replace select circuit breakers at a number of terminal stations. The variances in 2024 and overall
 16 program expenditures were attributed to:

²⁹ A summary of refurbishment work identified and executed in 2024 as part of the Boiler Condition Assessment and Miscellaneous Upgrades (2024) – Holyrood program is included in Appendix B.

³⁰ Hydro considers the Bridging Period to be from present to 2030. 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 Gas Turbine and the Hardwoods Gas Turbine until their capacities can be adequately replaced.

- 1 • An increase in the number of circuit breakers replacements completed, as a result of deferrals
- 2 from the Upgrade Circuit Breakers (2022–2023) program due to engineering and construction
- 3 resource challenges and outage availability;
- 4 • A level of effort for internal and external engineering and construction resources that exceeded
- 5 the budget estimate;
- 6 • The advancement of a circuit breaker refurbishment to 2024 at Howley Terminal Station, due to
- 7 an inspection that revealed a deteriorated condition; and
- 8 • A replacement of line-to-ground insulators on seven previously installed circuit breakers as a
- 9 result of findings from an investigation into a failure that occurred in 2022.

10 The over-expenditure was partially offset by the deferral of four circuit breaker refurbishments to future
 11 years. There are no viable alternatives for this program and Hydro proceeded with execution.

12 ***Diesel Genset Replacement Program (2023–2025)***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	241.1	598.8	357.7

13 This is a three-year program (2023-2025) that commenced in 2023. The program scope is to:

- 14 • Replace Unit 2053 and replace or upgrade associated equipment at the Hopedale Diesel
- 15 Generating Station; and
- 16 • Replace Unit 2056 and replace or upgrade associated equipment at the St. Brendan’s Diesel
- 17 Generating Station.

18 The work at St. Brendan’s was completed in 2023. As reflected in a budget update in the 2024 CBA,
 19 following the initial tender for the new genset, it was determined that the planned 1,067 kW, 1,200 rpm
 20 genset cost was significantly higher than originally estimated. An updated analysis of alternatives
 21 concluded that a genset between 700 kW and 850 kW at 1,800 rpm is the least-cost alternative by a
 22 significant margin. Hydro changed the scope for Hopedale to a lower-cost alternative and extended the
 23 project schedule into 2026.

1 After the budget update in the 2024 CBA, Hydro was able to make improvements to the schedule and
 2 budget, and a further update was provided in the 2025 CBA. At that time, the expected delivery of the
 3 genset was shorter than previously anticipated, which would allow construction to commence in 2024
 4 and be completed in 2025; however, due to failure of the new unit during testing at the factory, the
 5 genset will not be ready for installation until 2025.

6 The variance in 2024 expenditures was primarily attributed to the addition of a hydronic heating system
 7 for the Hopedale generating station to the scope of the program. The hydronic heating system will
 8 utilize waste heat from the diesel genset to heat the powerhouse. This system is expected to lower the
 9 overall generating station operating costs and reduce the environmental impact through a reduction in
 10 the quantity of diesel fuel consumed to power electric heaters. The materials for the heating system
 11 were procured and construction commenced in 2024. The overall program expenditures are expected to
 12 be within 10% of the approved budget.

13 ***Diesel Genset Replacements (2021–2022)***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Program	2,846.8	3,147.7	300.9

14 This is a two-year program (2021–2022) that has been carried over into 2025. The program scope is to
 15 replace a diesel genset and upgrade associated mechanical, electrical, and protection and control
 16 equipment at the Nain Diesel Generating Station. The program is substantially complete with most
 17 planned assets in service in 2022. A portion of the plant automation work carried over to 2025 due to
 18 internal protection and control resources being dedicated to higher-priority work. Work completed in
 19 2024 included installation of communications equipment, field modifications to the main switchgear,
 20 and engineering design for modifications to the Generator G4 switchgear. Work carried over to 2025 is
 21 the field work to modify the G4 switchgear, and updates to the overall plant automation system. The
 22 forecasted variance in overall program expenditures is attributed to the costs associated with carrying
 23 the program an additional two years and delays associated with resource constraints and program team
 24 turnover.

1 ***Holyrood Fuel Tank 1 Inspection and Refurbishment (2022–2023) – Supplemental***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	190.8	2,134.5	1,943.7
Project	2,052.1	5,793.8	3,741.7

2 This was a two-year supplemental project (2022–2023) that carried over and was completed in 2024.
 3 The project scope was to clean, inspect, and refurbish a fuel oil storage tank (Tank 1) at the
 4 Holyrood TGS. The variances in 2024 and overall project expenditures were attributed to more cleaning,
 5 inspection, and refurbishment work required than was anticipated at the time of the original budget
 6 estimate. A leak was identified in Tank 1 during the initial filling in 2023 following the planned cleaning,
 7 inspection, and refurbishment work. This required the removal of fuel from the tank and additional
 8 cleaning, inspection, and refurbishment work. Soil remediation was also required as a result of the leak.
 9 Additional tank inspections and refurbishment work were completed in 2024 prior to returning Tank 1
 10 to service. This included refurbishment of the tank chine³¹ to remove holes and cuts that were identified
 11 during the inspection and replacement of tank access covers that had corroded. Additional costs were
 12 incurred during the reinstallation of the tank door sheath due to the requirement to increase the size of
 13 the weld root pass. There were no viable alternatives for this project and Hydro proceeded with
 14 execution.

15 ***Labrador City L22 Voltage Conversion (2022–2023)***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	1,210.7	1,895.1	684.4
Project	1,491.2	2,175.6	684.4

16 This was a two-year project (2022–2023) that carried over and was completed in 2024. The project
 17 scope was to convert Line L22 to a 22 kV line utilizing pad-mounted transformers and connecting it to a
 18 distribution line originating in Vanier Substation located in Labrador City. The project carried over into
 19 2024 as a result of delayed delivery of the new transformers.

³¹ The “tank chine” is the flat plate at the bottom of a steel tank that intersects the shell and rests on a concrete foundation.

1 The variances in 2024 and overall project expenditures were primarily attributed to higher-than-
 2 anticipated construction contract costs. Higher procurement, engineering and project management
 3 costs also contributed to the variance. Hydro tendered the construction work in 2024, and the tendered
 4 pricing exceeded the budget estimate. Prior to award, Hydro revisited the project alternatives identified
 5 at the budget estimate phase of the project. Considering that the new pad-mounted transformers had
 6 already been procured, and that other alternatives could reasonably be expected to experience similar
 7 higher construction costs, Hydro concluded that the planned solution remained the least-cost
 8 alternative. Hydro then awarded the contract and completed the project in 2024.

9 ***Refurbish Superstructure (2023–2024) – Salmon River Spillway***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Annual	2,649.3	533.1	(2,116.2)
Project	2,828.3	825.3	(2,003.0)

10 This was a two-year project (2023–2024) that carried over and was completed in early 2025. The project
 11 scope of work was to refurbish the Salmon River Spillway steel superstructure. Although there is no
 12 over-expenditure and therefore no reportable variance explanation required, Hydro is providing a
 13 summary, as there was a significant change in the project scope.

14 During execution of the planned structural analysis as part of this project, the engineering consultant
 15 advised that more extensive refurbishment and/or replacement of the superstructure would be
 16 required, which could include replacing steel members and installing additional supports, or a full
 17 replacement of the superstructure. Such a level of refurbishment would require significantly more
 18 expenditures than was budgeted in this project. As a result, the following scopes of work that would
 19 have directly interfaced with structural members were cancelled and may be reconsidered in a future
 20 CBA.³²

- 21 • Replacement of deteriorated grout beneath column base plates;
- 22 • Replacement of defective welds with bolted connections;
- 23 • Replacement of horizontal bracing and gusset plates;

³² Hydro intends to submit a new project proposal for review by the Board as part of a future CBA.

- 1 • Replacement of expansion joints; and
- 2 • Surface preparation and application of coating system.

3 Hydro completed the following project scopes of work that would not be impacted by future
4 superstructure refurbishment work or were required to address safety risks:

- 5 • Completion of a structural analysis;
- 6 • Replacement of missing anchors;
- 7 • Replacement of handrails on spillway bridge deck with traffic barriers;
- 8 • Replacement of access ladder to top of superstructure; and
- 9 • Replacement of missing/deteriorated bolts.

10 Hydro completed the following additional scopes of work that were identified during the project
11 execution to address safety hazards:

- 12 • Replacement of handrails on the upper superstructure deck;
- 13 • Installation of new safety gates; and
- 14 • Installation of fall arrest anchors and lifelines.

15 ***Renew Circuit Breakers (2024–2025)***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Program	2,304.0	2,641.0	337.0

16 This is a two-year program (2024–2025) that commenced in 2024. The program scope is to refurbish or
17 replace select circuit breakers at a number of terminal stations. The forecasted variance in overall
18 program expenditures is attributed to a net increase in the required number of circuit breaker
19 refurbishments. The program scope previously anticipated the refurbishment of five circuit breakers. As
20 a result of the deferral of some breaker refurbishments from the Circuit Breakers Renewal (2023–2024)
21 program, and some adjustments to the long-term asset plan for some circuit breakers, the planned
22 number of refurbishments has changed to nine. The program scope also anticipates the replacement of
23 three circuit breakers, which has not changed.

1 ***Replace Powerhouse Station Service Panel (2023–2024) – Upper Salmon***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	1,228.2	1,643.4	415.2
Project	1,568.5	2,526.7	958.2

2 This was a two-year project (2023–2024) that was completed in 2024. The project scope was to replace
3 the 600 V station service panel at Upper Salmon. The variances in 2024 and overall project expenditures
4 were attributed to:

- 5 • Contract pricing to procure the replacement station service panel that was higher than the
6 original budget estimate;
- 7 • Construction contract pricing to install the station service panel that was higher than the
8 original budget estimate, primarily as a result of having to include work in the contractor’s
9 scope that was originally expected to be completed by internal resources that became
10 unavailable; and
- 11 • Additional engineering and project management effort required to address unforeseen
12 turnover of project team resources and various technical challenges.

13 There were no viable alternatives for this project and Hydro proceeded with execution.

14 ***Replace Protective Relays (2024–2025)***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Program	3,439.1	4,471.1	1,032.0

15 This is a two-year program (2024–2025) that commenced in 2024. The program scope is to replace
16 protection systems at a number of terminal stations and generating stations. The forecasted variance in
17 overall program expenditures is attributed to a net increase in the planned number of protection
18 systems to be replaced. The program scope originally anticipated the replacement of 16 systems. Seven
19 more protection system replacements were added to the program for completion as a result of transfers

1 of scopes from the Terminal Station Renewal Program (2023–2024) and the Upgrades for the Future
 2 Retirement of Stephenville Gas Turbine project.

3 **Replace Transformer T7 (2020) – Holyrood Terminal Station**

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	(34.4)	223.2	257.6
Project	2,678.1	4,708.4	2,030.3

4 This was a one-year project (2020) that carried over and was completed in 2024. The project scope was
 5 to replace a transformer at the Holyrood Terminal Station (T7) with a transformer removed from the
 6 Churchill Falls Switchyard (T31) and complete associated civil and protection and control upgrades. The
 7 removal of the old T7 transformer and its foundation and the installation of a new concrete pad and oil
 8 containment system were completed in 2020.

9 As a result of Hydro’s decision to maintain L1301 as a backup for the Muskrat Falls to Happy Valley
 10 Interconnection for the winter of 2020–2021, T31 was not available in 2020 to replace T7, as planned by
 11 Hydro and approved by the Board. In 2020, Hydro performed an analysis of the resulting risk and
 12 confirmed that there would be low risk to customers as a result of this deferral. The work was deferred
 13 again in 2021 as a result of further deferral of the Muskrat Falls to Happy Valley Interconnection. In
 14 2022, logistical issues related to the size of the transformer and its transportation route delayed the
 15 transformer delivery to Holyrood into 2023.

16 As a result of a tragic incident at the Holyrood Terminal Station in August 2023, resulting in a workplace
 17 fatality, some remaining construction and commissioning activities at the Holyrood Terminal Station
 18 carried over into 2024. The remaining work was completed in 2024.

19 The variance in 2024 expenditures was attributed to a greater level of effort required for internal field
 20 execution resources to complete the final construction and commissioning work. The variance in overall
 21 project expenditures was primarily attributed to higher-than-originally estimated transformer
 22 transportation costs.

1 **Replace Unit 2047 (2021–2023) – Ramea (Supplemental)**

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Annual	1,075.4	1,226.5	151.1
Project	2,436.8	3,318.0	881.2

2 This is a three-year supplemental project (2021-2023) that has carried over into 2025. The project scope
 3 is to replace Unit 2047 in the Ramea Diesel Generating Station with a new 500 kW, 1,800 rpm diesel
 4 genset, as well as replacement of the associated exhaust stack, radiator, aftercooler, switchgear, and
 5 breaker. The scope also includes the installation of fuel coolers and upgrades to some existing
 6 protection and control equipment and the existing cooling system. The new genset and associated new
 7 components were installed and placed in service in 2024 and the unit is operable in manual mode.
 8 Challenges with availability of internal protection and control engineering and construction resources
 9 resulted in the carryover of a portion of the automation and communications work to 2025.

10 The variance in 2024 expenditures and forecasted variance in overall project expenditures are primarily
 11 attributed to the following activities that were not included in the budget estimate:

- 12 • Additional labour and travel costs for internal resources to complete the construction and
 13 commissioning activities;
- 14 • An external engineering consultant for commissioning of switchgear modifications;
- 15 • Replacement of the silencer for the new unit to reduce noise in the surrounding community;
 16 and
- 17 • Modifications of the powerhouse hydronic heating system and the fire alarm system to make
 18 them compatible with the new genset.

19 There were no viable alternatives for this project and Hydro is proceeding with execution.

1 **Upgrade Power Transformers (2024–2025)**

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Program	3,575.9	6,346.5	2,770.6

2 This is a two-year program (2024–2025) that commenced in 2024. The program scope includes the
 3 refurbishment of power transformers at a number of terminal stations. The forecasted variance in
 4 overall program expenditures is attributed to:

- 5 • A higher-than-originally-estimated cost to supply bushings for the 40 year-old Holyrood
 6 Transformer T1, due to a lack of drawings;
- 7 • Additional transformer refurbishments resulting from the deferral of work from the Terminal
 8 Station Renewal (2023-2024) program due to:
 - 9 ○ challenges in finding a supplier for new oil dehydrators;
 - 10 ○ an unavailable equipment outage for work in Stephenville Terminal Station; and
 - 11 ○ unavailability of the mobile substation required for work at Glenburnie and Wiltondale
 12 Terminal Stations;
- 13 • Additional transformer bushing replacements required to meet the requirements of the federal
 14 government PCB³³ regulations; and
- 15 • Additional transformer refurbishments required to address updated asset condition
 16 information.

17 **Wood Pole Line Management Program (2024)**

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	3,765.2	5,122.8	1,357.6
Program	3,765.2	5,122.8	1,357.6

18 This was a one-year program (2024) that closed in 2024. The program scope was to inspect, refurbish, or
 19 replace wood pole transmission line components, including poles, structures, hardware, and conductors.

³³ Polychlorinated biphenyls (“PCB”).

1 The variances in 2024 and overall program expenditures were attributed to higher costs to execute work
 2 compared to the historical costs that were used for the original budget estimate. In particular, Hydro
 3 experienced higher contract costs and additional activities were required to mitigate environmental risk
 4 when accessing transmission lines through bogs and wetlands. There are no viable alternatives for this
 5 program other than re-pacing of the work. To partially mitigate the over-expenditure in 2024, Hydro
 6 reviewed the timing of the program activities and deferred a portion of the work to subsequent years.

7 **4.1.4 Approved Budgets Under \$1 Million**

8 ***Install Breaker Failure Protection (2023–2024) – Sunnyside***

Variance Type	Budget (\$000)	Expenditures	Variance (\$000)
		and Forecast (\$000)	
Annual	206.2	389.3	183.1
Project	289.7	948.6	658.9

9 This is a two-year project (2023–2024) that has carried over into 2025. The project scope is to upgrade
 10 the 230 kV breaker failure protection at the Sunnyside Terminal Station. The variances in 2024 and
 11 overall project expenditures were attributed to:

- 12 • The addition of breaker failure protection upgrades at Oxen Pond and Massey Drive Terminal
 13 Stations, which were partially completed as part of the scope for the Terminal Station
 14 Refurbishment and Modernization (2021–2022) program, as approved as part of the 2021 CBA,
 15 but could not be fully completed in 2022 due to engineering and construction resource
 16 challenges and outage unavailability; and
- 17 • Additional effort required to complete the scope due to unforeseen complexity of the work and
 18 a high level of turnover of project team resources.

19 There are no viable alternatives to this project and Hydro is proceeding with execution.

20 ***Overhaul Diesel Units (2024)***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	829.2	1,300.3	471.1
Program	829.2	1,300.3	471.1

1 This was a one-year program (2024) that closed in 2024. The program scope was to overhaul or replace
 2 diesel engines and to overhaul alternators at Hydro’s diesel generating stations. The variances in 2024
 3 and overall program expenditures were attributed to a greater number of engine overhauls completed
 4 than anticipated at the time of the original budget estimate. The timing of overhauls is based upon the
 5 operating hours of the units.³⁴ The 2024 program scope originally anticipated the overhaul of five diesel
 6 engines at the various diesel generating stations, whereas seven overhauls were required and
 7 completed during the year. Also contributing to the variance, the actual costs associated with two of the
 8 overhauls were higher than the original estimates.

9 **Overhaul Pumps (2024) – Holyrood**

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	661.0	134.7	(526.3)
Program	661.0	134.7	(526.3)

10 This was a one-year program (2024) that closed in 2024. Although there is no over-expenditure and
 11 therefore no reportable variance explanation required, Hydro is providing a summary, as there was a
 12 significant change in the program scope.

13 The original program scope was to overhaul three pumps at the Holyrood TGS:

- 14 • Unit 1 South Vacuum Pump;
- 15 • Unit 2 North Vacuum Pump; and
- 16 • Unit 2 East Boiler Feedwater Pump.

17 The Unit 1 South Vacuum Pump and the Unit 2 North Vacuum Pump were overhauled in 2024 as
 18 planned. The overhaul of the Unit 2 East Boiler Feedwater Pump was deferred to 2025, due to a
 19 necessity to shorten the planned Unit 2 outage in 2024 by 2 weeks, leaving insufficient time to overhaul
 20 the pump. The outage was shortened to address electrical system conditions and ensure planned
 21 outages could proceed for other generating units required for more critical work. As part of the decision
 22 to shorten the outage, it was confirmed that carry over of the pump overhaul work into 2025 would not

³⁴ Units that operate at 1,200 rpm are overhauled at a frequency of 30,000 operating hours and units that operate at 1,800 rpm are overhauled at 20,000 hours.

1 result in a significant winter readiness risk. Meanwhile, parts required for the pump overhaul were
 2 procured and are available for when the work proceeds as part of the Overhaul Pumps (2025) program.

3 ***Replace Intermediate Fuel Storage Tanks (2023–2024) – Nain***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Project	721.1	1,261.7	540.6

4 This is a two-year project (2023–2024) that has carried over into 2025. The project scope is to increase
 5 the intermediate fuel storage system capacity at the Nain Diesel Generating Station. The forecasted
 6 variance in overall project expenditures is associated with higher-than-originally-estimated contract
 7 pricing for the construction work. Hydro tendered the work in early 2024 but did not award the contract
 8 as the tendered pricing significantly exceeded the budget estimate. Opportunities to optimize the design
 9 and construction strategy were then considered, and the project estimate and cost benefit analysis of
 10 project alternatives were updated. It was confirmed the project alternative to increase the intermediate
 11 fuel supply capacity remains the least-cost alternative. The additional time to review the project
 12 estimate and alternatives has resulted in the project carrying over to 2025. Hydro is re-tendering the
 13 work and has incorporated a construction strategy improvement that will eliminate the need for a
 14 mobile crane to be brought to site.

15 **4.2 General Plant**

16 **4.2.1 Approved Budgets Over \$5 Million**

17 ***Replace Light- and Heavy-Duty Vehicles (2024–2026)***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	1,479.1	2,053.8	574.7

18 This is a three-year program (2024–2026) that commenced in 2024. The program scope is to replace
 19 light- and heavy-duty vehicles. The variance in 2024 expenditures was primarily attributed to an increase
 20 in the required number of new light-duty vehicles. The program scope originally anticipated the
 21 procurement of 30 light-duty vehicles and eight heavy-duty vehicles. In 2024, a need was identified to
 22 procure an additional eight light-duty vehicles in 2024, due to unforeseen in-service failures. The failed

1 vehicles did not merit repair costs, given their age, high usage, and/or condition. Although there has
 2 been an increase in the quantity of vehicles to be purchased, the overall program expenditures are
 3 expected to be within 10% of the approved budget.

4 **4.2.2 Approved Budgets Between \$1 Million and \$5 Million**

5 ***Install Ultra-Fast DC Electric Vehicle Chargers (2023–2025) – Supplemental***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Project	2,059.8	2,779.8	720.0

6 This is a three-year supplemental project (2023–2025) that commenced in 2023. The project scope is to
 7 expand the capacity of the province’s Electric Vehicle (“EV”) fast charging network, in partnership with
 8 the Government of Newfoundland and Labrador and the Government of Canada. The forecasted
 9 variance in overall project expenditures is attributed to an increase in the planned number of charging
 10 stations being installed. The original scope of this project was to procure and install seven ultra-fast
 11 direct current EV chargers at five of Hydro’s most utilized charging sites along the Trans Canada
 12 Highway. In 2024, additional funding was secured by the Government of Newfoundland and Labrador
 13 and the number of planned new chargers has increased to ten.

14 ***Replace Diesel Shop Building (2023–2025) – Bishop’s Falls***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	1,223.4	43.2	(1,180.2)
Project	1,422.1	241.9	(1,180.2)

15 This three-year project (2023–2025) closed in 2024 before commencement of construction. The project
 16 scope was to replace the existing diesel shop building at the Bishop’s Falls Complex. As the engineering
 17 design approached 33% completion, the estimate to complete the project increased from \$2.3 million to
 18 approximately \$5.7 million. Hydro then decided to halt project activity and close the project, to allow for
 19 further review of the scope, estimate, and justification. Hydro intends to submit a new project proposal
 20 for review by the Board as part of a future CBA. The engineering and planning expenditures incurred on
 21 this project will be treated financially as work-in-progress. If the expenditures are deemed used and

1 useful to the new project scope, the expenditures will be assigned to the new asset if and when the new
 2 project is approved, constructed, and placed in service.

3 ***Replace Underground Firewater Distribution System (2022–2023) – Holyrood***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Project	1,706.3	3,080.5	1,374.2

4 This was a two-year project (2022–2023) that carried over and was completed in 2024. The project
 5 scope was to replace the underground firewater distribution system that protects the buildings and
 6 terminal station at the Holyrood TGS. The project carried over into 2024 due to a longer than originally
 7 planned design phase. The variance in overall project expenditures was attributed to construction
 8 contract pricing that was higher than what was included in the original budget estimate. There were no
 9 viable alternatives for this project and Hydro proceeded with execution in 2024.

10 ***Upgrade Water and Fire Suppression Systems (2023–2024) – Bishop's Falls***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Project	3,240.0	5,800.0	2,560.0

11 This is a two-year project (2023–2024) that has carried over into 2025. The project scope is to:

- 12 • Install a new water supply line from the town near the Botwood Highway close to the Bishop’s
 13 Falls Complex;
- 14 • Install dedicated domestic water and firewater distribution lines; and
- 15 • Upgrade the fire suppression system in the main building of the Bishop’s Falls Complex.

16 The forecasted variance in overall project expenditures is attributed to procurement and construction
 17 costs that are higher than the original budget estimate. In particular, it was determined during the
 18 engineering design that a new pump house building, and a backup fire pump generator are required. At
 19 the time of preparation of the 2024 Capital Expenditures Overview in the 2025 CBA, Hydro forecasted a

1 variance of \$1.57 million, based upon a pre-tender estimate for the construction work.³⁵ Hydro has now
 2 tendered and awarded the work, and the forecasted variance has been adjusted to \$2.56 million to
 3 reflect the actual tendered pricing. There are no viable alternatives for this project and Hydro is
 4 proceeding with execution. The project has carried over into 2025 due to a longer-than-originally-
 5 planned design phase and longer-than-originally-expected lead times for some of the new components.

6 **4.2.3 Approved Budgets Under \$1 Million**

7 ***Replace Building Exterior (2023–2024) – Postville***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	683.3	1,200.8	517.5
Project	683.3	1,200.8	517.5

8 This was a two-year project (2023–2024) that was completed in 2024. The project scope was to
 9 refurbish the powerhouse building exterior envelope for the Postville Diesel Generating Station. The
 10 variance in 2024 and overall project expenditures was attributed to contract pricing that was higher
 11 than the original budget estimate. There were no viable alternatives for this project.

12 ***Replace Mobile Equipment (2024–2025)***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	216.9	564.8	347.9

13 This is a two-year program (2024–2025) that commenced in 2024. The program scope originally
 14 anticipated the procurement of seven ATVs,³⁶ three light-duty trailers, two heavy-duty trailers, and one
 15 forklift. The variance in 2024 expenditures was primarily associated with delivery of several mobile
 16 equipment items in 2024 that were originally expected to be delivered in 2025. Also contributing to the
 17 variance is the procurement of one additional ATV and two additional trailers due to unforeseen in-
 18 service failures. The failed equipment did not merit repair costs given their age, high usage, and/or

³⁵ For further information, please refer to “2025 Capital Budget Application,” Newfoundland and Labrador Hydro, July 16, 2024, sch. 5, sec. 1.2.3, p. 8.

³⁶ All-terrain vehicle (“ATV”).

1 condition. Although there has been an increase in the quantity of equipment to be purchased, the
 2 overall program expenditures are expected to be within the approved budget.

3 **Replace Mobile Equipment (2023–2024)**

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Program	728.5	764.6	36.1

4 This was a two-year program (2023–2024) that was closed in 2024. The program scope originally
 5 anticipated the procurement of 10 ATVs, 8 snow mobiles, and 12 light-duty trailers. The overall program
 6 expenditures were approximately 5% over the approved budget.³⁷ The over-expenditure was attributed
 7 to a need to procure two additional ATVs, due to unforeseen in-service failures. The failed equipment
 8 did not merit repair costs given their age, high usage, and/or condition. This was partially offset by
 9 procuring two less light-duty trailers in this program.

10 **Upgrade Energy Management System (2024)**

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	366.4	4.6	(361.8)
Program	366.4	4.6	(361.8)

11 This one-year program (2024) has been cancelled. The program scope was to upgrade the Energy
 12 Management System software to mitigate security vulnerabilities, implement bug fixes, and introduce
 13 enhanced functionality on a two-year cycle. Although there is no over-expenditure and therefore no
 14 reportable variance explanation required, Hydro is providing a summary, as there was a significant
 15 change in the program scope. The software vendor advised Hydro that it was unable to support this
 16 work in 2024. Hydro’s attempts to escalate with the vendor did not lead to change. The scope originally
 17 planned for 2024 is now included within the Upgrade Energy Management System (2025–2026)
 18 program, approved as part of the 2025 CBA.

³⁷ This percentage variance is less than 10% and does not trigger a requirement for a variance explanation, but an explanation has been provided since the project was internally approved as an under \$750,000 expenditure but the actual expenditures at completion exceeded that threshold.

1 *Water System Condition Assessment and Upgrades (2023–2024) – Bay d'Espoir*

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Project	665.9	1,328.2	662.3

2 This is a two-year project (2023–2024) that has carried over into 2025. The project scope is to complete
 3 improvements to the Bear Brook water supply system at the Bay d’Espoir Hydroelectric Generating
 4 Station which include replacement of the water storage tank and the relocation of a section of the water
 5 line located at Bear Brook crossing. The project scope also includes a condition assessment of the
 6 remaining system components to identify issues and assist with the planning of future capital
 7 refurbishment work necessary to maintain system reliability. The project carried over into 2025 due to
 8 procurement delays during tendering and the longer-than-anticipated lead time on the new water
 9 storage tank.

10 The forecasted variance in overall project expenditures is primarily attributed to higher-than-originally-
 11 estimated contract pricing to procure and install the replacement water storage tank and to relocate the
 12 section of water line. In addition, project management and internal labour costs are higher than what
 13 was carried in the original budget estimate. Completion of the proposed water supply system
 14 improvements is the only viable project alternative, and Hydro is proceeding with execution.

15 4.3 System Growth

16 4.3.1 Approved Budgets Over \$5 Million

17 *Wabush Terminal Station Upgrades (2021–2024)*

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Annual	3,229.4	4,607.7	1,378.3
Project	12,678.1	16,120.6	3,442.5

18 This is a four-year project (2021–2024) that has carried over into 2025. The project scope includes the
 19 replacement of Transformers T4 and T5 and the addition of a new capacitor bank to support Hydro’s
 20 ability to provide firm supply for customers in accordance with the criteria established for the
 21 transmission system in Western Labrador. The capacitor bank was installed in 2023. The project carried

1 over as a result of longer than originally expected delivery of two new transformers, resulting in the
 2 installation of T5 being delayed from 2023 to 2024 and installation of T4 being delayed from 2024 to
 3 2025.

4 The variance in 2024 expenditures was primarily attributed to contract pricing that exceeded the budget
 5 estimates for Transformer T5: supply; civil and electrical construction; and protection and control
 6 construction.

7 The forecasted variance in overall project expenditures is primarily attributed to:

- 8 • Higher-than-originally-estimated costs for work completed in 2024;
- 9 • Contract pricing that exceeded the budget estimates for capacitor bank supply and civil and
 10 electrical construction; and,
- 11 • Anticipated higher than estimated contract pricing for Transformer T4 supply and construction
 12 in 2025.

13 **4.4 Access**

14 **4.4.1 Approved Budgets Between \$1 Million and \$5 Million**

15 ***Provide Service Extensions (2024)***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	4,272.0	6,074.7	1,802.7
Program	4,272.0	6,074.7	1,802.7

16 This is an annual project to provide service extensions to customers. The budget is based on historical
 17 data from each region. The variance in 2024 was primarily the result of more requests for completion of
 18 service extensions than budgeted.

1 **4.5 Service Enhancement**
 2 **4.5.1 Approved Budgets Over \$5 Million**
 3 ***Replace Metering System (2022–2024)***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Annual	1,618.0	3,649.0	2,031.0
Project	5,875.8	8,095.8	2,220.0

4 This three-year project (2022–2024) has carried over into 2025. The project scope is to replace
 5 manually-read meters and TS1 meters with a drive-by automatic meter reading system. The variance in
 6 2024 expenditures and forecasted variance in overall project expenditures are primarily attributed to
 7 contract labour costs necessary to complete the project. The original project plan was to utilize internal
 8 resources to complete the installation of the meters; however, the pace of meter replacements was
 9 slower than anticipated due to resource constraints. To bring the project to completion in a reasonable
 10 timeframe, Hydro hired internal temporary resources to support the project and is utilizing contractors
 11 to install approximately 16,000 meters. Also contributing to the variances, project management and
 12 implementation of the associated information systems require additional funding to complete the
 13 planned scope of work. Hydro reviewed the cost-benefit analysis of alternatives and confirmed that the
 14 solution being implemented remains the least cost alternative. Hydro is proceeding with execution.

15 ***Upgrades for Future Retirement of Stephenville Gas Turbine (2021–2022)***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	2,954.7	408.9	(2,545.8)
Project	6,874.9	5,115.6	(1,759.3)

16 This was a two-year project (2021–2022) that carried over and was closed in 2024. Although there is no
 17 over-expenditure and therefore no reportable variance explanation required, Hydro is providing a
 18 summary as a significant portion of the project has been cancelled.

19 The project scope included several upgrades to the Bottom Brook and Stephenville Terminal Stations to
 20 minimize the risk of customer outages due to a transformer or transmission line failure following the

1 decommissioning of the Stephenville Gas Turbine. A portion of the project scope is complete and in
2 service. In 2024, Hydro decided to cancel most of the remaining scope of this project as a result of the
3 decision to keep the Stephenville Gas Turbine available for the Bridging Period until 2030,³⁸ or until such
4 time that sufficient alternative generation is commissioned, adequate performance of the Labrador-
5 Island Link is proven, and generation reserves are met. Hydro intends to submit a future capital budget
6 proposal for a new project to complete the remaining upgrades, timed to coincide with the retirement
7 of Stephenville Gas Turbine.

8 No scope of work was completed at the Stephenville Terminal Station. Completed project scope at the
9 Bottom Brook Terminal Station includes:

- 10 • Concrete pads and oil containment systems for two transformers;
- 11 • A new disconnect switch;
- 12 • Foundations and structures for 230 kV and 69 kV buses;
- 13 • A portion of the lighting upgrades; and
- 14 • A portion of the grounding system upgrades.

15 Transformer and transmission line protection upgrades were partially completed and these scopes have
16 been transferred to the Replace Protective Relays (2024–2025) program, for completion of the work.
17 These upgrades will provide immediate benefits by reducing customer impact from any unplanned
18 outages.

19 All other remaining scope is cancelled and will be completed as part of the future capital project. For
20 new equipment purchased but not yet installed, Hydro was able to utilize some of that equipment on
21 other projects, retain it as capital spares, or add it to inventory. All other expenditures incurred on this
22 project will be treated financially as work in progress. If the expenditures are deemed used and useful
23 with regard to the new project scope, the expenditures will be assigned to the new assets if and when
24 the new project is approved, constructed and placed in service.

³⁸ “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).

1 **4.5.2 Approved Budgets Between \$1 Million and \$5 Million**

2 ***Winterize Unit 2102 and Install Mobile – Charlottetown (Supplemental)***³⁹

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	44.1	191.1	147.0
Project	1,314.7	1,786.7	472.0

3 This supplemental project commenced in 2022 and was carried over and completed in 2024. The project
 4 scope was to perform upgrades to improve the reliability of service for the communities of
 5 Charlottetown and Pinsent’s Arm in Labrador. Construction was completed in 2023 except for the
 6 replacement of the transformer for Unit 2108, due to late delivery of the new transformer. The
 7 transformer was subsequently delivered and installed in 2024. The variances in 2024 and overall project
 8 expenditures were primarily attributed to more extensive refurbishment work required than originally
 9 anticipated and additional environmental permitting requirements. A review of project alternatives
 10 confirmed that the project remained the least-cost alternative.

11 ***Upgrade of Worst-Performing Distribution Feeders (2023–2024)***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	774.3	1,420.3	646.0
Program	1,446.0	2,092.0	646.0

12 This is a two-year program (2023–2024) that closed in 2024. The program scope was to upgrade a
 13 distribution feeder and relocate a section of distribution line in the Farewell Head Distribution System.
 14 The variances in 2024 and overall program expenditures were attributed to asset conditions being worse
 15 than originally anticipated, resulting in the need to replace additional poles, cross arms and other
 16 components. Also, the construction activity took longer than originally anticipated due to challenging
 17 site conditions. Hydro considered the alternative of constructing a new feeder at the time of the original
 18 budget proposal; however, the line is approximately 58 kilometres long and approximately 88% of the
 19 poles were less than 35 years old. Other existing feeder components are still in operable condition, such

³⁹ “Application for Approval of Capital Expenditures Necessary to Address Supply in Charlottetown and Pinsent’s Arm, Labrador,” Newfoundland and Labrador Hydro, October 7, 2022.

1 as conductors, insulators, and cross arms. The complete replacement of the existing feeder would
 2 require a level of investment that is not required for the continuation of reliable service.

3 **4.5.3 Approved Budgets Under \$1 Million**

4 ***Install Oil Spill Containment Transformer T1S (2023–2024) – Cat Arm***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Project	581.6	873.8	292.2

5 This was a two-year project (2023–2024) that was completed in 2024. The project scope was to install a
 6 secondary oil containment system for the spare power Transformer T1S located at Hydro’s Cat Arm
 7 Hydroelectric Generating Station to prevent the accidental release of transformer oil into the
 8 environment. The variance in overall project expenditures was attributed to supply and construction
 9 contract pricing that exceeded the original budget estimate. There were no viable alternatives to this
 10 project and Hydro proceeded with execution.

11 **4.6 Mandatory**

12 **4.6.1 Approved Budgets Between \$1 Million and \$5 Million**

13 ***Refurbish Fuel Oil Storage Tank 4 (2024) – Holyrood***

Variance Type	Budget (\$000)	Actual Expenditures (\$000)	Variance (\$000)
Annual	1,920.0	2,150.8	230.8
Project	1,920.0	2,150.8	230.8

14 This is a single year (2024) project that was completed in 2024. The project scope was to clean, inspect,
 15 and refurbish a fuel oil storage tank (Tank 4) at the Holyrood TGS. The variances in 2024 and overall
 16 project expenditures were attributed to more refurbishment work required than was anticipated at the
 17 time of the original budget estimate. During the tank inspection following fuel transfer and cleaning,
 18 deformation was noted on the tank shell which necessitated the engagement of an external engineering
 19 consultant to perform a finite element analysis on the shell to determine stress levels in the area where
 20 deformation was noted. The engineering consultant recommended the installation of steel stiffeners on
 21 the shell in the area where deformation was noted to reinforce the tank so that it could be filled to the

1 maximum operating level. This additional refurbishment work was completed in 2024 prior to returning
 2 Tank 4 to service. There were no viable alternatives for this project and Hydro proceeded with
 3 execution.

4 **4.6.2 Approved Budgets Under \$1 Million**

5 ***Replace Terminal Station Lighting (2023–2024)***

Variance Type	Budget (\$000)	Expenditures and Forecast (\$000)	Variance (\$000)
Annual	528.7	717.0	188.3
Project	917.4	1,416.3	498.9

6 This is a two-year project (2023–2024) that has carried over into 2025. The project scope is to replace
 7 terminal station service lighting at various terminal stations. The variance in 2024 expenditures was
 8 attributed to higher than originally estimated construction, project management, procurement and
 9 engineering costs. The forecasted variance in overall project expenditures is attributed to:

- 10 • The higher-than-originally-estimated costs for work completed in 2024;
- 11 • A change in execution strategy for the lighting replacements for Sunnyside, which did not get
 12 completed in 2024 due to internal construction resource challenges; that scope will be
 13 completed by a contractor in 2025, which is expected to result in higher expenditures than
 14 budgeted; and
- 15 • Expansion of the project scope to include lighting replacements for the generating unit
 16 transformer bays at Bay d’Espoir, which is expected to be completed in 2025.

17 There are no viable alternatives for this project and Hydro is proceeding with execution.

18 **4.7 Allowance for Unforeseen**

19 Hydro did not identify any work in 2024 that necessitated the use of the Allowance for Unforeseen
 20 Items Account.

21 **5.0 Lease/Purchase Approval Approach**

22 Hydro did not execute any capital leases in 2024.

6.0 Carryover Report

In 2024, Hydro carried over \$29.7 million of budget to future years; this includes carryover of \$12.6 million associated with the deferred completion of scopes previously planned for completion in 2024 and \$17.1 million associated with reallocation of cost-flow within the years of approved projects and programs. For comparison, the average carryover amount for the previous nine years 2015–2023 was \$26.6 million. Chart 24 shows Hydro’s capital carryover for the years 2015–2024.

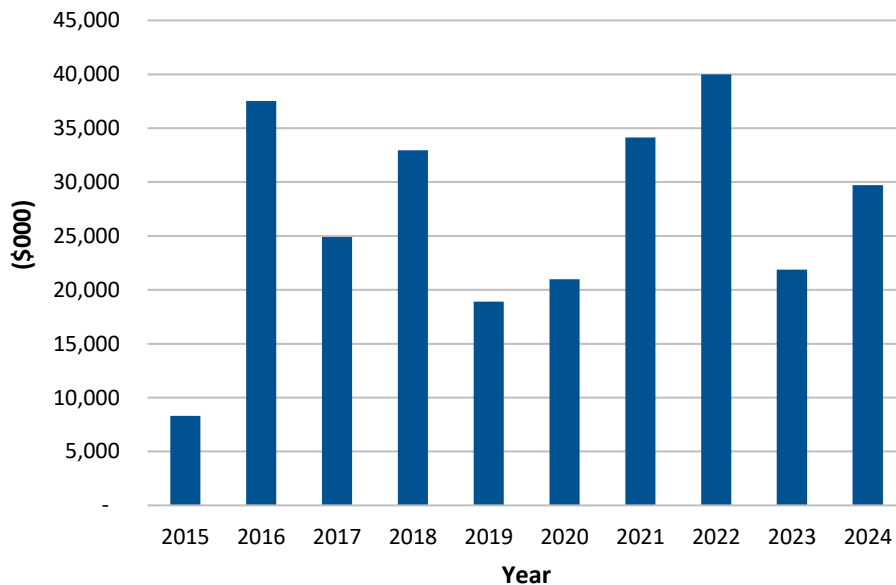


Chart 24: Carryover by Year (2015–2024)

Hydro’s analysis of 2024 expenditure variances concluded that the main drivers of carryover from 2024 to future years are:

- Unforeseen challenges that arose during the detailed planning and design of work scopes;
- Work delayed as a result of challenges scheduling design and construction labour resources;
- Work paused to reassess justification or re-evaluate the cost of alternative solutions;
- Unavailability of equipment outages required to safely complete some work scopes; and
- Delayed delivery of some new equipment from vendors.

1 As part of its annual work planning cycle, in the early part of the calendar year, Hydro determines the
2 risk associated with a one-year delay in completing each capital program and project work scope. This
3 allows Hydro to minimize the risk of carryover if constraints prevent Hydro from executing all planned
4 work. For the upcoming 2026 CBA cycle, Hydro is evaluating whether a broader approach to deferral
5 could allow for execution of the 2026 work scope and prevent the further deferral of prior carryover to
6 future years. Hydro utilizes an established project change management process to identify the impacts
7 of carryover and to develop temporary mitigation plans to reduce the impact where possible until the
8 work can be completed.

9 **7.0 Conclusion**

10 Hydro's 2024 capital expenditures totalled \$154.2 million, exceeding the budget by \$20.0 million
11 (14.9%). Projects and programs that exceeded their individual 2024 approved budgets were partially
12 offset by projects and programs that underspent their individual 2024 approved budgets.

13 The primary driver of capital program and project over-expenditures in 2024 was planned work
14 completed at a net higher cost than the original budget estimates. Most of these over-expenditures
15 associated with estimates are attributed to materials and construction contracts that exceeded the
16 budget estimates, which may be indicative of a general shift in market pricing. Internal resource
17 challenges also contributed to increased costs as a result of increasing contractor scopes to accomplish
18 work, and deferrals subsequently impacting initial budget estimates. Unplanned work completed to
19 address in-service failures at net higher costs than budgeted was also a significant contributor to over-
20 expenditures. Similarly, unanticipated work completed to address condition assessments at net higher
21 costs than budgeted also contributed to over-expenditures.

22 The primary driver of capital program and project under-expenditures in 2024 was work paused to
23 reassess justification or re-evaluate the cost of alternative solutions. Hydro canceled scopes of work in
24 2024 that were no longer justified. In other cases, Hydro confirmed the justification or least cost
25 alternatives and resumed the work, but with delayed expenditures. Carryover of work as a result of
26 challenges scheduling design and construction labour resources was also a contributor to 2024 under-
27 expenditures.

28 Hydro proposes projects and programs required to maintain safe, reliable, least-cost service to its
29 customers, in an environmentally responsible manner. Hydro strives to execute all approved scopes of

1 work when they are required and inevitably experiences some carryover of work each year. Hydro
2 utilizes established project management practices and procedures to monitor, control, and manage this
3 carryover. These practices and procedures incorporate continual improvement methodologies to ensure
4 that lessons learned are captured and leveraged.

5 In 2024, Hydro carried over \$29.7 million of budget to future years, as compared to the previous nine-
6 year carryover average of \$26.6 million. As part of its annual work planning cycle, in the early part of the
7 calendar year, Hydro determines the risk associated with a one-year delay in completing each capital
8 program and project work scope. This allows Hydro to minimize the risk of carryover if constraints
9 prevent Hydro from executing all planned work. For the upcoming 2026 CBA cycle, Hydro is evaluating
10 whether a broader approach to deferral could allow for execution of the 2026 work scope and prevent
11 the further deferral of prior carryover to future years. Hydro utilizes an established project change
12 management process to identify the impacts of carryover and to develop temporary mitigation plans to
13 reduce the impact where possible until the work can be completed.

14 Hydro continues to review its capital budget planning and execution methodologies and use its
15 expenditures analysis to identify opportunities that may contribute to reduced capital expenditure
16 variances in future years.

Appendix A

Financial Schedules



Capital Expenditures and Carryover Report for the Year Ended December 31, 2024, Appendix A

2024 Capital Expenditures Summary By Year
(\$000)¹

Year	Actual Expenditure and Forecast										Variance											
	Capital Budget					F (A+C+E)					K-F	H-D										
	A		B		C		D (B+C)		E		F (A+C+E)		G		H		I		J		K (G+H+I+J)	
	2020	2021	2022	2023	Carryover to 2024	Original 2024	Revised 2024	2025 and Beyond	Total	2020	2021	2022	2023	2024	2025 and Beyond	Project Carryover	Multi-Year Cash Flow Reallocation	Total	Project Variance	Project Variance (%)	Annual Variance	Annual Variance (%)
2024	-	-	-	-	(0.00)	60,448.48	60,448.48	42,873.53	103,322.01	(0.00)	0.00	(0.00)	(0.00)	78,956.20	42,873.53	1,813.17	10,455.77	134,098.67	30,776.66	29.79%	18,507.71	30.62%
2023	-	-	25,295.92	-	4,172.98	38,912.09	43,085.07	73,720.13	137,928.14	-	-	23,834.22	-	41,821.13	73,720.13	7,618.18	3,164.33	150,157.99	12,229.85	8.87%	(1,263.93)	-2.93%
2022	-	-	11,687.32	26,782.80	11,042.69	3,631.00	14,673.69	-	42,101.12	-	-	9,470.76	20,119.32	17,441.86	-	1,509.61	-	48,541.55	6,440.43	15.30%	2,768.17	18.86%
2021	-	17,693.43	27,073.90	5,221.30	3,552.84	9,329.50	12,882.34	5,466.70	64,784.83	-	8,635.85	17,324.77	21,472.33	13,139.23	5,466.70	1,697.99	3,465.38	71,202.25	6,417.42	9.01%	256.90	1.99%
2020	3,224.28	5,979.25	14,709.10	586.36	3,110.79	-	3,110.79	-	24,498.99	695.61	1,115.55	9,104.31	12,245.41	2,817.20	-	-	-	25,978.08	1,479.09	6.04%	(293.59)	-9.44%
Total	3,224.28	23,672.68	53,470.32	57,886.38	21,879.29	112,321.07	134,200.37	122,060.36	372,635.09	695.61	9,751.40	35,899.84	77,671.28	154,175.62	122,060.36	12,638.94	17,085.48	429,976.54	57,343.45		19,975.25	

¹Numbers may not add due to rounding.

Capital Expenditures and Carryover Report for the Year Ended December 31, 2024, Appendix A

2024 Capital Expenditures Summary by Category (\$000)¹

Category	Capital Budget										Actual Expenditure and Forecast				Carryover to 2025 and Beyond		K (G+H+I+J)		Variance			
	A		B		C		D (B+C)		E		F (A+C+E)		G		H		I		J		K-F	H-D
	2020	2021	2022	2023	Carryover to 2024	Original 2024	Revised 2024	2025 and Beyond	Total	2020	2021	2022	2023	2024	2025 and Beyond	Project Carryover	Cash Flow Resilocation	Total	Project Variance (%)	Annual Variance (%)		
Hydraulic Plant	-	9,806.36	11,214.50	10,743.10	1,433.43	17,053.09	18,486.52	73,540.73	122,557.78	-	5,836.64	13,533.58	11,097.61	20,732.95	73,540.73	1,517.95	1,448.36	127,707.83	5,350.05	4.37%	2,246.43	12.15%
Thermal Plant	-	-	1,559.20	16,223.50	5,852.38	20,355.83	26,208.21	2,158.13	40,296.67	-	-	1,296.48	15,458.81	39,989.37	2,158.13	540.02	319.25	59,762.06	19,465.40	48.31%	13,781.16	52.85%
Combustion Turbines	546.14	2,500.00	2,477.40	2,711.00	2,990.24	1,536.58	4,526.82	385.90	7,673.13	35.03	39.28	2,367.51	334.98	10,044.05	385.90	628.83	29.84	13,865.42	6,192.29	80.70%	5,517.23	121.88%
Terminal Stations	2,678.14	5,018.76	19,644.90	11,663.90	3,194.11	24,164.20	27,358.31	24,813.50	87,983.40	660.58	1,486.59	7,930.04	28,508.41	27,983.51	24,813.50	1,513.40	8,789.71	101,695.73	13,712.33	15.59%	625.20	2.29%
Transmission	-	3,479.25	12,281.70	586.36	272.23	5,063.52	5,334.75	-	21,409.82	-	826.07	6,178.94	9,070.17	6,437.91	-	-	-	22,513.08	1,103.26	5.15%	1,103.16	20.68%
Distribution	-	-	486.80	1,077.80	612.43	12,674.51	13,286.94	4,534.68	18,773.79	(0.00)	0.00	99.11	853.06	16,254.52	4,534.68	-	2,166.67	23,908.03	5,134.24	27.35%	2,867.57	22.33%
Generation	-	2,868.31	4,702.20	7,621.72	5,499.85	3,439.97	8,939.82	7,865.02	26,497.22	-	1,552.83	2,066.73	5,783.79	10,192.82	7,865.02	2,531.71	94.72	30,087.63	3,599.41	13.55%	1,252.99	14.02%
Properties	-	-	-	565.10	(12.98)	4,692.20	4,256.22	-	4,834.30	-	-	2,264.44	4,993.35	4,263.47	449.70	5,073.68	-	6,316.33	1,482.03	30.66%	(3,591.65)	-84.39%
Metering	-	-	515.60	4,365.60	623.41	1,767.90	2,391.31	449.70	7,098.80	-	-	35.58	758.59	4,694.61	1,474.89	189.03	(478.14)	9,291.12	2,192.32	30.88%	1,872.16	78.29%
Tools and Equipment	-	-	40.80	2,505.70	1,752.32	2,498.63	4,250.95	1,474.89	6,520.02	-	-	35.58	114.62	1,630.90	-	-	-	6,485.54	(94.48)	-0.53%	443.65	10.44%
Information Systems	-	-	28.22	105.30	42.78	2,519.30	2,562.08	-	2,706.70	-	-	1.87	57.66	3,954.05	1,458.30	497.90	1,879.33	7,849.12	381.80	5.11%	(931.18)	-36.34%
Telecontrol	-	-	569.00	1,963.80	(854.90)	8,471.93	8,017.03	5,061.80	16,686.53	-	-	125.56	3,062.14	6,234.02	5,061.80	-	2,157.79	16,686.31	165.20	3.55%	(1,783.02)	-32.24%
Transportation	-	-	-	-	-	1,631.91	1,631.91	317.70	1,949.61	-	-	-	-	1,098.89	317.70	146.42	551.81	2,114.81	165.20	8.47%	(533.02)	-22.66%
Administration	-	-	-	-	-	1,000.00	1,000.00	-	1,000.00	-	-	-	-	-	-	-	-	2,114.81	(1,000.00)	-100.00%	(1,000.00)	-100.00%
Allowance for Unforeseen Items	-	-	-	-	(0.00)	-	-	-	1,000.00	-	-	-	-	-	-	-	-	2,114.81	(1,000.00)	-100.00%	(1,000.00)	-100.00%
Total	3,224.28	23,672.68	53,470.32	57,886.38	21,879.29	112,321.07	134,200.37	122,860.36	372,635.09	695.61	9,751.40	35,899.84	77,671.28	154,175.62	122,060.36	12,638.94	17,085.48	429,978.54	57,348.45		19,975.25	

¹ Numbers may not add due to rounding.

Capital Expenditures and Carryover Report for the Year Ended December 31, 2024, Appendix A

2024 Capital Expenditures by Investment Classification
(Renewal)
(\$000)

Project	Capital Budget										Actual Expenditure and Forecast										Carryover to 2025 and Beyond		Variance	
	A		B		C		D (B+C)		E (A+C+E)		F (A+C+E)		G		H		I		J		K (G+H+I+J)		L (K+J)	
	2020	2021	2022	2023	2024	2025 and Beyond	Original	Revised	2025 and Beyond	Total	2020	2021	2022	2023	2024	2025 and Beyond	2024	2025 and Beyond	Project Carryover	Multi-Year Cash Flow Rehabilitation	Project Variance (\$)	%	Annual Variance (\$)	%
Telecommunications Services (2024-2025)	-	-	-	-	-	-	150.00	150.00	-	150.00	-	-	-	-	150.00	-	150.00	-	-	-	150.00	70.00%	150.00	70.00%
Replace 48V Battery Banks and Chargers (2024)	-	-	-	-	422.20	-	422.20	422.20	-	844.40	-	-	-	-	422.20	-	422.20	-	-	-	422.20	-0.00%	422.20	-0.00%
Replace Power Line Carrier (2024-2025) - TL247	-	-	-	-	87.20	-	87.20	87.20	-	174.40	-	-	-	-	87.20	-	87.20	-	-	-	87.20	0.00%	87.20	0.00%
Upgrade Remote Terminal Units (2024)	-	-	-	-	160.90	-	160.90	160.90	-	321.80	-	-	-	-	160.90	-	160.90	-	-	-	160.90	20.87%	160.90	20.87%
Replace Distribution Substation (2024-2025) - Herd Lake	-	-	-	-	340.80	-	340.80	340.80	-	681.60	-	-	-	-	340.80	-	340.80	-	-	-	340.80	41.00%	340.80	41.00%
Replace Annameter Panels (2024-2025) - Cat Lam	-	-	-	-	160.20	-	160.20	160.20	-	320.40	-	-	-	-	160.20	-	160.20	-	-	-	160.20	19.77%	160.20	19.77%
McArthur Surge Tank 1 (2024-2025) - Bay of Spoor	-	-	-	-	176.80	-	176.80	176.80	-	353.60	-	-	-	-	176.80	-	176.80	-	-	-	176.80	22.20%	176.80	22.20%
Replace Timber Crib and Insulation (2024) - Burr Dam Spillway	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	161.80	-	-	-	161.80	18.16%	161.80	18.16%
Replace Annameter - Phase 1 (2024-2025) - Burr Dam	-	-	-	-	248.10	-	248.10	248.10	-	496.20	-	-	-	-	248.10	-	248.10	-	-	-	248.10	30.76%	248.10	30.76%
Refurbish Intake 1 (2024-2025) - Bay of Spoor	-	-	-	-	271.10	-	271.10	271.10	-	542.20	-	-	-	-	271.10	-	271.10	-	-	-	271.10	33.84%	271.10	33.84%
Overhaul Hydraulic Units (2024)	-	-	-	-	332.80	-	332.80	332.80	-	665.60	-	-	-	-	332.80	-	332.80	-	-	-	332.80	41.63%	332.80	41.63%
Upgrade DC Inverters - Units 1 and 2 (2024-2025) - Hydro	-	-	-	-	330.70	-	330.70	330.70	-	661.40	-	-	-	-	330.70	-	330.70	-	-	-	330.70	40.85%	330.70	40.85%
Upgrade Unit 1 Control (2024-2025) - Hydro	-	-	-	-	448.30	-	448.30	448.30	-	896.60	-	-	-	-	448.30	-	448.30	-	-	-	448.30	55.76%	448.30	55.76%
Overhaul Unit 1 Turbine, Valves and Generator (2024) - Hydro	-	-	-	-	518.40	-	518.40	518.40	-	1036.80	-	-	-	-	518.40	-	518.40	-	-	-	518.40	64.80%	518.40	64.80%
Boiler Condition Assessment and Miscellaneous Upgrades (2024-2025) - Hydro	-	-	-	-	240.00	-	240.00	240.00	-	480.00	-	-	-	-	240.00	-	240.00	-	-	-	240.00	30.00%	240.00	30.00%
Overhaul Main Transformer (2024-2025) - Hydro	-	-	-	-	511.00	-	511.00	511.00	-	1022.00	-	-	-	-	511.00	-	511.00	-	-	-	511.00	63.88%	511.00	63.88%
Renew Circuit Breaker (2024-2025) - Hydro	-	-	-	-	183.90	-	183.90	183.90	-	367.80	-	-	-	-	183.90	-	183.90	-	-	-	183.90	23.00%	183.90	23.00%
Terminal Station in-Service Failures (2024)	-	-	-	-	1300.00	-	1300.00	1300.00	-	2600.00	-	-	-	-	1300.00	-	1300.00	-	-	-	1300.00	162.50%	1300.00	162.50%
Upgrade Power Transformers (2024-2025)	-	-	-	-	866.60	-	866.60	866.60	-	1733.20	-	-	-	-	866.60	-	866.60	-	-	-	866.60	108.33%	866.60	108.33%
Replace Terminal Station Battery Banks and Chargers (2024-2025)	-	-	-	-	745.00	-	745.00	745.00	-	1490.00	-	-	-	-	745.00	-	745.00	-	-	-	745.00	93.13%	745.00	93.13%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	154.90	-	154.90	154.90	-	309.80	-	-	-	-	154.90	-	154.90	-	-	-	154.90	19.36%	154.90	19.36%
Replace Protective Relay (2024-2025)	-	-	-	-	1388.40	-	1388.40	1388.40	-	2776.80	-	-	-	-	1388.40	-	1388.40	-	-	-	1388.40	173.56%	1388.40	173.56%
Replace Disconnector (2024-2025)	-	-	-	-	127.40	-	127.40	127.40	-	254.80	-	-	-	-	127.40	-	127.40	-	-	-	127.40	16.18%	127.40	16.18%
Upgrade Data Alarm Systems (2024-2025) - Western Avon Terminal Station	-	-	-	-	137.00	-	137.00	137.00	-	274.00	-	-	-	-	137.00	-	137.00	-	-	-	137.00	17.13%	137.00	17.13%
Replace Circuit Breaker Rectifier Converters (2024-2025) - Hydro	-	-	-	-	448.30	-	448.30	448.30	-	896.60	-	-	-	-	448.30	-	448.30	-	-	-	448.30	56.04%	448.30	56.04%
Overhaul Diesel Units (2024)	-	-	-	-	829.20	-	829.20	829.20	-	1658.40	-	-	-	-	829.20	-	829.20	-	-	-	829.20	103.65%	829.20	103.65%
Wood Pole Line Management (2024)	-	-	-	-	3762.20	-	3762.20	3762.20	-	7524.40	-	-	-	-	3762.20	-	3762.20	-	-	-	3762.20	470.28%	3762.20	470.28%
Transmission in-Service Failures (2024)	-	-	-	-	158.50	-	158.50	158.50	-	317.00	-	-	-	-	158.50	-	158.50	-	-	-	158.50	19.81%	158.50	19.81%
Upgrade Distribution (2024-2025) - Bay of Spoor (2024-2025)	-	-	-	-	182.30	-	182.30	182.30	-	364.60	-	-	-	-	182.30	-	182.30	-	-	-	182.30	22.79%	182.30	22.79%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	745.00	-	745.00	745.00	-	1490.00	-	-	-	-	745.00	-	745.00	-	-	-	745.00	93.13%	745.00	93.13%
Replace Diesel Generator (2024-2025)	-	-	-	-	654.50	-	654.50	654.50	-	1309.00	-	-	-	-	654.50	-	654.50	-	-	-	654.50	81.81%	654.50	81.81%
Completion of Fire Restoration - Fourth Floor Hydro Place	-	-	-	-	750.20	-	750.20	750.20	-	1500.40	-	-	-	-	750.20	-	750.20	-	-	-	750.20	93.77%	750.20	93.77%
Gas Turbine in-Service Failures (2024)	-	-	-	-	350.00	-	350.00	350.00	-	700.00	-	-	-	-	350.00	-	350.00	-	-	-	350.00	43.75%	350.00	43.75%
Hydro Fuel Tanks (2024) - Herdwoods Gas Turbine	-	-	-	-	435.40	-	435.40	435.40	-	870.80	-	-	-	-	435.40	-	435.40	-	-	-	435.40	54.43%	435.40	54.43%
Replace Turbine in Machine Inter Face (2023) - Happy Valley Gas Turbine	-	-	-	-	57.20	-	57.20	57.20	-	114.40	-	-	-	-	57.20	-	57.20	-	-	-	57.20	7.15%	57.20	7.15%
Replace Power Line Carrier (2023-2024) - TL233 and TL234	-	-	-	-	17.40	-	17.40	17.40	-	34.80	-	-	-	-	17.40	-	17.40	-	-	-	17.40	2.18%	17.40	2.18%
Replace Power Line Carrier (2023-2024) - TL233 and TL234	-	-	-	-	55.70	-	55.70	55.70	-	111.40	-	-	-	-	55.70	-	55.70	-	-	-	55.70	6.96%	55.70	6.96%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	161.80	-	-	-	161.80	20.23%	161.80	20.23%
Refurbish Superstructure (2023-2024) - Salmon River Spillway	-	-	-	-	209.02	-	209.02	209.02	-	418.04	-	-	-	-	209.02	-	209.02	-	-	-	209.02	26.13%	209.02	26.13%
Overhaul Unit 2 Turbine and Valve (2023) - Hydro	-	-	-	-	903.50	-	903.50	903.50	-	1807.00	-	-	-	-	903.50	-	903.50	-	-	-	903.50	112.94%	903.50	112.94%
Replace Inter mediate Fuel Storage Tanks (2023-2024) - Main	-	-	-	-	17.40	-	17.40	17.40	-	34.80	-	-	-	-	17.40	-	17.40	-	-	-	17.40	2.18%	17.40	2.18%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	161.80	-	-	-	161.80	20.23%	161.80	20.23%
Install Backup Diesel Generator (2023-2024) - Burchar	-	-	-	-	16.00	-	16.00	16.00	-	32.00	-	-	-	-	16.00	-	16.00	-	-	-	16.00	2.00%	16.00	2.00%
Replace Data Alarm System Annunciator (2023) - Burchar	-	-	-	-	81.60	-	81.60	81.60	-	163.20	-	-	-	-	81.60	-	81.60	-	-	-	81.60	10.20%	81.60	10.20%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	161.80	-	-	-	161.80	20.23%	161.80	20.23%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	161.80	-	-	-	161.80	20.23%	161.80	20.23%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	161.80	-	-	-	161.80	20.23%	161.80	20.23%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	161.80	-	-	-	161.80	20.23%	161.80	20.23%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	161.80	-	-	-	161.80	20.23%	161.80	20.23%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	161.80	-	-	-	161.80	20.23%	161.80	20.23%
Replace Annameter (2024-2025) - Hydro	-	-	-	-	161.80	-	161.80	161.80	-	323.60	-	-	-	-	161.80	-	16							

Capital Expenditures and Carryover Report for the Year Ended December 31, 2024, Appendix A

2024 Capital Expenditures by Investment Classification
System Growth
(\$000)

Project	Capital Budget										Actual Expenditure and Forecast										K (G+H+I+J)		Variance		
	A		B		C		D (B+C)		E		F (A+C+E)		G		H		I		J		K (G+H+I+J)		L		
	2020	2021	2022	2023	2024	Original 2024	Revised 2024	2025 and Beyond	Total	2020	2021	2022	2023	2024	2025 and Beyond	2024	2025 and Beyond	Project Carryover	Project Realization	Total	Project Variance	Annual Variance	Project Variance (%)	Annual Variance (%)	
Aditions for Load - Distribution Systems (2024-2027) - Carwright	-	-	-	-	-	1972	1972	48811	50788	-	-	-	-	-	48811	-	48811	-	1972	50788	-	18373	-100.00%	-	-
Aditions for Load - Distribution Systems (2024-2026) - Main Brook	-	-	-	580.00	-	32673	32673	28239	833.02	-	-	-	52.02	59837.5	2629	2629	-	(13179)	353.02	72832.27	(0.03)	13179	40.38%	-	-
Aditions for Load - Distribution Systems (2022-2024) - Jean Lake Terminal Station	-	-	307.50	51.30	-	52798	52798	728930	748930	-	-	12707	52	59837.5	728930	728930	36.65	(8880)	72832.27	72832.27	0.00%	8877	13.03%	-	-
Aditions for Load - Distribution Systems (2022-2024) - Jean Lake Terminal Station	-	1186.70	6235.00	48320	-	3395159	3395159	51450	1096419	-	30660	220918	438848	107021	51450	51450	8923	(8923)	1078133	1078133	0.00%	(218848)	-66.38%	-	-
Aditions for Load - Water's Substation Upgrades	-	2300.72	4035.50	1602.90	-	3880.00	3229.42	-	1267812	-	79401	124319	7993.32	460769	-	-	88344	-	1610464	1610464	3.42153	1378.27	41.89%	-	-
Aditions for Load - Water's Substation Upgrades	-	3488.42	11606.30	2262.20	-	6984.35	7384.43	832826	3242146	-	109461	420554	12465243	632541	832826	832826	92809	-	3590309	3590309	3.81165	(597.04)	-	-	
Total	-	-	-	-	-	6984.35	7384.43	832826	3242146	-	109461	420554	12465243	632541	832826	832826	92809	-	3590309	3590309	3.81165	(597.04)	-	-	-

Numbers may not add due to rounding.

Capital Expenditures and Carryover Report for the Year Ended December 31, 2024, Appendix A

2024 Capital Expenditures By Investment Classification
Access
(\$000)¹

Project	Capital Budget										Actual Expenditure and Forecast										K (G+H+I+J)		Project Variance		Annual Variance	
	A		B		C		D (B+C)		E		F (A+C+E)		G		H		I		J		K F	H-D	Project Variance (%)	Annual Variance (%)		
	2020	2021	2022	2023	2024	Original 2024	Revised 2024	2025 and Beyond	Total	2020	2021	2022	2023	2024	2025 and Beyond	Project Carryover	Multi-Year Cash Flow Reallocation	Total	Project Variance	Annual Variance						
Purchase Meters and Metering Equipment (2024)	-	-	-	-	-	470.70	470.70	-	470.70	-	-	-	-	443.02	-	-	-	-	-	(27.68)	-	(27.68)	-5.88%	-5.88%		
Provide Service Extensions (2024)	-	-	-	-	4,272.00	4,272.00	-	4,272.00	-	(0.00)	(0.00)	(0.00)	-	6,074.66	-	-	-	-	-	1,802.66	1,802.66	42.20%	42.20%			
Valentia Gold Interconnection - Supplemental	-	3,479.25	12,281.70	586.36	272.23	-	272.23	-	16,347.31	-	826.07	6,178.94	9,070.17	73.55	-	-	-	-	-	(198.58)	(198.58)	-1.21%	-72.96%			
Total	-	3,479.25	12,281.70	586.36	272.23	4,742.70	5,014.93	-	21,090.01	-	826.07	6,178.94	9,070.17	6,991.23	-	-	-	-	-	1,576.40	1,576.40					

¹ Numbers may not add due to rounding.

Capital Expenditures and Carryover Report for the Year Ended December 31, 2024, Appendix A

2024 Capital Expenditures By Investment Classification
Service Enhancement
(\$000)¹

Project	Capital Budget				Actual Expenditure and Forecast										Carryover to 2025 and Beyond		K (H+H+I)		Variance					
	A		B		C		D (B+C)		E		F (A+C+E)		G		H		I		J		K-F		H-D	
	2020	2021	2022	2023	Carryover to 2024	Original 2024	Revised 2024	2025 and Beyond	Total	2020	2021	2022	2023	2024	2025 and Beyond	Project Carryover	Cash Flow Reallocation	Total	Project Variance	Annual Variance	Project Variance (%)	Annual Variance (%)		
Install Anemometer (2024) - Cat Arm	-	68.60	-	-	-	68.60	-	68.60	-	-	-	-	100.74	-	-	-	-	100.74	32.14	-	-6.85%	-	32.14	46.85%
Remove Safety Hazard (2024)	-	-	-	-	-	198.30	-	198.30	-	-	-	-	322.48	-	-	-	-	322.48	124.18	-	62.62%	-	124.18	62.62%
Automate Bulk Metering (2024-2026)	-	-	-	-	-	302.60	-	752.30	-	-	-	-	171.46	449.70	-	-	131.14	752.30	-	-	0.00%	-	(131.14)	-43.34%
Construct Maintenance Platform (2024-2025) - Helwood Gas Turbine	-	-	-	-	-	130.50	228.70	359.20	-	-	-	-	65.78	228.70	64.72	-	64.72	359.20	-	-	0.00%	-	(64.72)	-19.60%
Upgrade Worst Performing Distribution Feeders (2024-2025)	-	-	-	-	-	1,064.30	2,227.40	3,291.70	-	-	-	-	307.36	2,227.40	756.94	-	(84.88)	3,291.70	-	-	0.00%	-	(756.94)	-23.28%
Upgrade Instrumentation (2024-2025) - Harwood Gas Turbine	-	-	-	-	-	60.90	157.20	218.10	-	-	-	-	95.78	157.20	-	-	157.20	218.10	-	-	0.00%	-	(157.20)	-47.31%
Upgrade Instrumentation (2024-2025) - Harwood Gas Turbine	-	-	-	-	-	46.90	157.20	204.10	-	-	-	-	46.90	157.20	-	-	157.20	204.10	-	-	0.00%	-	(157.20)	-47.31%
Address for Load - Diesel Generator Replacement and Fuel Storage Upgrade - Request	-	-	-	-	-	50.07	3,379.15	3,429.22	-	-	-	-	21.87	3,379.15	28.20	-	3,429.22	3,429.22	-	-	0.00%	-	(28.20)	-0.82%
Widen Rights-of-Way of Transmission Lines T1239 & T1259 (2024)	-	-	-	-	-	668.91	-	668.91	-	-	-	-	624.22	-	-	-	-	624.22	(44.69)	-	-6.68%	-	(44.69)	-6.68%
Upgrade Exhaust Stack Expansion Joints (2024) - Harwood and Stephenville	-	-	-	-	-	32.18	32.18	32.18	-	-	-	-	26.89	32.18	-	-	26.89	32.18	(5.29)	-	-16.44%	-	(5.29)	-16.44%
Upgrade of Worst Performing Distribution Feeders (2023-2024)	-	-	-	-	-	1,377.60	774.32	2,151.92	-	-	-	-	671.68	1,480.24	-	-	2,092.02	2,092.02	646.02	-	44.68%	-	646.02	31.14%
Install Oil Spill Containment Transformer T15 (2023-2024) - Cat Arm	-	-	-	-	-	425.50	481.21	906.71	-	-	-	-	100.39	773.43	-	-	773.43	773.43	292.21	-	50.24%	-	292.21	37.31%
Purchase Spare Generator Step-Up Transformer - Supplemental	-	-	-	-	-	1,238.90	1,320.97	2,559.87	-	-	-	-	17.53	51.05	6,128.40	-	1,869.92	7,466.90	-	-	0.00%	-	(1,869.92)	-25.44%
Replace Unit 2090/2044 - Chertdown and Mary's Harbour	-	-	-	-	-	(13.73)	-	(13.73)	-	-	-	-	414.75	77.81	-	-	492.56	492.56	9.154	-	2.283%	-	9.154	2.283%
Upgrade Exhaust Stack Expansion Joints (2024) - Harwood and Stephenville	-	-	-	-	-	24.47	24.47	24.47	-	-	-	-	28.22	24.47	-	-	28.22	28.22	0.66	-	2.34%	-	0.66	2.70%
Install Fire Protection in Diesel Pumps (2022-2023) - Ramona	-	-	-	-	-	82.70	483.57	566.27	-	-	-	-	76.87	1,000.97	-	-	1,077.84	1,077.84	(13.107)	-	-2.42%	-	(13.107)	-1.22%
Upgrade Instrumentation (2024-2025) - Harwood Gas Turbine	-	-	-	-	-	42.40	1,441.00	1,483.40	-	-	-	-	2,262.40	1,483.40	-	-	1,483.40	1,483.40	271.00	-	18.28%	-	271.00	18.28%
CHT Winterize Unit 2102 and Install Mobile Supplemental	-	-	-	-	-	44.10	44.10	44.10	-	-	-	-	205.62	1,389.88	-	-	1,389.88	1,389.88	472.93	-	33.90%	-	472.93	33.90%
Upgrade for Future Retirement of Stephenville Gas Turbine	-	-	-	-	-	2,954.72	-	2,954.72	-	-	-	-	151.77	1,060.87	-	-	1,212.64	1,212.64	(1,759.27)	-	-55.99%	-	(1,759.27)	-46.10%
Total	-	1,530.35	7,248.82	6,917.72	3,455.04	7,138.87	10,939.91	12,270.55	35,406.30	-	151.77	3,609.67	9,084.52	9,226.33	12,270.55	189.03	2,216.04	37,047.90	1,641.00	-	-	-	(1,367.58)	-3.72%

¹ Numbers may not add due to rounding.

Capital Expenditures and Carryover Report for the Year Ended December 31, 2024, Appendix A

2024 Capital Expenditures by Investment Classification
Mandatory
(000)

Project	Capital Budget				Actual Expenditure and Forecast										K (G+H+I+J)		Variance											
	A		B		C		D (B+C)		E		F (A+C+E)		G		H		I		J		K (G+H+I+J)		K-F		H-D			
	2020	2021	2022	2023	Carryover to 2024	Original 2024	Revised 2024	2025 and Beyond	Total	2020	2021	2022	2023	2024	2025 and Beyond	2020	2021	2022	2023	2024	2025 and Beyond	Project Carryover	Multi-Year Cash Flow Reallocation	Total	Project Variance	Project Variance (%)	Annual Variance	Annual Variance (%)
Upgrade Station Lighting (2022-2025)	-	-	-	323.30	(65.38)	894.10	528.72	433.00	917.40	-	-	-	388.68	717.04	-	-	-	-	-	717.04	433.00	-	11.46	1,416.85	493.95	54.89%	188.32	35.62%
Replace Fuel Oil Storage Tank #1 (2024) - Holywood	-	-	-	-	-	1,500.00	1,500.00	433.00	1,933.00	-	-	-	-	2,150.00	-	-	-	-	-	2,150.00	433.00	-	-	2,583.00	203.01	12.02%	730.81	12.02%
Replace Terminal Station Lighting (2023-2024)	-	-	-	-	-	584.10	528.72	433.00	917.40	-	-	-	388.68	717.04	-	-	-	-	-	717.04	433.00	-	11.46	1,416.85	493.95	54.89%	188.32	35.62%
Total	-	-	-	323.30	(65.38)	2,058.20	2,557.42	470.00	3,338.02	-	-	-	388.68	2,597.99	470.00	-	-	-	-	2,597.99	470.00	-	316.63	4,687.76	729.76	15.57%	397.67	8.46%

¹ Numbers may not add due to rounding.

Appendix B

Program Scope Details 2024



1 **Remove Safety Hazards (2024)**

2 In Board Order No. P.U. 38(2010) related to Hydro’s 2011 CBA, the Board directed Hydro to include in its
 3 annual report on capital expenditures an explanation of each scope of work that was undertaken for the
 4 Remove Safety Hazards program, setting out the safety hazard that was identified, the location, the
 5 steps taken to address the issue, and the amount of the expenditure. Table B-1 outlines the work scopes
 6 undertaken in 2024.

Total Approved Budget: \$198,300

Total Expenditure: \$322,483

Table B-1: Remove Safety Hazards¹

Program Work Scope	Expenditure² (\$000)	Safety Hazard Identified	Work Scope Detail
Replace Security Lift Gate – Bay d’Espoir Generating Station	136.7	The existing lift gate had failed, and a new gate was needed to control site access and manage traffic.	A new lift gate including support structure and electrical components was installed.
Replace Emergency Exit Doors – Holyrood TGS	76.9	Seven emergency exit doors on various buildings were identified with deficiencies, preventing them from working properly.	Replacement doors with associated hardware were installed.
Replace Parking Lot Lights and Poles – Hydro Place	57.7 ³	A condition assessment of the parking lot poles, and lighting identified that 18 poles and their associated lighting systems should be replaced due to corrosion and wear on the poles and defective lighting systems.	New poles and LED ⁴ lighting systems were purchased in 2023 and installed in 2024.
Work Scopes Under \$50,000	51.2		

¹ Details are provided for program scopes greater than \$50,000.

² Numbers may not add due to rounding.

³ This work scope incurred \$131,000 in 2023 for a total 2023–2024 cost of \$188,700.

⁴ Light Emitting Diode (“LED”).

1 **Perform Software Upgrades and Minor Enhancements (2024)**

2 In its 2024 CBA, Hydro committed to providing a summary of unforeseen work executed under the
3 Perform Software Upgrades and Minor Enhancements (2024) program in this report. Table B-2 provides
4 a summary of such work.

Total Approved Budget: \$864,200

Total Expenditure: \$337,069

Table B-2: Unforeseen Software Upgrades and Minor Enhancement Scope

Program Work Scope	Expenditure (\$000)	Scope Detail and Justification⁵
Replace Password Manager	65.8	A review identified that the currently deployed password manager software was outdated and becoming a risk. Available password manager systems were evaluated, and a best fit solution selected. The password manager software was replaced.
Work Scopes Under \$50,000	123.0	

⁵ Details are provided for program scopes greater than \$50,000.

1 Terminal Station In-Service Failures

- 2 Hydro has provided a summary of scopes of work undertaken under the Terminal Station In-Service
- 3 Failures program that exceed \$750,000. Table B-3 outlines 2024 expenditures under this program.

Total Approved Budget: \$1,300,000
Total Expenditure: \$2,459,247

Table B-3: Terminal Station In-Service Failures

Program Work Scope	Expenditure⁶ (\$000)	Failure Identified	Scope Description
Restore Power Transformer Capital Spare for Hydraulic Generating Unit Transformers – Bay d’Espoir Terminal Station 1	1,733.5 ⁷	The spare transformer used to replace Bay d’Espoir Transformer T6 in 2023 was serving as a spare for nine power transformers—Bay d’Espoir T1 to T7, Granite Canal T1, and Upper Salmon T1. Two alternatives were considered to restore availability of a spare—procurement of a new transformer; and refurbishment of the failed Bay d’Espoir T6. The alternative to procure a new transformer was rejected as the risk of being without a spare while waiting for fabrication and delivery of a new transformer (24 to 30 months) was deemed unacceptable. Refurbishment of the failed Transformer T6 was established as the best solution to restore the availability of a spare.	The failed Bay d’Espoir Transformer T6 was refurbished, to restore the availability of a capital spare generation transformer. This work commenced in 2023 as part of the Terminal In-Service Failure (2023) program and was completed in 2024.
Work Scopes Under \$750,000	725.7		

⁶ Numbers may not add due to rounding.

⁷ This work scope incurred \$613,700 in 2023 for a total 2023–2024 cost of \$2,347,200.

1 **Hydraulic In-Service Failures**

2 Hydro has provided a summary of scopes of work undertaken under the Hydraulic In-Service Failures
 3 program that exceed \$750,000. Table B-4 outlines 2024 expenditures under this program.

Total Approved Budget: **\$1,500,000**
Total Expenditure: **\$2,973,945**

Table B-4: Hydraulic In-Service Failures

Program Work Scope	Expenditure⁸ (\$000)	Failure Identified	Scope Description
Unit 1 Turbine Runner Replacement – Cat Arm	466.9 ⁹	In 2024, an OEM was engaged to complete a condition assessment on the Cat Arm Unit 1 turbine runner. Inspections revealed that the runner has experienced progressive wear and damage, including accelerated cavitation and a piece broken away on the leading edge. The OEM determined that the runner has operated beyond the normal intended lifecycle hours for a Pelton-style runner. In addition, cavitation had progressed enough that an in-situ weld refurbishment could not be executed, due to a requirement for specialized heat treatment as part of the refurbishment procedure. Replacement of the runner is required for safe and reliable operation of Cat Arm Unit 1.	In 2024, the OEM completed a constructability review for the replacement of the Unit 1 runner. Work planning commenced in 2024, and materials were procured. Replacement of the runner with an available spare is planned to be completed as part of the 2025 Hydraulic In-Service Failures program. The scope of work will include alignment of the generating unit, if required.
Work Scopes Under \$750,000	2,507.0		

⁸ Numbers may not add due to rounding.

⁹ This work scope is expected to exceed \$750,000 when 2024 and 2025 expenditures are final.

1 Thermal In-Service Failures

2 Hydro has provided a summary of scopes of work undertaken under the Thermal In-Service Failures
 3 program that exceed \$750,000. Table B-5 outlines 2024 expenditures under this program.

Total Approved Budget: \$3,508,700

Total Expenditure: \$4,587,751

Table B-5: Thermal In-Service Failures

Program Work Scope	Expenditure¹⁰ (\$000)	Failure Identified	Scope Description
Purchase Spare Low-Pressure L-1 Turbine Rotor Blades – Holyrood TGS	1,435.0	During the Overhaul Unit 2 Turbine and Valves project completed in 2023-2024, the turbine rotor low pressure L-1 blades were found to have significant deterioration and were replaced. Since Holyrood Units 1 and 2 are of identical design and have been subjected to near-identical operating conditions, a comparable finding on the Unit 1 L-1 turbine rotor blades was highly probable.	In 2024, a spare set of low-pressure L-1 turbine rotor blades was purchased. The spare blades were subsequently installed in 2024 as part of the Overhaul Unit 1 Turbine, Valves and Generator project.
Replace Sanitary Sewer Distribution Piping System and Overhaul Lift Station – Holyrood TGS	574.8 ¹¹	The sanitary sewer distribution piping system and lift station at the Holyrood TGS was installed in 1969. Numerous leaks have been experienced in the piping system and repair efforts have been exhausted as leaks continue to return. Blockages in the cast iron piping system have been difficult to clear, leading to sinks backing up in the washrooms and kitchen areas. Chemical cleaning necessary to remove the blockages results in leaks along the main header that runs above high-traffic areas in the powerhouse, posing a safety and health risk to employees. Replacement of the cast iron piping and supports is required to ensure safe and reliable operation of the system. In addition, an inspection of the lift station completed by an authorized service provider determined that the system requires an overhaul.	Work planning for the replacement of the sanitary sewer distribution system commenced in 2023 as part of the 2023 Thermal In-Service Failures Program. A section of the sanitary sewer piping system was replaced in 2024. The remaining sections of the piping system are planned to be replaced, and the lift station overhauled as part of the 2025 Thermal In-Service Failures Program.
Work Scopes Under \$750,000	2,578.0		

¹⁰ Numbers may not add due to rounding.

¹¹ This work scope is expected to exceed \$750,000 when 2023, 2024 and 2025 expenditures are final.

1 **Gas Turbine In-Service Failures**

- 2 Hydro has provided a summary of scopes of work undertaken under the Gas Turbine Generation In-Service
 3 Failures program that exceed \$750,000. Table B-6 outlines 2024 expenditures under this program.

Total Approved Budget: \$358,000

Total Expenditure: \$7,101,679

Table B-6: Gas Turbine Generation In-Service Failures

Program Work Scope	Expenditure¹² (\$000)	Failure Identified	Scope Description
Generator Refurbishment – Stephenville Gas Turbine	6,219.4 ¹³	In August 2023, generator rotor blades were damaged, which also caused secondary damage to the stator end windings, exciter and other components.	As part of the 2023 Gas Turbine In-Service Failures Program, the generator was disassembled including removal of the stator and rotor. The stator was refurbished on site and the rotor and exciter were shipped to Hydro’s generator service provider for refurbishment in November 2023. The remaining work was expected to be completed in the second quarter of 2024. However, the exciter was damaged during shipment back to site and had to be sent back for repair. Reassembly of the unit with the refurbished components re-commenced in May 2024 and the unit was returned to service in September 2024.
Overhaul Engine 202205 – Hardwoods Gas Turbine	621.9 ¹⁴	During a borescope inspection of Engine 202205, material loss was discovered on a nozzle guide vane. Hydro’s service provider recommended that the engine be removed and overhauled.	As part of the 2023 Gas Turbine In-Service Failures Program, Engine 202205 was removed from service and sent for overhaul to the service provider’s facility. An available spare engine was installed and placed in service in 2023 to restore full generation capacity for the Hardwoods Gas Turbine. The damaged engine was overhauled, returned to Hydro, and stored as a spare in the second quarter of 2024.
Work Scopes Under \$750,000	260.4		

¹² Numbers may not add due to rounding.

¹³ This work scope incurred \$3,436,100 in 2023 for a total 2023–2024 cost of \$9,655,500.

¹⁴ This work scope incurred \$77,000 in 2023 for a total 2023–2024 cost of \$698,900. This scope was originally expected to exceed \$750,000.

1 Diesel In-Service Failures

2 Hydro has provided a summary of scopes of work undertaken under the Diesel In-Service Failures
 3 program that exceed \$750,000. Table B-7 outlines 2024 expenditures under this program.

Total Approved Budget: \$488,300
Total Expenditure: \$1,984,510

Table B-7: Diesel In-Service Failures

Program Work Scope	Expenditure (\$000)	Failure Identified	Scope Description
Purchase Spare Mobile Diesel Generator	1,112.9	Hydro identified a requirement for a spare mobile diesel generator in Southern Labrador. Hydro has six mobile diesel generators stationed in Charlottetown, L'Anse-Au-Loup and Mary's Harbour, all of which are installed and would require immediate replacement upon failure. Recent failures of Unit 2082 in L'Anse-Au-Loup and Unit 2090 in Charlottetown led to Hydro securing and installing rental units while the failed units were refurbished. A third mobile generator, Unit 2102 in Charlottetown, is showing excess metal in its oil samples, which is indicative of an impending engine failure. Hydro owning a spare unit and stationing it in Southern Labrador would allow subsequent failed units to be replaced 7-10 days faster than having to secure a rental unit.	A spare mobile diesel generator was purchased and delivered to Charlottetown.
Work Scopes Under \$750,000	871.6		

1 **Telecommunications In-Service Failures**

2 Hydro has provided a summary of scopes of work undertaken under the Telecommunications In-Service
3 Failures program that exceed \$750,000. All scopes of work undertaken in the 2024 program were under
4 \$750,000.

Total Approved Budget: \$91,400

Total Expenditure: \$253,809

5 **Transmission In-Service Failures**

6 Hydro has provided a summary of scopes of work undertaken under the Transmission In-Service Failures
7 program that exceed \$750,000. All scopes of work undertaken in the 2024 program were under
8 \$750,000.

Total Approved Budget: \$158,500

Total Expenditure: \$162,244

9 **Boiler Condition Assessment and Miscellaneous Upgrades**
10 **(2024) – Holyrood**

11 For refurbishment work scopes identified and executed in 2024 under this program that were material
12 in dollar value and met capitalization criteria, Hydro proposed to implement and communicate these
13 items to the Board in this 2024 Capital Expenditures and Carryover Report. The boiler condition
14 assessments were completed on Units 1, 2, and 3 in 2024 and Table B-8 provides a summary of the
15 refurbishment work identified and executed in 2024.

Total Approved Budget: \$3,957,800

Total Expenditure: \$7,864,546

Table B-8: Boiler Condition Assessment and Miscellaneous Upgrades (2024) – Holyrood

Scope Title	Expenditure (\$000)¹⁵	Scope of Work and Justification¹⁶
Units 1, 2 and 3 Exhaust Gas Outlet Duct and Expansion Joint Refurbishment	1,218.1	During unit operation, boiler exhaust gases corrode the internal surface of outlet duct to the boiler stack, when the gas temperature falls below the sulphuric acid dew point causing the formation of sulphuric acid condensation. In addition, particulate material in the exhaust gases erodes the duct internal lining and expansion joints, causing leaks during operation. In 2024, the boiler gas outlet ducts and expansion joints were refurbished on all three units to ensure safe and reliable operation when the units were returned to service.
Units 1 and 3 High Pressure (“HP”) Feedwater Heater Overhauls	1,026.1	HP feedwater heaters utilize high pressure steam extracted from the turbine steam cycle to preheat the boiler feedwater before it is returned to the boiler, thereby optimizing the generating unit thermal efficiency. During the 2024 operating season, leaking tubes were discovered on Unit 1 – HP Feedwater Heater #4 and the heater was removed from service to prevent water induction into the turbine and will require replacement due to its deteriorated condition. Unit 1 - HP Feedwater Heater #5 was also inspected and overhauled during the planned 2024 Unit 1 outage prior to returning the heater to service. The plant control system requires HP Feedwater Heaters #'s 4 and 5 to be operated as a set, so both heaters will remain out of service until HP Feedwater #4 is replaced. During the 2024 operating season, leaking tubes were also discovered on Unit 3 - HP Feedwater Heater #5 and the heater was removed from service to prevent water induction into the steam turbine. The heater was then inspected and overhauled during the planned 2024 Unit 3 outage and the leaking tubes were plugged prior to returning the heater to service.
Unit 3 Economizer Hoppers and Associated Piping Replacement	989.1	During the 2024 Unit 3 planned outage, inspection of the economizer hoppers and associated piping revealed significant deterioration due to erosion and corrosion. Erosion in the hoppers and piping is caused by the abrasive nature of boiler ash and high gas velocities. Corrosion in the hoppers and piping also occurred due to the chemical composition of the boiler exhaust gas. The extent of the deterioration was too extensive to allow for patching in the economizer hoppers and piping system. In 2024, replacement of the Unit 3 boiler economizer hoppers and associated piping was completed to ensure safe and reliable operation during the 2024-2025 operating season.
Units 1 and 2 Lower Waterwall Slope Tube Refurbishment	548.8	In 2023, the boiler service provider recommended an inspection of the Units 1 and 2 lower water wall slope tubes to check for tube thinning. Boiler tube thinning leads to inadequate wall thickness for pressure requirements and can result in a forced outage. During the 2024 planned Units 1 and 2 outages, inspections were completed on the lower waterwall slope tubes. Following the inspections, welding

¹⁵ These expenditures include both the condition assessment, and the upgrade costs associated with each scope of work. The upgrade costs were not tracked separately from the condition assessment costs.

¹⁶ Details are provided for program scopes greater than \$50,000.

Capital Expenditures and Carryover Report for the Year Ended December 31, 2024, Appendix B

Scope Title	Expenditure (\$000)¹⁵	Scope of Work and Justification¹⁶
		refurbishment was completed on tubes that were measured to be below the minimum wall thickness.
Unit 3 Burner Windbox Floor Replacement	312.6	During the 2024 planned Unit 3 outage, an inspection of the boiler burner windbox revealed that the floor had significant deterioration due to corrosion/erosion and required replacement due to concerns about its structural integrity. The floor is utilized by employees to safely access the windbox internal for inspections during annual unit outages. The floor was replaced during the annual Unit 3 outage.
Unit 3 Super Heater Attemperator Feedwater Spray Nozzle Refurbishment	283.5	Superheated steam from the boiler must be maintained within a specific temperature range for safe and reliable turbine operation. The Unit 3 boiler super heater attemperator system injects boiler feedwater into the superheated steam to control and reduce the steam operating temperature. There were issues controlling the Unit 3 superheater temperature during the 2024 operating season. The superheater attemperator system was inspected during the planned 2024 Unit 3 outage and the feedwater spray nozzle was found to be detached from the feedwater header. The nozzle was refurbished during the Unit 3 outage prior to returning the unit to service.
Unit 1 Penthouse Refurbishment	159.9	The penthouse section of the Unit 1 boiler contains critical tubing systems that require inspection during the annual unit outage as recommended by the OEM to ensure safe and reliable operation. This location of the boiler contains asbestos which required abatement work prior to completing the tubing inspections. In 2024, the Unit 1 boiler Penthouse tubing was inspected, and minor refurbishment was required and completed.
Unit 1, 2, and 3 Reheat Attemperator Inspections and Refurbishment	155.6	The boiler reheat attemperator is a system that controls the temperature of the boiler reheat steam that utilizes boiler feedwater to reduce the reheat steam temperature before it enters the turbine. During the 2024 Units 1, 2 and 3 annual outages, the boiler reheat attemperators were inspected and minor refurbishment was required and completed.
Unit 1 Front Wall Downcomer and Header Expansion Joints Refurbishment	142.1	During boiler operation, downcomers and headers are subjected to temperature differentials, causing them to expand and contract during operation, which is accommodated by expansion joints. During the 2024 Unit 1 annual outage, expansion joints were cleaned, inspected and refurbished or replaced as required.
Unit 1 Sootblower Wallbox Replacements	82.8	A sootblower is a system that is used to clean fouling from the boiler tubes during operation to improve the rate of heat transfer and overall boiler efficiency. Leaking sootblower wall boxes, which house the sootblower lances, can cause flue gas leaks or a loss of steam inside the powerhouse, posing a safety risk to plant personnel. During the 2024 Unit 1 annual outage, sootblower wall boxes were inspected and four were replaced due to deterioration.
Work Scopes Under \$50,000	-	

1 **Major Condition Assessment and Miscellaneous**
 2 **Refurbishments Synchronous Condensers 1 and 2 (2023–2024)**
 3 **– Wabush Terminal Station**

4 For refurbishments that are material in dollar value and meet capitalization criteria, Hydro proposed in
 5 its 2023 CBA to complete these refurbishment activities within this program and communicate these
 6 items to the Board in its 2023 and 2024 Capital Expenditures and Carryover Reports. The condition
 7 assessments for Synchronous Condenser 1 (“SC1”) and Synchronous Condenser 2 (“SC2”) were
 8 completed in 2023 and 2024, respectively. Table B-9 provides a summary of the completed
 9 refurbishment activities that exceeded \$50,000.

Total Approved Budget: **\$1,093,300**
Total Expenditure: **\$1,049,263**

Table B-9: Major Condition Assessment and Miscellaneous Refurbishments Synchronous Condensers 1 and 2 (2023–2024) – Wabush Terminal Station

Scope Title	Expenditure (\$000)	Scope of Work and Justification ¹⁷
SC1 and SC2 Oil Ring Seals Replacement	258.8	As part of an inspection in 2022, the OEM recommended that the oil ring seals be replaced as they were worn and causing secondary oil contamination. New sets of oil rings were procured and installed for both SC1 and SC2.
SC2 Stator and Rotor Cleaning and Painting	56.8	As part of an inspection in 2022, the OEM recommended that the SC2 rotor be removed, cleaned, and painted. In 2023, the SC2 rotor was removed. The rotor and stator were found to be coated in an oily residue, and both were cleaned with carbon dioxide and painted.
Work Scopes Under \$50,000	-	

¹⁷ Details are provided for program scopes greater than \$50,000.